THE

NEW YORK

MEDICAL JOURNAL.

A

WEEKLY REVIEW OF MEDICINE.

EDITED BY

FRANK P. FOSTER, M. D.

VOLUME XLII.

JULY TO DECEMBER, 1885, INCLUSIVE.

NEW YORK:
D. APPLETON AND COMPANY,
1, 3, AND 5 BOND STREET.
1885.

LIST OF CONTRIBUTORS TO VOLUME XLII.

(EXCLUSIVE OF ANONYMOUS CORRESPONDENTS).

ABERDEIN, ROBERT, M. D., Syracuse, N. Y.
ALLEN, HARRISON, M. D., Philadelphia.
ANDREWS, JOSEPH A., M. D.
BACON, GORHAM, M. D.
BAKER, HENRY B., M. D., Lansing, Mich.
BARUCH, SIMON, M. D.
BAUDUY, JEROME K., M. D., LL. D., St. Louis.
BLACK, J. R., M. D., Newark, O.
BLISS, H. D., M. D., Brooklyn.
BREDIN, STEPHEN, M. D., Franklin, Pa.
BRINKMAN, ALBERT, M. D., Brooklyn.
BULL, CHARLES STEDMAN, M. D.
BURCHARD, T. HERRING, M. D.
BURKE, W. C., JR., M. D., South Norwalk, Conn.
BURT, STEPHEN S., M. D.
BUSH, J. FOSTER, M. D., Boston.
BUXTON, DUDLEY W., M. D., London.
CARPENTER, WESLEY M., M. D.
CARROLL, ALFRED L., M. D., Albany.
COE, HENRY C., M. D., M. R. C. S., L. R. C. P.
COOK, A. B., M. D., Louisville, Ky.
CONWAY, JOHN R., JR., M. D.
CORNING, J. LEONARD, M. D.
CRAIG, JAMES, M. D., Jersey City.
CURRIER, ANDREW F., M. D.
CURTIS, B. FARQUHAR, M. D.
CURTISS, ROMAINE J., M. D., Joliet, Ill.
DELAVAN, D. BRYSON, M. D.
DENISON, CHARLES, M. D., Denver, Col.
DENNIS, FREDERIC S., M. D.
DIX, TANDY L., M. D., Shelbyville, Ky.
DUANE, ALEXANDER, M. D.
DU BOIS, HENRY A., M. D., San Rafael, Cal.
DUNSTER, EDWARD S., M. D., Ann Arbor, Mich.
ECCLES. R. G., M. D., Brooklyn.
EDWARDS, LANDON B., M. D., Richmond, Va.
ELLIOT, GEORGE T., M. D.
ELSNER, H. L., M. D., Syracuse, N. Y.
EMERSON, J. H., M. D.
EMERY, Z. T., M. D., Brooklyn.
FERNALD, F. C., M. D., Washington.
FOSTER, FRANK P., M. D.
FOWLER, GEORGE R., M. D., Brooklyn.
FRASER, E. P., M. D., Portland, Oregon.
GARLAND, G. M., M. D., Boston.
GARRIGUES, HENRY J., M. D.
GARST, J., M. D., North Brookfield, Mass.
GERSTER, ARPAD G., M. D.
GITHENS, W. H. H., M. D., Philadelphia.
GLASGOW, WILLIAM C., M. D., St. Louis.
GRANGER, REED B., M. D.
GRAUER, FRANK, M. D.
GRAY, LANDON CARTER, M. D., Brooklyn.
HALLECK, HENRY TUTHILL, M. D., Brooklyn.
HALSTED, WILLIAM S., M. D.
HAMMOND, GRÆME M., M. D.
HAMMOND, WILLIAM A., M. D.
HARDAWAY, W. A., M. D., St. Louis.
HAYNES, W. H., M. D.
HENRY, MORRIS H., M. D., LL. D.
HOLT, L. EMMETT, M. D.
HOOPER, FRANKLIN H., M. D., Boston.
HOWARD, W. T., M. D., Baltimore.
HOWE, LUCIEN, M. D., Buffalo.
HUBBARD, LEROY W., M. D.
HUGHES, W. E., M. D., Philadelphia.
HYDE, JOEL W., M. D., Brooklyn.
INGALS, E. FLETCHER, M. D., Chicago.
IVES, FRANK L., M. D.
JACKSON, GEORGE THOMAS, M. D.
JACOBI, ABRAHAM, M. D.
JACOBY, GEORGE W., M. D.
JARVIS, WILLIAM CHAPMAN, M. D.
JEWETT, CHARLES, M. D., Brooklyn.
JOHNSON, H. A., M. D., Chicago.
JONES, C. N. DIXON, M. D., Brooklyn.
KELSEY, CHARLES B., M. D.
KESSLER, ADOLPH, M. D.
KNIGHT, FREDERICK I., M. D., Boston.
KOLIPINSKI, L., M. D., Washington.
LESTER, ELIAS, M. D., Seneca Falls, N. Y.
LEUF, A. H. P., M. D., Brooklyn.
LEWIS, E. A., M. D., Brooklyn.
LIELL, EDWARD N., M. D.
LILIENTHAL, S., M. D.
LINCOLN, R. P., M. D.
LLOYD, SAMUEL, M. D.
MACKENZIE, JOHN N., M. D., Baltimore.
MARKOE, FRANCIS H., M. D.
MASON, LEWIS D., M. D., Brooklyn.
MATTISON, J. B., M. D., Brooklyn.
MAXSON, EDWIN R., M. D., LL. D., Syracuse, N. Y.
MEARS, J. EWING, M. D., Philadelphia.
McLAURY, WILLIAM M., M. D.
MERZBACH, JOSEPH, M. D., Brooklyn.
MICHAEL, J. EDWIN, M. D., Baltimore.
MILLS, G. A.
MINOT, CHARLES SEDGWICK, M. D., Boston.
MITCHELL, C. PITFIELD, M. D., M. R. C. S.
MONTGOMERY, LISTON H., M. D., Chicago.
MOORE, EDWIN W., M. D., Franklin, Pa.
MOORE, W. OLIVER, M. D.
MORRISON, W. H., M. D., Philadelphia.
MOSHER, ELIZA M., M. D., Brooklyn.
NORTHRIDGE, WILLIAM A., M. D. Brooklyn.
O'DWYER, JOSEPH, M. D.
PEABODY, GEORGE L., M. D.
PIFFARD, HENRY G., M. D.
PLATT, ISAAC H., M. D., Brooklyn.
POLK, WILLIAM MECKLENBURG, M. D.
POORE, CHARLES T., M. D.
PORTER, WILLIAM H., M. D.
RANNEY, AMBROSE L., M. D.
READ, HENRY N., M. D., Brooklyn.
REAMY, THAD. A., M. D., Cincinnati.
REED, C. A. LEE, M. D., Cincinnati.
RICE, CLARENCE C., M. D.
ROBERTS, JOHN B., M. D., Philadelphia.
ROBERTS, MILTON JOSIAH, M. D.
ROBERTSON, J. W., M. D., Detroit.
ROBINSON, BEVERLEY, M. D.
ROOSA, D. B. ST. JOHN, M. D., LL. D.
RUSSELL, the Hon. W. H. H.
SALMON, D. E., D. V. M., Washington.
SEIBERT, A., M. D.
SEWALL, HENRY, Ph. D., Ann Arbor, Mich.
SEXTON, SAMUEL, M. D.
SHATTUCK, F. C., M. D., Boston.
SHUFELDT, R. W., M. D., U. S. Army.
SHULTZ, R. C., M. D.
SHURLY, E. L., M. D., Detroit.
SIMMONS, A. R., M. D., Ithaca, N. Y.
SKENE, A. J. C., M. D., Brooklyn.
SMITH, A. A., M. D.
SMITH, ANDREW H., M. D.
SMITH, AUGUSTINE.
SPRAGUE, G., M. D., Chicago.
SQUIBB, E. H., M. D., Brooklyn.
STERNBERG, GEORGE M., M. D., U. S. Army.
STUB, ARNOLD, M. D., Brooklyn.
STURGIS, FREDERICK R., M. D.
SUTHERLAND, W. P., M. D., Stillwell, Ill.
TAYLOR, JAMES B., M. D.
THAYER, WILLIAM HENRY, M. D., Brooklyn.
THOMAS, T. GAILLARD, M. D.
TURNER, S. S., M. D., U. S. Army.
VANCE, AP MORGAN, M. D., Louisville.
WALLIAN, SAMUEL S., M. D., Bloomingdale, N. Y.
WESTBROOK, BENJAMIN F., M. D., Brooklyn.
WILCOX, REYNOLD W., M. D.
WILDER, BURT G., M. D., Ithaca, N. Y.
WILLARD, DE F., M. D., Philadelphia.
WILLIAMS, HERBERT F., M. D., Brooklyn.
WILLITS, MARY, M. D., Philadelphia.
WILSON, J. C., M. D., Philadelphia.
WOOLLEY, D. M., M. D., Brooklyn.
WRIGHT, J. WILLISTON, M. D.
WYETH, JOHN A., M. D.
YALE, LEROY MILTON, M. D.

LIST OF ILLUSTRATIONS IN VOLUME XLII.

Original Communications.

ON THE USE OF GALVANISM IN CHRONIC DISEASES OF THE PHARYNX.*

BY E. L. SHURLY, M. D.,
DETROIT.

YOU will doubtless remember that at the Congress of 1880 I presented a short paper calling attention to the use of galvanism in the treatment of pharyngitis sicca. At that time I had had but a limited experience with this agent in such conditions, but since then I have used galvanism in a number of cases with, I think, such good results as to justify me in again calling your attention to the subject. The difficulties which I then narrated as attending the use of electrodes in the pharynx can be much reduced through the use of cocaine, and therefore this treatment is practicable for almost any person. I believe it is very generally confessed that our knowledge of the pathology and pathogenesis of the chronic affections of the pharyngeal mucous membrane is far from exact or complete.

Certain well-recognized features or symptoms, such as habitual engorgement, hypersecretion, glandular enlargement with or without paucity or perversion of secretion, constituting the local manifestations of many cases which present themselves to us, and which, I am sorry to say, puzzle us in the selection of the proper means for amelioration. That some of these conditions of the pharynx—chronic engorgement, hypersecretion, etc.—are often only local expressions of a derangement of the stomach, the intestinal canal, or possibly some more remote organ, is well known and does not surprise us, since the anatomical and physiological connection or relationship between these organs and the pharynx is probably intimate. We also meet with neuroses of the pharynx—hyperæsthesia, spasm, paræsthesia, etc.—which are dependent upon derangement either of these same organs or the genito-urinary or mental apparatus, all of which require little or no local treatment. But, besides this class of cases, there are certain organic lesions of the pharyngeal mucous membrane which can not be traced to any particular disorder of the neighboring or remote organs or glands, which are characterized by changes such as glandular hypertrophy, general hyperplasia, hypersecretion with or without extraordinary epithelial development, atrophy with diminished secretion, etc. It is to these that I wish particularly to call your attention.

They constitute changes which may be regarded as trophic, and which, however inexplicable, must be regarded as distinct local disorders. In my mind there has long been a conviction that glandular hypertrophy and atrophy with or without persistent extra secretion and without much organic change in the membrane are due to a perversion of function of the nervous apparatus distributed to the pharyngeal region. It does seem impossible that the mere mechanical effect of infiltration or interstitial deposit can account altogether for the wasting of the membrane. Likewise does it seem impossible that the disagreeable symptoms of typical pharyngeal disease, even when associated with thickening or wasting of the glandulæ, etc., can be fairly attributed to ordinary inflammation and its consequences, because we often find people with throats presenting such appearances, even to a considerable degree, who do not complain of inconvenience nor show disturbance of the nutrition of the part. Therefore it would seem probable that some of these conditions must be at least regarded as distinct local disease having for its origin some nutritive abnormality antecedent to the inflammatory changes; and may we not find a possible explanation in the supposition of metabolic derangement through a disordered trophic function of the hypoglossal, pneumogastric, or sympathetic nerves?

Considering the analogy between the functions of the hypoglossal and the fifth, and the facts already demonstrated regarding the trophic influence of the latter nerve, this hypothesis would seem to gain support. However, the light of further investigation may show that, instead of the hypoglossal, either the pneumogastric or sympathetic, or both, may be the reigning influence in the nutritive changes of the pharyngeal mucous membrane; but, whichever may be the case, the result is the same. Acting upon the foregoing theory, I have been led into the employment of different agents for local use, with a view of counteracting this perverted trophic influence; but, of all the agents used, I think I have obtained more lasting effects from galvanism. Many of the local stimulant applications, while certainly valuable, are soon followed by a reaction which shows the excitement to have been only of short duration and in no wise of vital character. But with the galvanic current I think I have found much more enduring effects; for example, the mucous membrane remains in many cases of a vivid color and bathed in a quite fluid secretion for a number of hours after the application, and, moreover, leaves a sensation of heat and pliability—in cases of atrophy—which the patients describe as slightly exhilarating. The effect of the application is sometimes felt in adjacent parts—such as the cervical region. One of my patients states that the sensation of heat always remains in his throat for about forty-eight hours. After a few applications the sense of dryness and the collection of desiccated secretion in and about the naso-pharynx, which occur in the severer forms of chronic naso-pharyngeal disease, very sensibly lessen. In cases of engorgement accompanied by hypersecretion the result of this treatment has been quite efficient. Also in distinctly neurotic conditions—such as paræsthesia—I have had good effects from galvanism.

I usually pursue the following method, viz.: First wash off the surface of the membrane, by means of a spray or posterior douche, with a solution of common salt or other appropriate fluid; then apply a four-per-cent. solution of cocaine hydrochlorate, and, after an interval of about five minutes, apply the electrodes (which I here show you), one through the nasal passage and the other to the posterior and lateral wall of the pharynx, moving them both rapidly but gently over the surface, being careful to keep them

* Read before the American Laryngological Association, June 24, 1885.

closely applied. I generally connect the electrodes with two cells (increasing to four or five) of a battery composed of the improved Leclanché cells. The electrodes are not covered, but naked, unless it is desired—as in cases purely nervous—to apply one electrode to the side of the neck, when that is covered. Gagging and muscular movements require the removal of the instruments, after a few seconds, for a short period of repose, when they are reapplied perhaps four or five times, according to the tolerance of the patient and the sensible effect produced. The *séance* may be repeated two or three times a week, as may seem advisable. I have experienced the greatest difficulty from the intolerance of the parts in question to the manipulation, but, as before mentioned, the use of cocaine has afforded, in the majority of cases, the desired tolerance. However, as might be expected, the drug to a certain extent antagonizes the effect of the galvanic application, and must be compensated for either by a longer or more frequent manipulation. In some cases one thorough treatment a week will prove sufficient.

Of course, it is not expected that this, any more than any other, plan of treatment will restore already destroyed tissue, but that it is competent to arrest those metamorphoses which finally result in either the loss of glandular as well as other elements of the membrane, or the substitution of adventitious for the normal tissues, I firmly believe, in view of my experience with it. The period of time required for reaching permanent results will vary, of course, according to the kind of case and the state of chronicity presented. The only therapeutic theory which I have to offer is a very commonplace one, viz., the restoration of the nutrition and normal secretion of the parts through the direct application of the electric fluid to the terminal nerve-filaments.

THE RESPIRATORY FUNCTION OF THE HUMAN LARYNX.*

FROM EXPERIMENTAL STUDIES IN THE PHYSIOLOGICAL LABORATORY OF HARVARD UNIVERSITY.

By FRANKLIN H. HOOPER, M. D.,
BOSTON.

The human larynx has two principal functions: (*a*) The respiratory, (*b*) the phonatory. They are mentioned in the order of their importance, for, while the muscles concerned in phonation, supplemented by other constrictors, are charged with the additional duty of closing the laryngeal aperture to protect the air-passages from the entrance of foreign bodies, yet it must be conceded that, whether employed in phonation — marvelous as this function is—or brought into action to exclude some foreign substance, the part performed by these constrictors is entirely subordinate to that of the respiratory muscle of the larynx, whose office is to hold the glottis open in order to insure an uninterrupted passage of air to and from the lungs.† Nevertheless, it is this important muscle which is not only the chief among the intrinsic muscles of the larynx, but also one of the most essential of the whole body—a muscle, be it remembered, of *organic life* *—that many writers would have us believe has a special tendency to succumb to disease. Gerhardt, in his well-known paper,† was perhaps the first to speak of unilateral paralysis of this muscle (the posterior crico-arytenoid) as the most innocent of all forms of laryngeal paralyses. He points out that neither the voice nor the respiration is impaired in such lesions. Schech‡ writes in the same strain, and believes that, as the voice and quiet respiration are not affected in these instances, this circumstance accounts for their having escaped more frequent mention. Two prominent exponents of this theory (Rosenbach # and Semon ‖) have stated that in central or peripheral affections where the filaments of the recurrent laryngeal nerve are compressed, the fibers innervating the respiratory muscle are earlier affected than those going to the phonatory muscles; that this is in accordance with the well-ascertained fact that, in central or peripheral nerve lesions, the extensor muscles △ are more readily paralyzed than the flexors; that there is a "proclivity of the *ab*ductor fibers of the recurrent laryngeal nerve to become affected sooner than the *ad*ductor fibers, or even exclusively, in cases of undoubted central or peripheral injury, or disease of the roots or trunks of the pneumogastric, spinal accessory, or recurrent nerves." Another author ◊ has recently gone so far as to say that the vulnerability of these *ab*ductor fibers is a fact upon which all observers are now agreed.

We hazard the opinion, notwithstanding, that if we investigate this complicated subject from a somewhat different point of view—one not strictly clinical—we may discover certain reasons why one should not subscribe unconditionally to this conception of the pathology of laryngeal neuroses. We propose, therefore, to inquire into the truth of this problem purely from an anatomical, physiological,

---

* Read before the American Laryngological Association, June 24, 1885.

† The intrinsic laryngeal muscles are in pairs except one, the transverse arytenoid. The posterior crico-arytenoids are the respiratory muscles. The phonatory muscles, which, like the respiratory muscles, are attached to the arytenoid cartilages, are the internal thyro-arytenoids, the lateral crico-arytenoids, and the transverse arytenoid. These phonatory muscles are, when it is necessary, brought into action solely to close the glottis and not for the purpose of phonation. Under these circumstances they are supplemented by the muscles which compose the aryteno-epiglottidean folds, and which, together with certain other muscular fasciculi, may be classed as the sphincter group—the constrictor vestibuli laryngis. The thyro-cricoids are also phonatory muscles; but with these, on account of their anatomical situation, we have nothing to do in this paper.

* By this expression we refer to the normal automatic character of the muscular action, and not to the microscopic structure of the muscle itself.

† "Studien u. Beobachtungen über Kehlkopflähmung," Virchow's "Archiv," vol. xxvii, p. 88, 1863.

‡ "Experimentelle Untersuchungen über die Funktionen der Nerven und Muskeln des Kehlkopfes," "Zeitsch. f. Biologie," Band ix, p. 258, 1873.

"Bresl. ärztl. Zeitschr.," Nos. 2–3, 1880; "Berlin. klin. Wochenschr.," No. 17, 1884; Virchow's "Archiv," Band 99, 1885.

‖ Mackenzie, "Diseases of the Throat and Nose," German edition, 1880; "Arch. of Laryngology," vol. ii, No. 3, 1881; "Berlin. klin. Wochenschr.," Nos. 46–49, 1883; *Ibid.*, No. 22, 1884.

△ To this assumption that the posterior crico-arytenoid muscles are *extensors* we shall recur.

◊ Gottstein, "Die Krankheiten des Kehlkopfes," p. 192, Wien, 1884.

and experimental standpoint. This being, then, in no sense, a clinical paper, clinical evidence will not be offered, although the writer's experience is far from being in accord with the dictum that the nerve filaments which preside over the most useful and important function of the larynx should be especially prone to have that function arrested. The superior laryngeal nerve, and the median laryngeal, recently described by Exner,* need not in this study concern us. The only other nerve, as far as we know to-day, going to the intrinsic muscles of the larynx is the inferior or recurrent laryngeal. This nerve, according to our present knowledge, is purely motor, † and supplies all the intrinsic laryngeal muscles except the longitudinal tensors, the thyrocricoids. It is an anatomical fact that it does not send off any branches to these muscles until it has reached the border of the cricoid cartilage. In its trunk, therefore, are contained two sets of nerve fibers—the respiratory and the phonatory—which must necessarily be strictly differentiated, since they are destined for muscles which carry on two separate and distinct functions. Now, where do these two sets of nerve filaments come from; is their origin as distinct as their function; whence do they derive their separate individualities; which are relatively or numerically the stronger?

The sources from which nervous impulses for the larynx may be received are the brain, the medulla oblongata, and the spinal cord. The channels through which they may be transmitted are the several motor nerves which join the pneumogastric before the recurrent is given off, for we are aware that from this point the recurrent proceeds to the larynx without any branch or junction which is in any way connected with the functions of that organ.

The experimental researches of Krause,‡ and the clinical observations of Delavan,# justify the belief that there is a center of motion for the larynx in the cortical substance of the brain. It is also probable, as advanced by many, that the several nerve filaments of the recurrent laryngeal may have independent ganglionic centers somewhere in the brain or medulla. Let us now follow down the real motor nerve tract of the larynx from the medulla oblongata to the point of exit of the recurrent laryngeal from the pneumogastric, and enumerate the different nerves which, from what we know positively or imagine hypothetically, may in any way influence either of the functions of the larynx. In so doing we shall adopt Longet's classification,‖ who divided them into the *direct* and the *indirect*. Starting, then, at the medulla, we name as the direct communications to the pneumogastric the internal branch of the spinal accessory, the facial, the hypoglossal, and the anterior branches of the first and second cervical. The sympathetic may also furnish some direct fibers. Under the head of indirect nerves—namely, those which join the pneumogastric after having previously passed through the sympathetic ganglia—we have all the branches of the cervical below the second, and those of the dorsal nerves situated, of course, above the point where the inferior laryngeal shoots off from the pneumogastric to run its backward course to the laryngeal muscles.

Our knowledge of the part played by these different nerves in the performance of the functions of the larynx is now, and, from the inherent difficulties of the problem, must for a long time to come remain, unsatisfactory. The mass of contradictory statements which one encounters in working up a subject in any way connected with the respiration, and consequently with the pneumogastric nerve, is a sufficient admonition against too positive and dogmatic assertions. We approach this question, therefore, with reserve, admitting, as we must, that a great part of the subject is yet hardly beyond the confines of plausible conjecture.

It is pretty certain, however, as determined by the reliable experiments of Bischoff,* Longet,† Cl. Bernard,‡ and Schech (*loc. cit.*), that the spinal accessory is a purely motor nerve presiding over phonation, and having nothing to do with the respiratory function of the larynx.# That there may be other phonatory fibers in the pneumogastric we can not gainsay. Now, how is the respiratory function innervated? Probably in many different and complex ways, in accordance with the truth of the physiological law enunciated by Longet.‖ "Les moyens d'innervation propres à entretenir le jeu d'un organe se multiplient en raison de son importance physiologique." The posterior crico-arytenoids—the respiratory muscles of the larynx—are paramount to all the rest in physiological importance. From many sources they re-

* "Die Innervation des Kehlkopfes," "Sitzungsb. d. k. Akademie d. Wissenschaften," Band 89, Abth. iii, 1 u. 2 Heft, 1884.

† We are aware that some have stated, but without giving experimental data to substantiate the assertion, that the recurrent contains sensory as well as motor fibers. We have not the space here to dwell upon our own experiments to determine this point, but they justify our remark that the recurrent is "purely motor."

‡ "Ueber die Beziehungen der Grosshirnrinde zu Kehlkopf und Rachen," "Sitzungsberichte der kgl. preuss. Akad. der Wissensch. zu Berlin," November, 1883.

"On the Localization of the Cortical Motor Center of the Larynx," New York "Med. Record," February 14, 1885.

‖ "Traité de physiologie," vol. iii, p. 512, Paris, 1869.

* "Nervii accessorii Willisii anat. et physiol.," Heidelberg, 1832.

† "Rech. expérimen. sur les fonctions des mus. et des nerfs du larynx," etc., "Gaz. méd. de Paris," 1841.

‡ "Fonctions du nerf spinal," etc., "Leçons sur la physiologie et la pathologie du système nerveux," tome ii, Paris, 1858.

Experimental physiology teaches us that if we cut the recurrent nerves of a kitten or a puppy a few days old it immediately dies of suffocation, which is not the case in old animals. The reason of this, as originally explained by Legallois ("Expériences sur le principe de la vie," Paris, 1812), is because in very young animals the cartilaginous portion of the glottis is but slightly developed, and, the soft and yielding parts not being held in position by the muscles, the laryngeal walls are sucked together by the inspiratory effort, and the laryngeal aperture is accordingly completely closed. Cl. Bernard showed that section of the spinal accessory in a kitten five weeks old was followed by aphonia, but glottic respiration remained free. Two days afterward, the kitten having remained well but voiceless, its recurrents were cut, when it instantly died asphyxiated. He concludes from this that the pneumogastric has a motor power independent of the spinal accessory which permits the animal to breathe after the latter has been cut; or, in other words, the larynx is a vocal organ when excited by the spinal accessory, and a respiratory organ when under the influence of the pneumogastric, or more probably of other motor nerves associated with it. In certain animals, as the chimpanzee, the internal branch of the spinal accessory does not blend with the pneumogastric, but goes direct as a separate nerve to the larynx.

‖ "Traité de phys.," vol. iii, p. 517, Paris, 1869.

ceive an abundant nerve supply, which is to protect them from disease, not to open up new channels by which harm might come to them. With others we assume that there are independent ganglia in the central nervous system which are essentially their own. Being respiratory muscles, it is more than probable that they may receive nerve force from such respiratory nerves as the facial, the hypoglossal, and the others already mentioned which run into the pneumogastric. But in this connection we must quote Longet's own words:* "Si la phonation, fonction secondaire et accessoire, dépend d'un nerf unique et disparaît avec lui, la dilatation respiratoire de la glotte, si essentielle, si indispensable à la conservation de la vie, est sous la dépendance ou plutôt sous la protection de nerfs multiples qui, dans certains limites, peuvent se suppléer les uns les autres. Aussi, comme je l'ai déjà fait remarquer, précisément avant de donner origine aux récurrents qui animent les muscles crico-aryténoïdiens postérieurs, voit-on les pneumogastriques emprunter des fibres motrices à des nerfs qui tous interviennent dans la respiration."

Summing up what has preceded, we can say that it all points to the conclusion that the respiratory nerve filaments contained in the recurrent laryngeal are derived from a greater variety of sources than the phonatory.

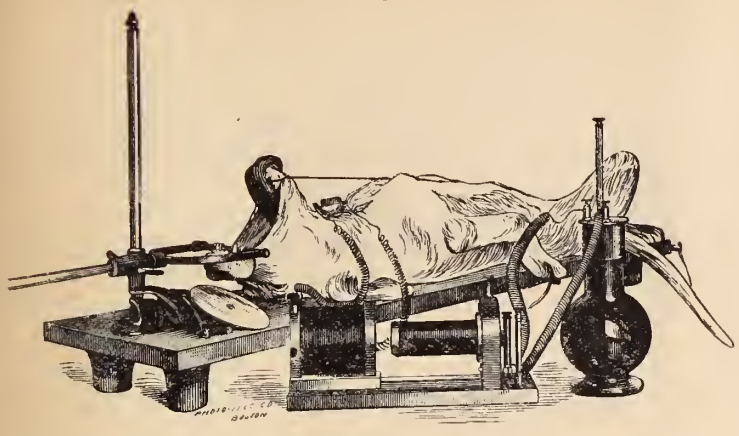
We pass now to the experimental evidence bearing on this point. It is a fact, familiar to all, that if anything other than air finds its way into the larynx it produces, by reflex action, a sudden closure of the glottis. It is equally certain that, under normal conditions, the same contraction of the laryngeal muscles may be instantly called forth by direct stimulation of one or both of the recurrent nerves. Now, it may with reason be asked, How is it that this constricting action of the phonatory muscles is brought about if it be true that the nerve fibers animating the dilators of the glottis are the stronger and the more numerous? Why should we not get *ab*duction of the vocal bands instead of *ad*duction on irritating the recurrent nerves? The phonatory muscles are to the respiratory muscles as five to two, and the closure of the glottis has always been ascribed to the superior numerical strength of these constrictors. Yet if we compare, bulk for bulk, the muscular fibers which compose the five muscles of phonation with those of the two respiratory muscles, we do not find that they are much, if any, in excess of the latter, and we venture to think that there is some other factor concerned in this phenomenon apart from mere muscular force. It may be sought, perhaps, in this important difference between the respiratory and the phonatory function of the glottis—namely, that, while the respiratory muscles are ever on the alert, holding the glottis open during the entire healthy life of an individual, in his waking as well as in his sleeping hours, the phonatory muscles, on the other hand, are more dependent upon the *consciousness* of the individual in order to respond to any irritation. To explain: The phonatory function of the phonatory muscles could, as far as life is concerned, be dispensed with. Not so their constricting action with the view of excluding the passage of foreign bodies to the lungs. The constrictor muscles of the larynx are the sentinels who guard the approach to these vital organs. But they cease to act if the animal is in profound narcosis; they are asleep, so to speak, on their watch. A man in the condition known as "dead drunk," lying, let us suppose, on his back with his mouth open, would offer no obstacle to prevent any living insect that chanced his way from crawling in and out of his mouth, or meandering round in his larynx *à volonté*, without exciting reflex contraction of its muscles. The power of ether, chloroform, and other anæsthetics to impair the action of these constrictors is too well known to need mention. To carry this line of thought a little further, should we not expect that, provided we could preserve the organic life of an animal while its volition was at the same time completely abolished—should we not expect, we ask, under these circumstances, to get a dilatation of the glottis on irritating the recurrent nerves instead of a closure, for the posterior crico-arytenoid muscles are muscles of organic life? Indeed we believe we should, and we submit the following experiments in support of that belief. In performing the experiments the writer has had the advantage of the collaboration of Professor Henry P. Bowditch, to whom he would express his thanks. With one exception, when a horse was the subject of an experiment, the animals used were dogs, the proper selection of which for studies in experimental laryngology is highly important. If a dog is either very old or very large he is most unsatisfactory, if not absolutely worthless. He should be small and young; the breed is of no consequence. By arranging him in the following manner a perfect view of the glottis can be obtained: After being thoroughly etherized, he is secured on his back to a dog-holder. A longitudinal incision is made in the skin covering the larynx, the fascia is divided, and the muscles are drawn aside. The larynx and trachea are thereby brought into view. One or both of the recurrent laryngeal nerves may now be exposed. The mouth is held open by the upper jaw being firmly attached to the cross-bar of the dog-holder, while a cord, tied round the lower jaw and secured to any fixed point, keeps the jaws separated to the extent desired. If the animal is placed before a window, the light is transmitted through the wall of the trachea, illuminating the glottis below, while the ordinary head reflector throws the light in through the open mouth from above. The tongue may be stretched up over the lower jaw and secured to the skin by a thread. The epiglottis may be either tied up by a string passed through its tip, or held up by an instrument suitably curved, having a long handle. The accompanying picture, taken from a photograph of a dog in readiness for experimentation, may serve to make our description somewhat clearer. The animal is here shown under conditions by which both recurrents could be stimulated simultaneously.*

The phenomenon of an irritation applied to the recurrent laryngeal nerve producing an *ab*duction of the corresponding vocal band was first observed by accident. A

* *Loc. cit.*, p. 518.

* For the sake of completeness of the figure, the primary coil is represented as connected with a small bichromate cell, but in practice it was connected with a Grove cell in a battery-closet. The induction apparatus is the one described and figured in the "Proceedings of the American Academy of Arts and Sciences," October 12, 1875.

small dog, of no particular breed, of an age estimated at about ten months, as it still had some of its puppy teeth, was being prepared for a different order of research. On



looking for the left recurrent nerve, it was not found in its proper anatomical situation, but two small nerves were discovered near by. As it was doubtful what these two branches were, or whether they went to the larynx at all, a shielded electrode was placed on the outer and larger nerve, and, while the vocal bands were watched through the mouth, it was irritated. The very unexpected result of the stimulation was a forcible *ab*duction of the left vocal band. Dr. J. W. Warren, assistant in physiology, was requested to come and witness this unusual sight. The ether sponge had been removed from the dog since the beginning of the experiment, and by the time Dr. Warren was ready to look at the larynx the animal was somewhat out of its influence.* At all events, on stimulating the nerve a second time, the familiar closure of the glottis was manifested instead of the dilatation so evident a few moments before. On the assumption that the degree to which the animal was narcotized might have something to do with these phenomena, a large quantity of ether was again administered. After the dog was profoundly under its influence, the nerve was irritated a second time, when both Professor Bowditch and Dr. Warren observed the *ab*duction of the vocal band, which was more marked in proportion as the stimulation was more intense. On removing the anæsthetic the dilatation became less and less as the animal regained its consciousness, when finally a contraction of the glottis supervened. The different stages in this experiment were readily followed by watching the dog's vocal bands while, at the same time, the recurrent nerve was irritated at intervals of a few moments. Between extreme dilatation and forcible contraction, under these circumstances, there seemed to be a neutral point, so to speak, when the stimulation produced merely a vibratory movement of the vocal band; but this was soon succeeded by an attempt at contraction, and this in turn passed into a frank and decided closure of the glottis as the animal, as before mentioned, came out of the effects of the ether. Similar results followed stimulation of one or the other of the divisions of the left recurrent nerve. These branches, as was shown by subsequent dissection, and as you will see on the specimen, united into one nerve fifteen millimetres below the cricoid cartilage, and from this point to the larynx it is a single nerve. The effects of irritation applied to the right recurrent (which was single) agreed with those on the left. Stimulation was effected by means of an ordinary induction apparatus,* the intensity varying from 1 to 40. In general, however, in this and in subsequent investigations on other dogs, the intensity used was from 1 to 8, never over 10, and generally about 3. The experiment many times observed on this animal was repeated, with confirmatory results, on eight different dogs. But the extent and the force, it must be mentioned, with which the vocal bands were *ab*ducted differed in different dogs. In five instances the arytenoid cartilage was rotated outward so forcibly that the vocal band lay flat against the wall of the larynx. Moreover, in one case there was a marked *ab*duction of the vocal band on the opposite side. In other dogs a *mixed* movement was observed—that is, the band approached the median line anteriorly, while a simultaneous contraction of the posterior crico-arytenoid muscle took place posteriorly, which left, in the respiratory portion of the glottis, a large triangular opening, the glottic picture resembling an exaggerated form of paralysis of the arytænoidæus transversus muscle. These phenomena were observed after the recurrent nerve had been cut and its peripheral end stimulated as well as when the nerve was intact. Usually when a young dog is under ether the vocal bands are seen moving rhythmically and regularly with respiration. Occasionally, in this condition of profound narcosis, we noticed that, although the animal was breathing, the respiratory excursions of the vocal bands had entirely ceased, the glottis remaining widely dilated. As soon as the respiratory movements had recommenced, irritation of the recurrent nerve was followed by the usual *ab*duction of the vocal band, an action we have become accustomed to regard as the normal one, *provided* the consciousness of an animal is completely abolished by sulphuric ether. The most striking demonstration, however, of this dilatation of the glottis is obtained by placing an electrode on each of the recurrent nerves and irritating the two nerves at the same time. Both arytenoid cartilages are now rotated simultaneously outward, the glottis is held widely open during the stimulation, and the effect is one not soon to be forgotten. Krause † has noticed the difference in the mobility of the vocal bands according as the animal was more or less narcotized. Just in proportion as consciousness was deadened, the *ad*ductors became sluggish. We have repeatedly observed the same effect when the dog was under morphine, chloral, or chloroform, but we failed with all these agents to obtain the total abolition of the action of the constrictors, on irritating the recurrent nerves,

* Not in any of these experiments sufficiently to feel pain.

* The electrical apparatus was the same as that used by the writer in former experiments, to which the reader is referred for an explanation of the terms employed. (See "Experimental Researches on the Tension of the Vocal Bands," "Trans. of the Amer. Laryngological Association," 1883, p. 121.)

† "Experimentelle Untersuchungen und Studien über Contracturen der Stimmbandmuskeln," Virchow's "Archiv," Band 98, 1884.

which is so marked when large quantities of ether, which can be given with safety, are administered.

From the enormous development of the respiratory laryngeal muscles of the horse we conjectured that their contraction might be even more easily called forth than that of a dog's. In this we were disappointed in the single experiment we have performed on this animal. Chloroform was the anæsthetic used. An incision was made in the thyro-cricoid membrane, through which the finger was inserted and directed between the vocal bands. On irritating the recurrent nerve the finger was tightly squeezed by the contracting glottis. It is probable, however, that if ether had been employed instead of chloroform, and the horse thoroughly saturated with it, we should have felt the glottis dilate and not contract. We were indebted to the Harvard Veterinary College for this observation, and chloroform, for reasons of convenience, is the only anæsthetic used in that institution.

With a view to ascertaining whether certain fibers in the recurrent were more vulnerable than others, we undertook a series of observations of which the following may be taken as the type: The nerve was exposed and a small crystal of chromic acid was laid upon it. The electrode being placed below this point, the nerve was irritated at intervals while the chromic acid was working its slow destruction. In order to watch the effect upon the vocal band, the dog was arranged as in the previous experiments. When the animal was thoroughly etherized, the results did not differ materially from those already described. Stimulation produced *ab*duction of the vocal band. As the destructive process of the acid progressed, the vocal band gradually became completely paralyzed. But, even after the respiratory movements of the vocal band had entirely ceased, irritation was followed by an outward rotation of the arytenoid cartilage. This was only occasionally seen, and lasted but a moment, for, as soon as the conductivity of the nerve was completely destroyed, stimulation naturally produced no effect. We can only say that under these circumstances we were able to produce an *ab*duction of the vocal band as long as *any* action at all was produced. How early or how late in the destructive process the *ad*ductor or phonatory filaments were attacked we know not. Being few in number (probably) as compared with the respiratory filaments, and as ether, as we have shown, arrests so effectually their action, we can not say here whether there was a "proclivity" of either the one set or the other to become affected. We simply demonstrated that the *ab*ductors held on to the last moment, for, as long as a single nerve-fiber of any kind was left intact, we got a contraction of the posterior crico-arytenoid muscle. When the destruction of the nerve was complete, the vocal band stood motionless in the cadaveric position.

In proceeding now to a new order of experiment, we are able to record the endurance of the respiratory filaments contained in the recurrent laryngeal nerve, while those destined to supply the phonatory apparatus were altogether unable to respond to stimulation. We took a small, young dog, exposed the left recurrent nerve, and carefully passed a thread through the middle of it. The two ends of the thread were tied together in order to prevent its slipping out, but no pressure was exerted on the nerve itself. The object of the thread was simply to act as a foreign body. It was hoped that inflammation might thereby be excited, and, as the respiratory or phonatory fibers were the more readily attacked, the effect of an irritation applied to the nerve below the thread would be followed by certain derangements of motion of the vocal band. After the thread had been secured in the nerve, the parts were restored as nearly as possible to their normal situations, and the incision in the neck was sewed up. Inspection of the glottis showed that both vocal bands were moving normally with respiration. The following day the dog was again etherized and the glottis examined. No apparent change had taken place in either the appearance or natural mobility of the parts. The nerve was not disturbed. Since the thread had been introduced in it the nature of the dog had undergone a change. From having been a confirmed howler he had become a model of propriety. This happy improvement in his disposition lasted until he was destroyed. The quieting effect of a thread in the recurrent nerve has been noticed in many dogs subsequently. At the end of a week, the dog having been etherized and the glottis inspected on four different occasions, he was again placed under the anæsthetic. As soon as a cannula could be placed in the external jugular vein chloral was injected into it and the ether removed. It is important to remember that in the following experiments the animal was chloralized and not under the influence of ether. A slight but evident change was now observable in the vocal band corresponding to the nerve operated upon. Although the arytenoid cartilage of this side appeared to move with respiration as naturally as did the right cartilage, the anterior portion of the left vocal band seemed to have lost its "tone"; it did not come up with the same "snap" on expiration as its fellow. On opening the incision in the neck, the nerve was found imbedded in a considerable mass of inflammatory tissue, from which it was impossible to separate it. After exposing the nerve below this point, it was placed in a shielded electrode. Irritation with an intensity varying from 1 to 10 produced *ab*duction of the left vocal band, and cessation of its respiratory movements, the band remaining in the position of deep inspiration as long as the stimulation was kept up. On ceasing the irritation the respiratory movements went on as before. The right vocal band was in no way influenced when the left recurrent was stimulated with an intensity not exceeding 10. When, however, a more powerful stimulation (15) was employed, the right vocal band was brought to the median line (phonatory position), while at the same time the left band was pulled outward. We have, then, here a double effect: *ad*duction of the vocal band on the healthy side, and *ab*duction on the side where some alteration had taken place in the nerve fibers; or, in other words, the normal action of constriction of the right side was manifested while the left band was *ab*ducted, owing to the degeneration of the phonatory fibers, the respiratory filaments remaining unharmed; and, consequently, the respiratory muscle alone responded to the stimulation. The right vocal band was now paralyzed by section of the right

pneumogastric, the band coming to a standstill in the cadaveric position, or the position we are accustomed to see in cases of "recurrent paralysis." Stimulation applied to the right recurrent resulted in a smart closure of the glottis, effected by the right vocal band being brought forcibly against its fellow, as well as by the contraction of the arytænoidæus transversus, which approximated the two arytenoid cartilages. It could not be accurately determined whether the anterior portion of the left band contracted or not, as even a feeble irritation produced such a rapid and complete closure of the laryngeal aperture. If the closure of the left vocal band was brought into action, it was very slight; it was evident that the closure of the glottis was chiefly effected by the contraction of the constrictors on the right side, and by the arytænoidæus transversus muscle. The electrode was again changed to the left recurrent below the insertion of the thread. Stimulation was followed by the same outward rotation of the left aryteuoid cartilage as was observed in the first experiment. There was also a marked movement of the right arytenoid cartilage toward its fellow, as if by the contraction of the arytænoidæus transversus muscle. The action of this muscle was prominently brought into play in the next experiment, when the peripheral end of the left recurrent was stimulated, after section of the nerve below the thread. Both vocal bands were now paralyzed and standing in the cadaveric position. All avenues to the brain were thereby cut off except through the anastomoses of the terminal branches of the recurrent with those of the superior laryngeal, and, perhaps, also with those from the pharyngeal plexus. Irritation of the peripheral end of the left recurrent produced both a contraction of the left posterior crico-arytenoid and transverse arytenoid muscles. That is, there was a distinct outward rotation of the vocal process of the left arytenoid cartilage, and an approximation of both arytenoid cartilages at the same time.

Positive as were the results of this series of experiments, we lay no stress upon them. If they are of any worth, it will be by suggesting to others some better method than was here employed, for all our attempts to verify the observations have failed. Even when the thread had been previously soaked in a one-per-cent. solution of chromic acid it did not cause any material disturbance when introduced through the nerve and retained there for many days. The only change noticed was that, in some of the dogs, a more powerful stimulation was required to produce a contraction of the vocal muscles through the nerve operated upon than in the opposite healthy side.

CONCLUSIONS.

The principal fact herein demonstrated is, to our mind, the power and the endurance of the posterior crico-arytenoid muscles and of the nerves which supply them. We have spoken of the theoretical reasons: (1) The physiological importance of these muscles; (2) their belonging to organic life; (3) their extensive nerve-supply, all of which would tend to preserve their functional integrity. Moreover, if it be true that there is a "proclivity" of the *ab*ductor fibers to become diseased, and that unilateral paralysis of the abductor muscle is such a common and harmless lesion, should we not expect, theoretically, that bilateral paralysis of this muscle would occur more frequently? Yet there can be no dispute whatever that bilateral paralysis of the posterior crico-arytenoids is a disease as rare as it is grave.

Now, with regard to these muscles being *extensors*, and, like the extensors in other parts of the body—the forearm, for instance—more liable to succumb to disease than the flexors, we would ask this simple question: Why should the terms "extension" and "flexion" be applied to the rotation of the arytenoid cartilages? The principal office of the posterior crico-arytenoids is to maintain the respiratory patency of the glottis. From the beginning to the end of life they are in a state of semi-contraction—holding the glottis open. They come, therefore, just as near being flexors as extensors; but, as a matter of fact, they are neither the one nor the other in the ordinary acceptation of these terms as applied to muscles of the general system. They are *respiratory* muscles carrying on a special function. One might as well speak of the movements of the pupil as extension and flexion, or compare the diastole of the heart to the extension of the forearm, or its systole to the bending of the little toes. Muscles are analogous as they discharge analogous functions. We recognize no more analogy between the posterior crico-arytenoid muscles of the larynx and the extensor communis digitorum of the forearm than there is between "respiration" and "prehension." If we wish to seek muscles that are analogous, let us turn to other respiratory muscles and ask how they are affected by disease. In diffused, progressive diseases of the nervo-muscular system we know that of all muscles, except the heart itself, those belonging to the respiratory system are always the last to be attacked, and there is no valid reason why the respiratory muscles of the larynx—either one or both—should offer an exception to the rule, especially as they are the most important of all.

We propose to investigate this subject from a clinical aspect at some future date, when, perhaps, the positions which immobile vocal bands assume may be sufficiently explained without attributing to a wise and conservative nature a "proclivity" to attack one of the most vital muscles of the human system.

DISCUSSION.

J. Solis-Cohen.—It is a great honor to the American Laryngological Association to have had this valuable paper read before it, and I believe it will be an historical paper. These experiments will be subjected to criticism, and their verification will become a matter of history in the controversy now existing in the laryngological world as to the liability of these abductor fibers to become diseased sooner than the adductors. The dogmatism with which the assertion has been made seems to have almost paralyzed laryngologists, for, with the exception of myself, I hardly know of any one who has ventured a word against it. Even last year, when I presented a case opposing the theory, and showed a picture of the larynx, it was simply in deference to myself that not much was said against it. Not a single member of the Laryngological Association, even of those living in Philadelphia, where the patient was, would accept my invitation to the members to see the patient for himself, and verify the fact that the picture I presented was a correct one. The

only word of commendation I received was from Krause, of Berlin, who wrote me a very interesting letter, stating that he believed my observation was correct, but attributed the lesion to a different cause. I will recall the case for a moment. A man had received a wound in the neck. He had instantly become aphonic, and when I saw him, a few months afterward, one vocal band was in extreme abduction. I took it for granted that the adductor fibers of the pneumogastric had alone been injured. Krause's explanation is this: The injury of the carotid having been attended with hæmorrhage, a clot must have occurred around the pneumogastric nerve, producing compression, which became permanent by the formation of the cicatrices. I do not know where that patient is now. I have seen him several times, and the affected vocal band has remained in extreme abduction.

I have had no experience in such physiological experiments as Dr. Hooper has made; but there is a point he spoke of which receives clinical support. That is with reference to the influence of the facial nerve in sending the respiratory forces to the pharyngeal. We all know the effect of cold on the facial nerve in restoring suspended respiration. I remember a case in which I was called to see a child who had diphtheria following measles. There was great dyspnœa, but I declined to perform tracheotomy, because the child was under two years of age, and I knew that the operation was usually unsuccessful after measles. Knowing the great effect of cold on the facial nerves, in stimulating the facial centers, we placed ice cloths all over the lower part of the neck and jaw up to the ears. Every time the iced cloth was placed around the jaw an inspiration took place, and the physician in attendance, Dr. O'Hara, by his own efforts in keeping this up, saved the child's life. So many times a minute he replaced the cloth. Several pieces of cloth were kept between two pieces of ice. As soon as the piece in position ceased to produce any effect it was replaced by another. So there is a point in which, clinically and physiologically, these facts support each other. The phenomenon of stimulating one recurrent nerve so that its vocal band passes beyond the median line in phonation is, if I remember right, confirmatory of some of Krause's experiments. He states that, when he stimulated one nerve, the vocal band of the opposite side moved also. It would touch the other, no matter what position it was in, whether it was in the median line, in the cadaveric position, or in the inspiratory position. In the case presented by me last year, when the man tried to speak, the sound vocal band crossed away over beyond the median line, and beyond the ordinary position which it occupies in the dead body.

Dr. Harrison Allen said that, in his judgment, the analogy between constriction and adduction, and between dilatation and abduction, was tenable. At least it was of some value in suggesting research. Careful clinical study would often take the place of experiments, and it could be certainly shown from the clinical point of view that adductor muscles and constricting muscles were alike in their ability to withstand disease as compared to the abductors and dilators. The morphologist could also assert that the position of a flexed point in a limb resembled the epiglottis when bent down over the aperture of the glottis, as the extension of the limb-joint might be compared to the erect position of the epiglottis. In the muscles of the limb it was found that the adductors were specialized muscles of the flexor group, and the abductors of the extensor group. Perhaps it might be well to have distinct terms to express this harmony of action between flexion and constriction, but, as part of the study of muscle phenomena taken in a comprehensive sense, the speaker saw much to show that a close association, if not identity, existed.

Dr. Ingals.—In support of the paper in a clinical way, I have had a recent experience, similar to the one related by Dr. Cohen, excepting as to the origin. A gentleman had a cold, over-used the voice during the cold, and in the course of two or three days became completely aphonic. I saw him five weeks later, and found complete paralysis of the left cord, which was fixed in extreme abduction. After two months, there had been no special change in the position. In phonation the sound cord did not cross over as in Dr. Cohen's case; it crossed a little beyond the median line, but very little.

Dr. Delavan desired to unite his congratulations with those of Dr. Cohen upon the paper just presented. It was a most welcome and valuable addition to our knowledge of the subject, and worthy of the highest praise. Reference had been made in the paper to a motor center for the human larynx. Since he had first called attention to the existence of such a center several important contributions had appeared which tended still further to establish the fact; he hoped that sufficient clinical and pathological evidence would soon be accumulated to place it beyond a doubt.

Dr. Hooper.—I have only attempted in this paper to study this subject on general physiological and experimental grounds. Clinically it seems to me a difficult question and one in which there are many sources of error. We are dealing, in the first place, with one of the most complicated organs in the body, and in using the laryngeal mirror we are looking at things in perspective, which are in almost constant motion. It is often impossible to say whether a vocal band stands motionless in the median line or a few millimetres off from it. If we call every paralyzed vocal band we see a paralysis of the posterior crico-arytenoid muscle, we can multiply such cases very rapidly. Not only is the theory that there is a proclivity of the posterior crico-arytenoid fibers to become diseased contrary to nature, but the dogmatic manner with which it has by some been advanced ought of itself to cause us to doubt its accuracy. I should feel sorry to have an association like our own subscribe to this notion on the very shallow evidence we have at present.

I must thank you for the attention you have given my paper. What there is in it which you say has interested you is chiefly due to the perfect arrangements of the physiological laboratory of the Harvard Medical School for pursuing such investigations. The professor of physiology, Dr. Bowditch, and others connected with the department, are always ready with their time and advice to aid those who are carrying on any kind of research, and I shall, therefore, convey your kind expressions of interest to the quarter where they really belong.

BRONCHIAL BREATHING A SIGN OF PLEURITIC EFFUSION.

By G. M. GARLAND, M.D.,
ASSISTANT IN CLINICAL MEDICINE, HARVARD UNIVERSITY.

The differential lines between pneumonia and pleuritic effusion are ordinarily so clearly and closely drawn that a mistaken diagnosis between these two diseases would appear almost evidence of criminal ignorance. And yet such mistakes are made frequently and by skillful observers. Cases present themselves wherein all the physical signs fail of conclusiveness, and even the exploratory needle leaves doubt as to the actual state of affairs behind the chest-wall. I wish in this article to speak of one group of symptoms which, above all others, is misleading in pleurisy, and which has, within my own experience, been productive of mistaken diagnosis in several instances.

As ordinarily stated in the text-books, the entrance of

fluid into the pleural sac obtunds the signs of an air-containing chamber. In proportion as the pleural tide rises the air-sounds are dulled, until the negative list includes:

Diminution or Absence of	Respiratory murmur.
	Vocal fremitus.
	Vocal resonance.
	Whispered resonance.
	Percussion resonance.
	Flexibility of chest-wall.

Silence reigns over the invaded region. This picture is typical and obtains in the majority of cases. Occasionally, however, a patient appears with many signs of an effusion, but, in place of diminished respiratory symptoms, he exhibits bronchial breathing and whispered bronchophony all over the dull area. Naturally such symptoms lead one's thoughts directly to pneumonia, inasmuch as they are declared to be indicative of pulmonary consolidation, and are even specified as eliminative of pleural fluid.

Of late years, however, records of such cases have appeared in the journals, and Baccelli, of Rome, not only has described the symptoms, but has made the occurrence of whispered pectoriloquy with an effusion in the chest a differential point between a serous exudation and empyema.

Now, the question arises how to explain this phenomenon of bronchial breathing over a fluid effusion. Bacelli says that an effusion which is homogeneous in character—*i. e.*, serous—will take up and transmit the vibrations of the collapsed lung more readily than a purulent exudation, which is heterogeneous in character, and hence the occurrence of audible whispers in the former case and their absence in the latter. This explanation was eagerly seized by clinicians all over the world, and carefully studied until it was found that it could not be supported by facts. Whispered pectoriloquy occurs with purulent as well as with serous effusions, and thus Bacelli's theory falls to the ground.

In my own study of these eccentric symptoms I have arrived at certain conclusions which I desire to submit to the judgment of others. In the first place, I have noticed that bronchial breathing and whispered pectoriloquy have only occurred with effusions of considerable size. I can not lay down any boundaries for the amount of fluid necessary to produce them, and I imagine this amount would vary with other conditions of the chest-wall and lung. In all the cases where I have observed these signs, however, the effusion has reached *at least* to the third rib in front, and in some instances still higher. Secondly, I can not reconcile my mind to the theory that the sounds heard are transmitted through the fluid. Water does not readily take up vibrations from the air. Two stones struck together in the water cause powerful vibrations of the same, but struck together above the water, the sound is inaudible to a submerged ear. We know that some heart-murmurs are transmitted long distances. I have traced such murmurs along the spine from the occiput to the sacrum. Now, when a murmur is heard in the lumbar region, are we to suppose that it has taken the short cut through diaphragm, stomach, pancreas, and bowels to our ear? Sound vibrations, like electrical waves, travel best along lines of least resistance, and such lines for the heart-sounds are found along the ribs and spinal column. The same argument holds good for the bronchial murmur of pleurisy. As an effusion begins to form, the breath-sounds fade out. They are not adapted to pass through the water, nor are they strong enough to overcome other lines of resistance. That bronchial breathing is present may be proved by listening to the lung above the effusion, and especially high up between the shoulder-blades behind. Two conditions might still bring these vibrations to our ear when placed over the fluid. Should the murmur become strong enough to push its way along the ribs, we should hear it; or, if the tension of the chest-wall should be increased in any way so as to convey their vibrations more readily, we should obtain bronchial breathing over the fluid. A telephone works satisfactorily according to the delicacy with which the tension of the tympanum is adjusted to the vibrations of the impinging voice. As an effusion of fluid in the pleural cavity increases in size, its weight puts the chest-wall in a state of increased tension. The intercostal spaces are obliterated—that is, they are stretched more or less taut. In such a condition the vibrations which are thrown against the upper and the back parts of the chest are readily transmitted all over the surface of the affected side and become audible over the dull area.

Recognizing this fact, therefore, that bronchial breathing may be conspicuously associated with pleuritic effusion, we find that this sign is bereft of differential value. Instead of a light to illumine the diagnosis, it becomes a dangerous shoal, upon which an opinion may be and often is wrecked.

I need not relate the instances where this bronchial breathing has, within my experience, led observers astray, but I will merely refer to one illustrative case: I was called in consultation to a young lady, twenty-three years of age, who was thought to have pneumonia in the left side. Upon examination, I found the signs of a pleuritic effusion, except the presence of loud bronchial breathing and whispered pectoriloquy, all over the dull area. These signs were so marked that they almost shook my interpretation of the other signs. The impulse of the heart, however, was palpable and visible about one inch beyond the *right mammillary line*, and the young lady said she had noticed this beating herself for several days, but had not mentioned it for fear of being laughed at, if she said her heart was way over there. I tapped the chest, plunging my needle into the region of bronchial breathing, and drew off about five pints of serous fluid. Now, the displacement of the heart was the key-note to this case, and removed from my mind the doubts raised by the auscultatory signs. It is, of course, possible that a congenital transposition of the heart, or its retention in an abnormal position by adhesions from an old pleurisy, may render the diagnosis difficult. Such cases have occurred. Usually, however, the associated transposition of other organs or the history of the case will enable one to solve the problem. It should be laid down as a maxim that the determination of the apex impulse should be *obligatory* in every examination of the chest, no matter what the disease or what the nature of the other signs may be. The man who makes this his habit will often find occasions to congratulate himself upon escape from error.

HERPES TONSURANS MACULOSUS.

By GEORGE T. ELLIOT, M. D.,

ATTENDING PHYSICIAN TO THE DEMILT DISPENSARY; ASSISTANT VISITING PHYSICIAN TO THE NEW YORK SKIN AND CANCER HOSPITAL, ETC.

The name herpes tonsurans maculosus is given to an acute eruption disseminated more or less over the entire body, and caused by the vegetable parasite, the *Trichophyton tonsurans*. It is comparatively infrequent in its occurrence here, and, though it has a common origin with ordinary ringworm, yet it differs from this in the manner of its invasion, the acuteness of its development, the extent of surface implicated, and in its general course. The individual lesions retain, however, the salient characteristics of the ordinary form.

The conditions under which it may occur are the same as those favoring the development of ordinary ringworm—viz., damp lodgings, clothes, etc.; immediate infection, etc. Its own power of infection, in the earlier stages at least, does not seem, however, to be very active, and, in the many cases which I have observed, I have not yet been able to trace its having been communicated from one person to another, though all conditions for such communication were present. In fact, one of the patients whose cases are reported here, was for nearly two weeks in constant contact with another lady before the disease was treated, and still no infection occurred. The other patient, a boy, slept with his mother during the entire time that the disease was present, and yet she remained free from it.

In all probability an outbreak of herpes tonsurans maculosus is due to multiple infection. The spores of the parasite, obtaining access to the skin at many points, develop rapidly under suitable conditions. The simultaneous outbreak of many lesions, it may be on one part of the body, as an upper or lower extremity, or on various parts widely separated from each other, and many other factors, speak for this manner of origin. These primary lesions may, however, again serve as foci of infection, inasmuch as the scales of epidermis, being detached by the movements of the body, the friction of the patient's linen, carry the spores to other as yet unaffected portions, where the process begins anew. A succession of outbreaks thus appears until, in a short time, the patient is covered with the lesions in all stages of development.

There is no particular localization to the disease, and no portion of the body is invulnerable to its attack. The backs and flanks are, however, usually more thickly studded with the lesions, but they are also found in great numbers on the face, neck, chest, abdomen, and extremities. The outbreak of the affection may be preceded by malaise, some fever, loss of appetite, and symptoms of general disturbance. In the course of the disease the irritation and consequent loss of sleep in children may give rise to serious anxiety.

The eruption first appears upon the portion of the body affected in the form of small papules about as large as a millet-seed, of a pale-red color, which disappear on pressure, and are slightly elevated. On those parts where there is much perspiration the color of the lesions is a dark red. Shortly after the appearance of the papules—it may be only a few hours—peripheral growth has ensued and slight exfoliation of the epidermis will be observed in the centers, while the edges remain smooth and red. The lesions are at first circular, but, as they grow larger, many become oval in shape, their long axes lying in the direction of the cleavage lines of the skin. Their development is at first rapid, and in the course of a week or ten days they attain the size of a twenty-five-cent piece, or even larger. Where the edges of two or more of the lesions come together, the portions which were in contact disappear and a gyrate form of eruption remains. As the lesions increase in size their edges become more elevated, are of a bright red, and scaly, fading gradually away into the surrounding tissue. At times vesiculation is observed. The central portions are more or less scaly and in process of involution, but in the larger lesions these squamæ have ceased forming and the skin may be found perfectly normal. As they become older they acquire a dirty, light-brown color, and they approach more nearly to a typical ringworm. Many of the lesions, however, do not follow this course, but abort and disappear a few days after their first appearance. The itching of the eruption is not very severe, unless, through improper treatment or from other causes, a consecutive eczema or dermatitis complicates it.

If left to itself, the disease runs its course in from two to six months. The edges flatten out, the erythematous condition disappears, desquamation occurs, and the skin becomes again normal. Slight pigmentation may remain for a variable length of time. One spot often remains, especially on those parts of the body which are well protected, and may serve as a focus for reinfection. If the epidermis scales are examined under the microscope, the mycelia and conidia of the *Trichophyton tonsurans* will be found, but very sparingly, in the younger lesions. In ordinary ringworm, any small epidermis scale will show large numbers of the parasite, but a search for hours through squamæ taken from young spots of herpes tonsurans maculosus will be rewarded by the discovery of only a few spores, and perhaps a beginning mycelial formation. As the lesions, however, become larger and approach more nearly the type of ordinary ringworm, the presence of the parasite is easily demonstrable.

The diagnosis presents no special difficulty to the dermatologist, and should not to the practitioner in general, if the determining characteristics of ordinary ringworm are kept in mind. Only at its first appearance can it be mistaken, but its development is so rapid that ordinary observation very soon clears up any existing doubt as to the nature of the eruption. Should an eczema complicate the disease, the finding of a fresh and uninjured lesion will demonstrate the real disease present.

The histories of the two cases which I desire to report are as follows:

Case I.—Miss —— states that the eruption from which she suffers has existed for two weeks, and that during that time she has received no treatment. Two days before I first saw her, on December 20th, she consulted Dr. Robert Abbe, who kindly referred her to me. She informed me that about six months before she had had on the outer surface of the left thigh a circular spot

with red elevated edges, the center of which was covered with squamæ. It itched slightly, but caused no special trouble, and finally disappeared, though it received no treatment. The eruption with which she was afflicted at the time I saw her was preceded by some feeling of malaise and general disturbance, and showed itself simultaneously on neck, flanks, and thighs, under the form of small, erythematous, slightly itchy papules. They were rather closely aggregated, and peripheral enlargement took place rapidly. At first she paid little attention to the eruption, until the continued appearance of fresh lesions and the growth of the primary ones suggested to her the advisability of consulting a physician. On examination, the following condition was found: On the face and neck, and along the margin of the hair, on the shoulders, arms, and backs of the hands, the entire trunk, the thighs as far as the knees, and on the left heel, there was an eruption of papules, circular, oval, and gyrate spots of all sizes and in all stages of development. In the axillæ and on the mons Veneris were likewise a few lesions. All the characterizing objective symptoms were present, and there was no hesitation in deciding upon the nature of the affection. The largest lesions, situated on the left thigh near the crest of the ilium and on the back, were of the size of a twenty-five-cent piece, and oval in shape. The itching was not very severe, but still enough to cause some discomfort. Some of the scales from the younger lesions were examined under the microscope, but beyond a few spores nothing was found. An anti-parasitic treatment was immediately instituted, consisting of salicylic acid dissolved in alcohol. Two days later, December 22d, the patient reported slight improvement, but many new lesions had appeared on the abdomen, mammæ, etc. Those on the back and thighs were improved.

December 24th.—Improvement was more marked. No new spots had appeared, and a decided change could be seen in those already present. Some had completely disappeared, while even in the larger ones the prominence of the edges and the erythematous condition had greatly decreased. Treatment was continued.

30th.—The disease was substantially cured. No new lesions had appeared since her last visit, the erythematous condition and elevation of the edges had disappeared, and there remained only here and there some roughness of the skin, though in many places where the disease had been present the skin was already normal in appearance. Treatment was suspended and an indifferent ointment was ordered, to relieve the slight irritation which the lotion had produced.

The patient returned, however, ten days later. There had been an outbreak on the inner surface of the thighs, and perhaps a dozen new spots had appeared. A few days of the treatment brought these to an end, and there has been no new return of the disease.

Case II.—In May, 1884, while I was attending the dermatological class at the Bellevue Out-door Department with Dr. W. G. Robinson, a boy of twelve presented himself for treatment, complaining of an itchy eruption situated principally on the trunk, and to a lesser degree on the extremities and neck, which had first appeared one week previously. Any description as to its first appearance, or his condition at the time, could not be obtained.

On removing his clothes, an extensive eruption was found covering the portions of the body already mentioned, and consisting of lesions of about the size of a five-cent piece. They were rather uniform in size, and to a large extent were undoubtedly of the same age. They presented the characteristic objective appearances already mentioned as marking an outbreak of herpes tonsurans maculosus. They were all of a light-brown color, and little erythema was present, but this was evidently due to his decided aversion to the laws of cleanliness. Anti-parasitic treatment was immediately instituted.

The patient returned in four days, and it was found that the spots had not increased in size, that no new ones had appeared, and that the itching had diminished to a great extent. He was directed to continue treatment and to return in a week. On presenting himself after that time all signs of the disease were gone. There was only a slight roughness of the skin remaining.

As may be seen, these two cases presented substantially the same appearances and course. In both the disease was comparatively recent, and, though existing in the vicinity and on parts covered with hair, had not been communicated to the hair follicles and hairs. If this had occurred, the cure of the eruption would necessarily have required a greater length of time and more special treatment.

The treatment of this form of disease caused by the *Trichophyton tonsurans* is in substance the same as that used in the other forms, only some care should be taken in the choice of the anti-parasitic. It should be borne in mind that an application limited to the lesions alone or to a certain number of them at one time will be useless; it is absolutely necessary to apply the anti-parasitic remedy to the whole body, even upon those portions which appear perfectly normal. It is important to check the progress of the disease as quickly as possible, and, the longer it is temporized with, the greater the difficulty in curing it, and the greater the risk that an eczema or a dermatitis may arise to complicate it. After the arrest of the affection, and there is a certainty of the death of the parasitic spores, the skin should be protected by the inunction of some bland salve, and powder should be freely used. More or less exfoliation of the epidermis occurs, and the skin becomes normal in from a week to ten days.

23 East Thirty-first Street.

THE THERAPEUTIC SIGNIFICANCE OF THE CERVICAL FOLLICLES.

By SIMON BARUCH, M. D.,
GYNÆCOLOGIST TO THE NORTHEASTERN DISPENSARY, NEW YORK.

(*Concluded from page 720.*)

The subject of uterine catarrh is referred to incidentally and not with a view to discuss it here, because I desire to point out the different conditions of the glands in disease of the cervix. In the latter atrophy is the exception, cystic degeneration being followed by it only after a very long existence of the process. A different method is indicated in cervical catarrh; the glandular structure must be reached by the treatment if we would succeed. The cyst-like distension must be removed by laying open the walls of the glands. The latter being very numerous, and their walls somewhat tough and resisting, the application of remedies should be preceded by scarification of the mucous membrane and submucous glandular structure, and in the more obstinate cases, where no cellulitis coexists, the sharp curette would answer a good purpose. Whether the catarrh be corporeal or cervical, therefore, the glandular structure is the secreting structure, and it must be reached by the means indicated. The patient is carefully prepared by reducing any pre-existing cellulitis, and softening infiltration

in the annexa by the usual remedies, rest, hot douches, glycerin tampons, etc. If the disease is extensive, or the patient very nervous, an anæsthetic may be required. While the patient lies in Sims's position, the cervix and vagina are thoroughly irrigated by an antiseptic solution; a Wilson's or Goodell's dilator, previously rendered aseptic, is introduced into the cervical canal for the purpose of dilating it to the required caliber. A blunt-pointed bistoury is now made to scarify the canal longitudinally and somewhat deeply. If a sharp curette be now made to scrape over the surface, it will bring away more or less glutinous, glairy fluid from the ruptured cystic follicles, and perhaps some *débris* of the latter. A thorough swabbing with tincture of iodine, after bleeding has been somewhat checked by pressure, completes the operation. A carbolized glycerin tampon of cotton or oakum will neutralize the discharge and allay irritation. Hot antiseptic douches may afterward be resorted to daily and the treatment continued on ordinary principles. By adopting the course here mapped out, we follow the teachings of modern surgery, which are applicable in gynæcology as well. The method here proposed may appear somewhat heroic, but we have a heroic disease to deal with. Moreover, it is well known that even more radical measures have been advocated and practiced for the cure of obstinate cervical catarrh. Schroeder has recommended very highly, for the cure of those obstinate cases in which great glandular enlargement of the mucous lining exists, the excision of the entire diseased mucosa. He makes an incision on each side of the cervix, so as to divide it into two separate halves, up to the inner os. The mucous membrane and glands are now removed by an incision passing through the cervical parenchyma; each lip is turned upon itself, and its folded surfaces are stitched together, so that the entire cervix is covered within and without by squamous epithelium. Olshausen reports eighty cases, and he regards this operation, done under continuous antiseptic irrigation, as not only free from danger, but remarkable in its results. Hegar, Kehrer, and others have devised similar operations. All these surgical procedures prove the great significance of the cervical follicles, for it is evident that the removal of the mucosa containing them is regarded as the most essential element in the treatment of intractable cases of uterine catarrh.

The radical cure of so-called hypertrophy of the uterus, chronic metritis in the various forms in which the cervix is involved and involution has been interrupted, has frequently been accomplished by A. Martin ("Arch. für Gynaekologie," 1879, 488). The failure of all local therapeutics by caustics, injections, etc., has placed this malady in the category of incurable diseases. Carl Braun had shown in 1864 that involution was hastened by amputation of the cervix, and Martin followed and confirmed Braun's ideas. He operated in seventy-two cases, chiefly complicated with ectropium, erosions, and ulcers of the portio vaginalis, with perfect cure in sixty-four cases; portions 3 to 4 ctm. long were removed, and in the course of a few weeks complete involution resulted. Kehrer and Schroeder, also Hegar, cited similar experiences during the discussion, the former citing forty to fifty cases in which he obtained good results by excision of triangular pieces on each side and union of the edges (is this not akin to Emmet's operation?).

In this country these heroic operations have not received much approbation, first, because they mutilate and disfigure the cervix uteri more or less, or, when the latter is entirely removed, it becomes difficult to retain the uterus in position; and, second, because we have in Emmet's operation a superior procedure in the class of cases referred to by Schroeder and Martin, which, occurring in parous women, are almost invariably connected with lacerations of the cervix. There had been no operation devised which removed diseased tissues and at the same time restored the cervix to an almost normal form and condition after the traumatism of childbirth before Dr. Emmet gave to the world his now classical operation of trachelorrhaphy. Indeed, to him we owe the recognition of the fact that a lacerated cervix completely or partially healed, combined with more or less cellulitis, is at the bottom of the great preponderance of uterine diseases, outside of neoplasms and malpositions. But what Dr. Emmet has taught, and is still teaching with more emphasis than all else, and what yet is more neglected and misunderstood, is the *principle that his operation is not intended as a plastic procedure for the reunion of the torn edges of the cervix, but that its aim and scope lie far beyond the mere æsthetic effect, in the removal of diseased tissues, to whose presence are due the local and especially the reflex symptoms which we are called upon to treat.* It is remarkable how slowly the appreciation of this principle and of these facts, which we daily observe here, has dawned upon gynæcologists abroad. It is not so surprising that lacerations of the cervix were not recognized in England so long as they were sought for through the old tubular speculum, because only their exposure by Sims's speculum, and the approximation of the torn edges by means of tenacula, could convince skeptics. In Germany, however, where Sims's and Simon's retractors are in constant use, Emmet's views have not received that warm appreciation which is accorded to them in this country. The reason is obvious to any one who is familiar with German gynæcological literature, which contains the most garbled descriptions and most erroneous views concerning the operation for lacerated cervix. For instance, Olshausen says ("Klinische Beiträge zur Gynaek. und Geburtshülfe," 1884, p. 32), in referring to Schroeder's operation: "We agree with him that, in the so-called laceration-ectropium, it is more safe, and at the same time a not more serious procedure, to extirpate the diseased mucosa than to make the Emmet 'ectropium operation.' We have, therefore, not been able to become friendly to the latter, and have only executed it a few times." *Dr. Emmet's operation is really intended to* "extirpate the diseased mucosa." Hegar tells us ("Hegar und Kaltenbach," 1881, p. 539): "Emmet hopes, by simple union of sutures, to relieve the patients of all their troubles and to produce a recession of the tissue changes"; and Hegar dismisses the description of the operation for lacerated cervix in these words: "While the assistant holds the lips of the os uteri on a stretch, the edges of the tear are freshened smoothly and thoroughly by knife or scissors; the freshened surfaces are brought together by needles, etc. As the

operation is only slightly painful, chloroform is usually dispensed with" (!).

These brief references from prominent German authors afford ample evidence of the fact that the principle as well as the technique of Emmet's operation is not understood. Any one who has seen Dr. Emmet operate will smile when he reads the description given by Hegar. Whoever has seen Dr. Emmet labor from ten minutes to an hour, or even longer, over a lacerated cervix, digging and snipping away diseased glands and cicatricial tissue, knows that it is not the slight operation described by Hegar, and will appreciate how egregiously his work is misrepresented abroad. We can not wonder that the imperfect knowledge of this valuable surgical procedure has failed to establish its usefulness. Only a few days ago I heard Dr. Emmet inveigh bitterly against the practice of superficial denudation. He said that he believed the operation was doing more harm than good, because every novice deemed himself competent to perform it without really understanding the essential principle, which was "*to remove the cicatricial plug.*" He also said that he never operated for lacerated cervix unless there were symptoms indicating the necessity for the procedure. While I appreciate fully the fact that the mere existence of the laceration of the cervix is not the exciting cause of those symptoms which keep the poor woman in a constant state of invalidism, I do not believe that the latter are invariably, or even frequently, due to "a cicatricial plug," but that at least the catarrh and the erosion, and probably also the reflex symptoms, owe their origin to another factor, viz., *disease of the glandular structure*, which is almost invariably present. In those trying cases of cervical catarrh connected with abrasions, hyperplasia of the cervix, and subinvolution, which are the fertile source of ill-health in parous women, and to detail whose symptoms would be to you but an oft-told tale, a lacerated cervix is, as I have said, a frequently co-existing condition, and constitutes, together with more or less pelvic cellulitis, the chief element in the case. That this is a clinical fact is attested by the results of the operation of trachelorrhaphy when properly executed, viz., when it is done not alone for the purpose of restoring the tear, but for the purpose of extirpating the diseased mucosa, with its numerous diseased follicles, down to the healthy parenchyma.

I show you here a specimen of this condition, and you will see one of the glands forming a large cyst, which I have opened for your inspection. All the pathological changes which have been detailed under the general head of cervical catarrh, as involving the mucous membrane, are here seen in an exaggerated form, owing to the obstruction in the circulation of the cervix, the eversion of the lips, and the neighboring cellulitis. Erosions, too, present an additional source of pain and discharge. No application of caustics will cure these cases, for how can we penetrate these callous structures and cyst-walls? We may heal the erosions over by a slow process, squamous epithelium taking the place of the cylindrical or the everted mucous membrane. We may by this means check the secretions from the surfaces within reach of applications, among which nitrate of silver has proved the best, but yet the most harmful eventually, because of the nodular tissue produced by it. Crude pyroligneous acid is much used by the Germans in erosions. But so long as cystic degeneration of the follicles remains, so long as new cysts form, our patient will continue to suffer the backaches and reflex symptoms which render her life miserable. How often women apply for relief under these conditions, and how rarely they receive it by medicinal application, is within the experience of all. But, if we have regard for the true cause of these symptoms, we may afford them relief by simply puncturing the glands separately, or, what is better, by deeply scarifying the entire everted surface, from the inner os to the point beyond the junction of the vaginal covering of the cervix, by radiating incisions. The hæmorrhage may be a little free, but can readily be checked by pressure. The relief from distress is marvelous; and those who have seen these poor women return again and again with the request for the same treatment will not be skeptical regarding my proposition, that *in these diseased and distended glands lies the true cause of the trouble.* Indeed, such cases may, by scarification, hot douches, glycerin tampons, and rest, be almost entirely restored, unless the latter important element can not be gained, as is the case in women who have household or other duties to perform. In the latter, as also in the more pronounced and intractable forms among the better circumstanced, nothing short of trachelorrhaphy will bring permanent relief. But the operation should be thorough; all diseased and hyperplastic structure should be removed, and the cervix should be restored as nearly as possible to its normal size and shape. Unfortunately, there are specialists even who do not in this respect follow the principles laid down by Dr. Emmet, and who, as he says, inclose the "cicatricial plug," whose removal he regards as paramount, in the newly made wound. Among gynæcologists in this city even I have seen few who succeed in giving the cervix after this operation an almost virginal shape, as Dr. Emmet almost invariably does, by first slitting up the angle for the removal of cicatricial tissue, and then bringing the edges together by deep sutures directed toward the angle of the wound and not across from one edge to the other. I am disposed to believe that it is not this removal of the "cicatricial plug" which renders Dr. Emmet's operation in his own hands so signally successful, but that the solution lies in the complete ablation of the *diseased gland structure* which necessarily follows the removal of this cicatricial plug. When a considerable wedge is excised from the angles of the laceration, the surgeon is compelled to resort to free ablation of the thickened flaps, in order to bring them into nice apposition, if he would avoid inclosing a deep gap in the angle; the result is a cervix almost virginal in appearance, which I have seen very few surgeons besides Dr. Emmet able to produce. Let it be borne in mind that the great aim of the operation of lacerated cervix is the removal of the diseased gland structure; let this be unsparingly removed, and this great health-saving and, I believe, life-saving operation will perform its proper function.

There is no treatment for subinvolution which can compare to trachelorrhaphy in brilliancy of results. When we

read the description of this disease, which is now known to be almost invariably only a portion of a complexus of conditions following an imperfect "getting up" from childbed; and if we compare the results of treatment by ergot, tonics, baths, astringents, electricity, and injections, which was in vogue several years ago, with the brilliant results of trachelorrhaphy—we find cause to congratulate ourselves on the fact that we live in this happy era in which surgery counts its triumphs daily.

A few weeks after the wound is healed the uterine canal shows a decrease of depth, there is new life infused into its circulation, involution is re-established, and with it the patient is restored to health. How many weary years have been passed in bootless medication, how many days and months of invalidism have been suffered ere this happy consummation was reached by one brilliant stroke of the surgeon's hand, the sufferer often tells with a sorrowing yet with a grateful heart.

Some twelve years ago I wrote an elaborate article on subinvolution for the Charleston, S. C., "Medical Journal," in which I presented all the remedies which were at that time thought efficient. The recollection of my lengthy account of the therapeutics of this affection has led me to these reflections upon the comparative advantages of the present method of treating subinvolution.

In those cases of cervical disease termed *ulceration* and *erosion* the follicles are again found to enact an important pathological *rôle*. Whether they become more freely developed on their original site, as maintained by Fischel, or whether a new formation of follicles ensues, as is, with more convincing proof, asserted by C. Ruge, the fact is established beyond contradiction that so-called *erosions of the portio vaginalis rest upon a groundwork of glands.* "The entire eroded spot," says Ruge, "is the free surface of a new development of glandular structure upon the normally glandless portio vaginalis; it is covered with a cylindrical epithelium in single layer. At the same time are formed numerous depressions into the tissue, which in single spots are still solid, but soon become hollow, and present themselves as glandular tubes or bags, which, penetrating deeply into the tissue, branch freely and *communicate often with neighboring glands.* From the latter arise partly constricted rounded formations whose inner walls are covered with very fine papillary projections. Repeatedly we found a complete spongy system of glands. The larger glands lie in the mucosa, but even muscular fibers do not hinder their further development. In many cases they reach such massive accumulation that all normal structure is pressed aside. All these constrictions and depressions have cylindrical epithelium which resembles the more superficial. The intervening structure is a young connective tissue permeated by numerous capillary loops. In a peculiar manner we found repeatedly real gland lamina as well as follicle-like formations on parts where the portio vaginalis was covered superficially by normal epithelium and where the papillæ even showed no change. *Their origin is very probably due to the small crypts which in the cervical canal are covered with cylindrical epithelium* [italics mine], but which are sparse in the portio, by means of the deep penetration of these crypts in a direction from within outward toward the portio, whose epithelium they push before them. It is possible that they may partly arise in the connective tissue of the portio vaginalis." From this description of the pathology of erosions it would appear that the follicular structures form their basis, and that it would be irrational to attempt to cure these surface breaches without destruction of the gland-tissue. Strong acids answer a good purpose here, because the diseased surface is within easy reach and may be again and again subjected to treatment.

But the more radical removal by the sharp curette or spoon, or by scissors and knife, as is best done by Emmet's or Schroeder's operation, leads to a more rapid and successful issue, and affords a permanent result, *because the glands, which are the chief pathological factors, are thoroughly removed.* I have no experience with Schroeder's operation, but Emmet's trachelorrhaphy, or some modification of it, has served an excellent purpose in such cases.

The radical extirpation of the gland-tissue becomes more imperative if we accept the view of Ruge and Veit, that there is not only a close relationship between erosions and cancer, but that many cases of cancer may actually be traced to an origin in the gland structure. The process of repair in these erosions confirms this view.

"While in the repair of erosions, in some cases, the cylindrical epithelium transforms itself into squamous epithelium, which, by increase and layering, gradually narrows the gland-outlets more and more, compresses them, as it were cuts them off, so that they persist under the squamous epithelium; on the other hand, instead of this incomplete healing, the squamous epithelium may creep into the glands. Often the upper half of the gland is found already filled. But another process of termination may occur. Frequently everything up to a small piece of gland-tissue, corresponding to its bottom, may be converted into squamous epithelium or into a better-layered, polymorphous, dermoidal epithelium. In short, we obtain in these processes of cure pictures such as we have frequently described in the development of cancer, as beginning of the latter. *A gland in process of cancerous degeneration is not to be distinguished from one in process of cure.* In the cervix an analogous process of cure takes place when an erosion becomes covered by epidermis; *the squamous epithelium which forms in simple ectropium, or in prolapsus with ectropium, often creeps into the gland only on one side in order to fill it gradually*" ("Zeitschr. für Geburtsh. und Gynaek.," 1881, p. 174). The pathological study of cervical diseases which are here presented briefly points to the inevitable conclusion that *the cervical follicles are significant factors in all benign diseases of the cervix uteri.*

The connection between benign and malignant disease of the cervix has already been referred to. It remains now to show more definitely how far *the cervical follicles are significant as elements in the pathology of that most loathsome of all uterine diseases, carcinoma.* I must again draw from that valuable source of information on pathology, the labors of Ruge and Veit, who have examined numerous specimens of carcinomatous tissue, removed, in various stages, by Carl Schroeder and others. The minute descriptions of the mi-

croscopic appearances, which are beautifully illustrated in their work ("Der Krebs der Gebärmutter," "Zeitsch. für Geburtshülfe und Gynækol.," 1881), establish beyond a doubt the correctness of their view that *carcinoma of the cervix originates in the follicles.* "When it develops within the cervix, it arises from the connective tissue or the already present though rankly growing glands, while, when it develops on the portio vaginalis, it takes its origin in the connective tissue or in newly formed glands. Hence both forms have this much in common, although they differ in some other respects: that *a glandular formation serves them as their point of origin*" (pp. 208, 209).

It would probably interest you as deeply as it interested me during the investigation of this momentous question to follow these practical microscopists, who are intimately connected in their work with Berlin's best clinical gynæcologists, in the description of some of the microscopic drawings which they furnish. But I will quote very briefly, in order to impress upon your minds the salient points in connection with my subject, only the concluding summary (p. 169): "First, the squamous epithelium was found sometimes slightly thickened near the end (of the portio); next followed *glandular erosions*, covered with cylindrical epithelium which degenerated into cancer. In many cases in which cancer apparently occurred upon the plain terminations of the squamous epithelium, its development from glands could frequently be demonstrated beyond a doubt. We can say that a large proportion of carcinoma of the portio vaginalis are gland cancers, which receive their origin in newly developed glands (erosions). We therefore still remain upon our former standpoint, that erosions are not always simple and insignificant processes. We are glad (in reply to Scanzoni, who said that the incipient stages of development of cancer were unknown) to say that we have seen early development of cancer, and that we have demonstrated for this category a development from glands."

What lessons are inculcated by the pathological evidences which I have brought before you to prove the paramount influence of the gland structure as a factor in benign as well as in malignant diseases of the cervix uteri? The original intention of my studies on the subject was to demonstrate the urgent necessity of recognizing the gland structure in the operation for lacerated cervix, to show how important the mere repair of the laceration would be in the direction of a cure, and to insist upon the necessity of free, thorough, and unsparing removal of all gland-tissue in this operation. But, as the subject became more and more elaborated in my mind, I was led into the more complete review which is here presented.

Ruge and Veit have told us: "*A gland in process of cancerous degeneration is not to be distinguished from one in process of cure.*" Pregnant words these from the pen of careful observers, reminding us how readily the scale may be turned from a benign to a malignant process.

The microscope has confirmed the conclusions which clinical observation has furnished. Dr. Emmet has long insisted that epithelioma of the cervix was almost invariably connected with a previously existing laceration, having never discovered epithelioma in women who had not at some time been delivered of a fœtus. Breisky, Gusserow, Hofmaier, and others have confirmed Emmet's view to this extent at least, that, in their experience, carcinoma of the cervix is comparatively rare in nulliparous women.

The lesson, therefore, is plain. Lacerations, erosions, and ulcerations, which do not readily respond to ordinary treatment, must be regarded with suspicion as possible sources for the development of malignant disease. When surgical measures are demanded for their repair, the removal of the gland structure is paramount, and should be executed, as vigorously as is done in true malignant disease, by encroaching as far as possible upon the healthy parenchyma of the cervix. This complete extirpation of the gland structure will not only secure a complete cure in benign cases, but prevent the possible development of malignant disease.

Summary.

1. A thorough knowledge of the anatomy, physiology, and pathology of the cervical follicles will simplify the treatment of many uterine affections.

2. The cervix uteri represents a large gland of active and important function in the various sexual relations of woman.

3. In the majority of the more common diseases of the uterus the mucous membrane and its follicles play the most important rôle. A recognition of this fact will make treatment more successful.

4. Metritis, subinvolution, hyperplasia with catarrh, erosions, etc., must be studied in connection with the glands of the cervix.

5. In obstinate cases medicinal applications fail because the secreting surfaces of the follicles are not reached. Scarification and the curette are valuable adjuncts in nulliparous women or in parous women without cervix laceration.

6. In parous women with lacerations, trachelorrhaphy is the most valuable procedure. As a simple plastic operation it will fail. Success depends on extirpation of the follicles, which is more important than "removal of the cicatricial plug."

7. The microscope demonstrates the dependence of catarrh, ulceration, erosion, and hypertrophy of the cervix, and often also of the body of the uterus, upon the glandular structure of the cervix uteri.

8. The cervical follicles are significant as elements in the pathology of cervix cancer, because the microscope demonstrates the dependence of the latter upon erosions, which are based upon the gland structure.

9. Laceration and erosion must be regarded with suspicion, as possible sources of future malignant disease. In operating for their removal, extirpation of the cervical follicles must be unsparing.

Protective Choleraic Inoculation in Spain, under the direction of Dr. Ferrán, the Government prohibition of which has been withdrawn, is to be further prosecuted, as we learn by the "Union médicale," under the observation of a French commission consisting of Professor Brouardel, M. Roux, who is an assistant of Pasteur's, and M. Albarran, the last-named gentleman having been chosen on account of his knowledge of the Spanish language.

The Honorary Degree of LL. D. has been conferred on Dr. Thomas F. Rochester, of Buffalo.

Book Notices.

Lectures on Diseases of the Nervous Sytsem, especially in Women. By S. Weir Mitchell, M. D., Member of the National Academy of Sciencs, Physician to the Orthopædic Hospital and Infirmary for Diseases of the Nervous System, etc. Second Edition, revised and enlarged, with Five Plates. Philadelphia: Lea Brothers & Co., 1885. Pp. 287. [Price, $1.75.]

Dr. Mitchell's numerous admirers will welcome a new edition of his interesting little volume, especially as it contains several fresh pages on the subject of hysteria, on which he always writes so graphically. Chapter XVI, on "The Rectum and Defecation in Hysteria," contains a number of curious and interesting facts concerning this protean disorder. The closing chapter contains a concise statement of the advantages and method of application of the rest-cure, which the talented author has already rendered so famous.

The subject of chorea is carefully treated of, the relation of the disease to locality and meteorological conditions being carefully studied and illustrated by charts. The style is, like that of all of the author's writings, clear and forcible. Aside from its scientific value, the book offers most interesting reading.

Modern Therapeutics of the Diseases of Children, with Observations on the Hygiene of Infancy. By Joseph F. Edwards, M. D., Editor of the "Annals of Hygiene," etc. Philadelphia: D. G. Brinton, 1885. Pp. vii–17 to 346, inclusive.

The author modestly remarks in the preface that "no similar work of anything like this extent has ever been published," a statement calculated to raise the expectations of the reader to a high pitch. Unfortunately, these expectations are not entirely realized. The volume certainly contains a number of valuable suggestions, and will be acceptable to a certain class of readers, but, to tell the truth, there is so much waste matter in it that the true pearls are hard to find. Numbers of the prescriptions which are credited to certain modern physicians have been in use for over a century, and many of the "eminent specialists" whose teachings are quoted are unknown to fame.

The main criticism to be urged against the book is its prolixity. The writer has certainly devoted an immense amount of time to the compilation.

The Year-Book of Treatment for 1884. A Critical Review for Practitioners of Medicine and Surgery. Philadelphia: Lea Brothers & Co., 1885. Pp. 316.

This little volume contains a large amount of useful information within a small space. The names of the contributors are a sufficient guarantee of the accuracy of the work. The paragraphs, although necessarily condensed, are sufficiently full; the references to current literature are carefully given, and show wide research. Although the writers are English, they generously allow a fair amount of space to extracts from American journals. We note, as especially worthy of commendation, the sections on "Diseases of the Stomach, Intestines, and Liver," by Dr. Brunton; on "General Surgery," by Mr. Bryant; and on "Diseases of Women," by Dr. Williams. Mr. Champneys contributes a lengthy chapter on "Midwifery," and Mr. Malcolm Morris an excellent *résumé* of the latest advances in the department of dermatology. There are two carefully prepared indexes, one referring to the authors quoted, the other to diseases. The book is of a size suitable for the pocket, and the type and binding leave nothing to be desired.

Modern Medical Therapeutics: A Compendium of Recent Formulæ and Specific Therapeutical Directions, from the Practice of Eminent Contemporary Physicians, American and Foreign. By George H. Napheys, A. M., M. D., etc. Edited by Joseph F. Edwards, M. D., and D. G. Brinton, M. D. Eighth Edition, Enlarged and Revised. Philadelphia: D. G. Brinton, 1885. Pp. xv–629.

The fact that this work has reached an eighth edition proves that it must be popular with the profession, yet this is not necessarily an argument in favor of its intrinsic excellence. Although we do not regard with much favor the regular practice of borrowing other men's prescriptions, there are undoubtedly useful hints to be derived from a study of the methods of treatment employed by different practitioners. The advantage complacently set forth by the editors, that the present edition has been increased by "more than a hundred pages," will not strike the thoughtful reader as especially great. There is too much irrelevant matter in the book already. The size of the volume is the least of its attractions. While, as we before remarked, we do not become enthusiastic over Dr. Napheys's works, they certainly possess good points, and should not be dismissed without some commendation.

BOOKS AND PAMPHLETS RECEIVED.

On Some Common Injuries to Limbs; their Treatment and After-treatment, including Bone-setting (so called). By Edward Cotterell, M. R. C. S. Eng., L. R. C. P. Lond., etc. With Illustrations. London: H. K. Lewis, 1885. Pp. x–108.

Hay Fever, and its Successful Treatment by Superficial Organic Alteration of the Nasal Mucous Membrane. By Charles E. Sajous, M. D., etc. Illustrated with Thirteen Wood Engravings. Philadelphia: F. A. Davis, Att'y, 1885. Pp. 103.

A Treatise on Practical Chemistry and Qualitative Inorganic Analysis, adapted for Use in the Laboratories of Colleges and Schools. By Frank Clowes, D. Sc. Lond., etc. With Illustrations. From the Fourth English Edition. Philadelphia: Lea Brothers & Co., 1885. Pp. xiv–376.

The Ten Laws of Health; or, How Diseases are produced and prevented: and Family Guide to Protection against Epidemic Diseases and Other Dangerous Infections. By J. R. Black, M. D. Philadelphia: J. B. Lippincott Co., 1885. Pp. xviii–13 to 413, inclusive. [Price, $2.]

The Pathology and Treatment of Stricture of the Urethra and Urinary Fistulæ. By Sir Henry Thompson, F. R. C. S., M. B. Lond., etc. Fourth Edition. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xii–254. [Price, $2.]

Medical Topics. Containing: 1. Hints and Suggestions for Reform in Medical Education. 2. A Plea for the State Regulation of Medicine and Surgery. 3. Medical Education; its Objects and Requirements. By F. R. Sturgis, M. D., Ex-president of the Medical Society of the County of New York, etc. New York: William Wood & Co., 1885. Pp. 63. [Price, 25c.]

Pneumonia in Young Children. By L. Emmett Holt, A. M., M. D., Attending Physician to the Children's Department of the Northwestern Dispensary, etc. [Reprinted from the "Medical Record."]

Epilepsy. By L. W. Baker, M. D., Superintendent of a Hospital for Epileptic Children, Baldwinsville, Mass. [Reprinted from the "Journal of Nervous and Mental Disease."]

Catálogo español, clasificado, descriptivo é ilustrado, de los libros publicados por D. Appleton y Ca. 1885.

Second Annual Report of the New York Skin and Cancer Hospital.

Minutes of the Medical Society of Delaware, at its Ninety-fifth Annual Session.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D Appleton & Co. Edited by Frank P. Foster, M. D.
NEW YORK, SATURDAY, JULY 4, 1885.

THE INTERNATIONAL MEDICAL CONGRESS.

In this issue we conclude our report of the Chicago meeting of the American Medical Association's Committee on the International Medical Congress. Several of the members of the original committee were present and took part in the proceedings, a fact that can not be otherwise construed than as a complete recognition on their part—and presumably on the part of the original committee as a body—of the new committee's legitimacy.

The enlarged committee, therefore, with power to fill vacancies occurring even among the original members, now constitutes the only body charged with the organization of the Congress. That being the case, its acts assume an importance that might have been questioned before. We are glad to be able to say that the convictions which we expressed two weeks ago have been justified by the moderation and breadth of view shown at Chicago. Of course, we deplore the fact that the committee was under compulsion to cut off the heads of a number of distinguished men whose co-operation the Congress can ill afford to spare; and it is humiliating to reflect that this compulsion was not the outgrowth of any spontaneous expression of feeling on the part of the profession, but merely the natural sequence of the excitement brought about at New Orleans. It was none the less real and morally binding, however, and we readily concede that the committee, whatever may have been the feelings of its individual members, had no course open to it but the very course that it took. When in the future—and, to judge by the action taken in Philadelphia, in the near future—it comes to be admitted on all hands that an honest difference of opinion as to how far a sentiment should be allowed to sway the policy of the profession ought never to have been magnified into an issue before which every other consideration should be made to yield, and perverted into a test of personal worth, it will certainly be recognized that the responsibility for carrying out those monstrous notions to the extent of wantonly humiliating some of the best men to be found in the ranks of the medical profession, and at the same time detracting from the strength of the home representation at a convocation of the medical men of the whole world, condemnation will not be visited upon this committee, but upon those whose acts called it into existence.

The committee, we repeat, is not to be held chargeable with the crippling of the Congress that must be the result of the foolish policy settled upon at New Orleans—a policy that has already begun to bear its bitter fruit, as shown by the action of our brethren in Philadelphia. The preambles and resolution adopted by them (for a copy of which we are indebted to the courtesy of the "Medical News," of Philadelphia) show plainly that the strong men of the profession in that city are not to be made the cat's paws of a little knot of agitators. It is significant that several of the names signed to the resolution are those of men appointed to high positions in the new list of officers of the Congress.

There was only one other main question with which the committee had to wrestle, and that was the demand for a more strictly geographical representation in the organization of the Congress. So far as the proceedings at New Orleans could be taken as an indication of what was wanted, this demand seemed much more obtrusive than the feeling on the code question. There was danger, consequently, that the committee would feel constrained to take sweeping measures, and to make the officers of the Congress represent not the medical achievements of the country, but its territorial districts. We think an examination of the new list of officers decided upon by the committee will show that, while it has done all that could fairly be expected of it by the most exacting stickler for local representation, it has yet contrived to fill the prominent places with well-known men—men in every way fitted for the positions to which they have been appointed. We must therefore congratulate the committee upon this portion of its work, and we feel convinced that whatever sense of disappointment may be the portion of those whose names have been lopped off from the original list will arise from the thought, not that they as individuals have had an indignity put upon them, but that they are debarred from showing their devotion to American medicine on an occasion when, more than on any other, it would have been conspicuous and effective. While we praise the work of the committee, we must confess that the outlook for the Congress is gloomy.

THE EMBRYOLOGICAL RELATIONS OF CONGENITAL MALFORMATIONS OF THE PHARYNX.

At the fourteenth congress of the German *Gesellschaft für Chirurgie*, an excellent digest of the proceedings of which is published in the form of a supplement to the "Centralblatt für Chirurgie," Dr. Albrecht, of Brussels, read a notable paper on the morphological significance of pharyngeal diverticula. He sought to establish that, besides the lungs, there were two different sorts of these diverticula in the human subject, namely, the dorsal, epipharyngeal, or retropharyngeal, and the lateral or parapharyngeal. The epipharyngeal diverticula of man, he says, are those which Zenker and von Ziemssen have characterized as "impulse-diverticula" (*Pulsionsdivertikel*). In all the cases thus far observed the opening of the larynx, that of the œsophagus, and that of the diverticulum have all been situated at the same level. Since a like diverticulum, the so-called œsophageal cæcum of the veterinarians, is found as a normal structure in several of the *Mammalia* (constantly in the hog, the camel, and the elephant, and occasionally in the ox), Albrecht maintains that Zenker and von Ziemssen's impulse-diverticula in man have the morphological significance of atavistic formations, and are to be referred to the same sources as the œsophageal cæcum, which latter, furthermore, he looks upon as a

homologue of the air-bladder of fishes, having no homology with lungs, since there are certain *Teleosteans* (*Diodon*, *Triodon*, and *Tetrodon*) that have both lungs and air-bladders, while, on the other hand, in some of the *Selachians* (*Galeus*, *Mustelus*, and *Acanthias*) the air-bladder is found to have the form of an epipharyngeal diverticulum. Since in the hog, the œsophageal cæcum (*Rachentasche*) of which was demonstrated with a preparation, the pouch is overlain by the crico-pharyngeus muscle, and its mucous membrane can be inverted beneath the crico-pharyngeus with the finger, thus what is known in man as pharyngocele being produced artificially, we have an explanation of the presence, often recorded in literature, of muscular fibers on the cranial portion of the impulse-diverticulum in man, doubted by Zenker and von Ziemssen on theoretical grounds. The Zenker-von Ziemssen *versus* König controversy in regard to these muscular fibers is therefore decided in König's favor, for the cranial portion of the pouch must, under all circumstances, be covered by the crico-pharyngeus.

In man, the author continues, all the parapharyngeal diverticula have the same morphological significance; they all originate in the second post-oral cleft (bounded by the hyal arch, consisting of the styloid process, the stylo-hyoid ligament, and the lesser cornu of the hyoid bone, and the ventral rudiment of the first branchial arch, the greater cornu of the hyoid bone), the cutaneous opening of which is closed, while the blind termination thus formed is dilated into a pouch. To the same mode of origin we must refer congenital cervical fistulas, and congenital hydroceles, atheromas, and dermoid cysts of the neck. If the second post-oral cleft does not close at all, a congenital cervical fistula is the result; if its cutaneous opening closes, an internal incomplete fistula is formed, which, if its lateral blind end bulges, gives the impression, as in a case cited from Watson, of a lateral diverticulum of the pharynx; if both the cutaneous and the pharyngeal openings close, either a hydrocele, an atheroma, or a dermoid cyst is developed, according as the contents are serous, pultaceous, or containing dermoid formations, such as hair and teeth.

Like congenital fistulas of the neck, the parapharyngeal diverticula lie mediad of the sterno-cleido-mastoid muscle, making their way first between the external and the internal carotid arteries, then between the glosso-pharyngeal nerve and the stylo-pharyngeus muscle, to open finally into the pharynx behind the pharyngo-palatine arch. The reason why the cutaneous orifice of a congenital cervical fistula and the blind end of a pharyngeal diverticulum lie close above the sterno-clavicular joint is to be found in the cranio-caudad migration of the two respectively, a migration which tallies with the caudad migration of the stomach, the heart, and the aortic arch; and the single explanation lies in the fact that, instead of the twenty-first spinal nerve, a cranial nerve goes to the stomach in man, and the inferior laryngeal nerve makes a turn two feet long, in the adult, around the fourth aortic arch (the arch of the aorta on the left, and the innominate artery and the proximal portion of the subclavian on the right side) before reaching the laryngeal muscles to which it is distributed. The author considers that the larynx, the air-passages, and the lungs constitute a normal hypopharyngeal diverticulum.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 30, 1885:

DISEASES.	Week ending June 23.		Week ending June 30.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	7	1	13	4
Scarlet fever	54	7	29	7
Cerebro-spinal meningitis	2	2	1	1
Measles	89	17	100	25
Diphtheria	57	23	63	35

The American Medical Association's Committee on the International Medical Congress.—Chicago, *June 25th.*—The meeting of to-day was called to order by the Chairman, Dr. Cole, at 9.20 A. M. The minutes of yesterday's meeting were read and adopted. Dr. R. Battey offered the following preamble and resolution:

Whereas, It is expedient that the meetings of this committee shall represent, as far as practicable, the profession of all portions of our country,

Resolved, That any member of the committee who may be unable to attend a meeting shall be empowered to send as his proxy for the meeting any member of the American Medical Association in good professional standing, and a resident of his State or member of his Government Department. Adopted unanimously.

Chairman Scott, of the sub-committee appointed yesterday, stated that the secretary would read this committee's report before its adoption, as it had been placed in his hands. Some general remarks were made as to the method of adopting the rules, and it was decided to act on them *seriatim*. The result of this action was that most of the rules reported by the committee were adopted, some amendments being made to a few of them. As they can not be given with exactness until after the committee's final revision, it is thought best not to attempt to incorporate them in this report. It is sufficient to say at present that Rule I was so amended as to guard against the participation of irregular practitioners in the meetings of the Congress.

That portion of the committee's report which had reference to the list of officers for the Congress contained the following nominations: For president, Austin Flint, of New York. For vice-presidents, N. S. Davis, of Chicago; H. F. Campbell, of Augusta, Ga.; R. P. Howard, of Montreal, Canada; T. G. Richardson, of New Orleans; A. Stillé, of Philadelphia; W. O. Baldwin, of Montgomery, Ala.; H. M. Skillman, of Lexington, Ky.; L. A. Sayre, of New York; W. W. Dawson, of Cincinnati; J. M. Toner, of Washington; W. Brodie, of Detroit; J. L. Atlee, of Lancaster, Pa.; and O. W. Holmes, of Boston. For secretary-general, John Packard, of Philadelphia. For chairman of the Finance Committee, F. S. Dennis, of New York. For members of the Committee of Arrangements (those whose names are printed in italics being also members of the executive sub-committee):

George A. Ketchum, Mobile; D. A. Linthicum, Helena, Ark.; *R. B. Cole* (chairman), San Francisco; Charles Denison, Denver, Col.; W. C. Wile, Sandy Hook, Conn.; W. E. Duncan, Dakota Territory; L. P. Bush, Wilmington, Del.; *A. Y. P. Garnett*, Washington; R. D. Murray, Moultrie, Pa.; Robert Battey, Rome, Ga.; E. P. Cook, Mendota, Ill.; F. W.

Beard, Vincennes, Ind.; W. Watson, Dubuque, Iowa; D. W. Stormont, Topeka, Kan.; W. H. Wathen, Louisville; J. W. Dupree, Baton Rouge; S. C. Gordon, Portland, Me.; *J. S. Lynch* (vice-chairman), Baltimore; A. H. Wilson, South Boston, Mass.; A. R. Smart, Hudson, Mich.; George F. French, Minneapolis; J. M. Taylor, Corinth, Miss.; N. F. Essig, Plattsburg, Mo.; R. C. Moore, Omaha; J. W. Parsons, Portsmouth, N. H.; William Pierson, Orange, N. J.; Ellsworth Eliot, New York; X. C. Scott, Cleveland; E. P. Fraser, Portland, Oregon; *J. V. Shoemaker* (secretary), Philadelphia; W. E. Anthony, Providence; R. A. Kinloch, Charleston; F. L. Sim, Memphis; J. W. McLaughlin, Austin; E. T. Upham, West Randolph, Vt.; W. C. Dabney, Charlottesville, Va.; G. Baird, Wheeling, W. Va.; Nicholas Senn, Milwaukee; J. J. McAchran, Laramie City, Wyoming Territory; J. B. Hamilton, Washington; Robert Murray, U. S. Army, Washington; F. M. Gunnell, U. S. Navy, Washington; *W. Pierson;* J. S. Billings, U. S. Army; J. M. Brown, U. S. Navy; I. M. Hays, Philadelphia; H. F. Campbell, Augusta, Ga.; *C. Johnston*, Baltimore; *J. W. S. Gouley*, New York; L. A. Sayre, New York; G. J. Engelmann, St. Louis; *F. S. Dennis*, New York; and *J. Packard*, Philadelphia. For Local Committee of Arrangements: A. Y. P. Garnett (chairman), J. S. Billings, S. O. Ritchie, and Frank Baker, all of Washington, with power to add to their number any of the physicians of Washington in good standing. For officers of sections: SECTION I (*Medical Education, Legislation, and Registration*).—President, S. E. Chaillé, New Orleans. Vice-presidents: G. Capples, San Antonio, Tex.; R. J. Dunglison, Philadelphia. Secretaries: E. F. Dunbar, Boston; Trail Green, Easton, Pa. Council: H. D. Didama, Syracuse, N. Y.; D. C. Gilman, Baltimore; J. F. Harrison, University of Virginia; C. A. Lindsley, New Haven; W. Pepper, Philadelphia; J. F. Prioleau, Charleston; L. McL. Tiffany, Baltimore; H. Gibbons, San Francisco; J. A. Dibbrell, Jr., Little Rock, Ark.; C. L. Allen, Rutland, Vt.; H. O. Hitchcock, Kalamazoo, Mich.; R. H. Reed, Mansfield, O.; J. W. Bailey, Gainesville, Ga.; K. Wylie, Sanford, Fla. SECTION II (*Anatomy*).—President, J. Leidy, Philadelphia. Vice-presidents: W. Pancoast, Philadelphia; C. W. Kelley, Louisville; S. Logan, New Orleans. Secretaries: W. W. Keen, Philadelphia; G. E. de Schweinitz, Philadelphia. Council: H. Allen, Philadelphia; F. Baker, Washington; A. Henson, Philadelphia; T. Dwight, Boston; F. L. Parker, Charleston; C. T. Parkes, Chicago; T. T. Sabine, New York; N. Senn, Milwaukee; J. F. Shepherd, Montreal; R. W. Shufeldt, U. S. Army; G. Halley, Kansas City; S. W. Craft, Jackson, Miss. SECTION III (*Physiology*).—President: J. C. Dalton, New York. Vice-presidents: H. P. Bowditch, Boston; J. F. Hibberd, Richmond, Ind.; H. N. Martin, Baltimore; M. Michel, Charleston. Secretary: J. G. Curtis, New York. Council: G. Baumgarten, St. Louis; H. G. Beyer, U. S. Navy; A. Flint, Jr., New York; W. Lee, Washington; J. J. Mason, Newport, R. I.; H. Sewall, Ann Arbor, Mich.; W. F. Hyer, Holly Springs, Mich.; J. H. Wyeth, San Francisco; A. D. Brubaker, Philadelphia; A. F. Whelan, Hillsdale, Mich.; T. S. Latimer, Baltimore; S. Putnam, Montpelier, Vt.; C. H. A. Kleinschmidt, Washington. SECTION IV (*Pathology*).—President: F. Delafield, New York. Vice-president: W. Pepper, Philadelphia. Secretaries: H. M. Briggs, New York; W. H. Welch, Baltimore; I. N. Himes, Cleveland. Council: C. Fenger, Chicago; R. H. Fitz, Boston; E. G. Janeway, New York; J. B. Johnson, St. Louis; G. M. Sternberg, U. S. Army; W. F. Whitney, Boston; C. H. Hunter, Minneapolis; E. O. Shakespeare, Philadelphia; H. Schmidt, New Orleans; M. Longstreth, Philadelphia. SECTION V (*Medicine—including the original section in Nervous Diseases and Psychiatry.*—President: J. M. DaCosta, Philadelphia. Vice-presidents: Alonzo Clark, New York; J. B. McCaw, Richmond; C. F. Folsom, Boston; J. P. Gray, Utica, N. Y.; J. S. Jewell, Chicago; R. McSherry, Baltimore; A. B. Palmer, Ann Arbor, Mich.; T. F. Rochester, Buffalo; S. W. Mitchell, Philadelphia; P. G. Robinson, St. Paul. Secretaries: W. Osler, Philadelphia; J. T. Whittaker, Cincinnati; W. Hay, Chicago. Council: R. Bartholow, Philadelphia; F. T. Miles, Baltimore; S. G. Webber, Boston; J. P. Logan, Atlanta; F. B. Lester, Kansas City; A. B. Arnold, Baltimore; E. D. Ferguson, Troy, N. Y.; S. C. Chew, Baltimore; W. H. Geddings, Aiken, S. C.; W. W. Johnston, Washington; G. A. Ketchum, Mobile; F. Minot, Boston; B. Robinson, New York; J. Burnett, Cleveland; W. W. Cleaver, Lebanon, Ky.; W. H. Phillips, Canton, O.; S. S. Clark, St. Albans, Vt.; G. Williamson, Ottawa, Canada; J. Draper, Brattleboro, Vt.; E. Grissom, Raleigh, N. C.; P. Brice, Tuscaloosa, Ala. SECTION VI (*Surgery*).—President: D. W. Yandell, Louisville. Vice-presidents: D. H. Agnew, Philadelphia; W. T. Briggs, Nashville; S. W. Gross, Philadelphia; W. H. Hingston, Montreal; R. A. Kinloch, Charleston; E. M. Moore, Rochester; M. Gunn, Chicago. Secretaries: J. C. Warren, Boston; D. P. Allen, Cleveland. Council: J. Ashhurst, Jr., Philadelphia; D. W. Cheever, Boston; P. S. Conner, Cincinnati; G. E. Fenwick, Montreal; F. H. Gerrish, Portland, Me.; J. C. Hutchison, Brooklyn; C. Johnston, Baltimore; T. M. Markoe, New York; A. P. Smith, Baltimore; J. F. Thompson, Washington; T. R. Varick, Jersey City; H. H. Mudd, St. Louis; J. R. Weist, Richmond, Ind.; J. P. Wall, Tampa, Fla.; —— Mercer, Omaha; H. Bingham, Burlington, Vt.; T. A. Dunsmore, Minneapolis; J. T. Carpenter, Pottsville, Pa.; W. S. Janney, Philadelphia; J. Garretson, Philadelphia; I. N. Quimby, Jersey City; T. A. McGraw, Detroit; —— Russell, ——, Wis.; J. H. Rawson, Burlington, Ia.; H. W. Austin, U. S. Marine-Hospital Service; O. Coskery, Baltimore; W. T. Andrews, Mitchell, Dak.; H. H. Smith, Philadelphia; —— Westmoreland, Scranton, Pa. SECTION VII (*Obstetrics and Gynæcology*).—President: R. Battey, Rome, Ga. Vice-presidents: W. T. Howard, Baltimore; R. B. Maury, Memphis; J. C. Reeve, Dayton, O.; A. H. Smith, Philadelphia; T. A. Reamy, Cincinnati; T. G. Thomas, New York; W. H. Byford, Chicago; H. P. C. Wilson, Baltimore; J. Goodman, Louisville; W. P. King, Sedalia, Mo. Secretaries: T. Opie, Baltimore; J. R. Chadwick, Boston; G. J. Engelmann, St. Louis. Council: R. P. Harris, Philadelphia; A. F. A. King, Washington; E. Van de Warker, Syracuse; W. T. Lusk, New York; R. S. Sutton, Pittsburgh; T. Parvin, Philadelphia; R. Glisan, Portland, Oregon; J. Scott, San Francisco; C. V. Northam, Lawrence, Kansas; E. P. Sale, Aberdeen, Miss.; W. Varian, Titusville, Pa.; T. B. Harvey, Indianapolis; E. Warner, Worcester, Mass.; L. Fay, Lowell, Mass.; D. Crea, Council Bluffs, Iowa; B. E. Hadra, San Antonio, Tex.; L. Robinson, San Francisco; E. S. Dunster, Ann Arbor, Mich.; H. O. Marcy, Boston; T. Opie, Baltimore; W. H. Baker, Boston; W. Gardner, Montreal; W. Goodell, Philadelphia; A. R. Jackson, Chicago; J. T. Johnson, Washington. SECTION VIII (*Ophthalmology*).—President: E. Williams, Cincinnati. Vice-presidents: H. D. Noyes, New York; E. L. Holmes, Chicago; W. Thomson, Philadelphia. Secretary: S. M. Burnett, Washington. Council: C. S. Bull, New York; A. W. Calhoun, Atlanta; H. Derby, Boston; E. G. Loring, New York; W. F. Norris, Philadelphia; W. W. Seely, Cincinnati; S. Theobald, Baltimore; O. F. Wadsworth, Boston; H. W. Williams, Boston; J. Green, St. Louis; P. D. Keyser, Philadelphia; D. Hunt, Boston; B. J. Jeffries, Boston; A. G. Sinclair, Memphis; B. Baldwin, Montgomery, Ala.; W. H. Sanders, Mobile; B. E. Frier, Kansas City; E. Smith, Detroit; J. L. Thompson, Indianapolis. SECTION IX (*Otology*).—President: C. J. Blake, Boston. Vice-presidents: A. M. Wilder, San Francisco; H. N. Spencer, St. Louis; D. S. Reynolds, Louisville. Secretary: S.

O. Ritchie, Washington. Council: J. H. White, Richmond; J. O. Green, Boston; G. Strawbridge, Philadelphia; S. J. Jones, Chicago; C. Turnbull, Philadelphia; J. A. Lippincott, Pittsburgh; C. H. Burnett, Philadelphia; C. J. Lundy, Detroit; E. H. Hazen, Davenport, Iowa. Section X (*Dermatology and Syphilis*).—President: W. A. Hardaway, St. Louis. Vice-presidents: J. M. Keller, Hot Springs, Ark.; J. N. Hyde, Chicago; J. C. White, Boston; L. A. Duhring, Philadelphia. Secretaries: F. E. Daniel, Austin, Tex.; W. T. Carlett, Cleveland. Council: I. E. Atkinson, Baltimore; A. R. Robinson, New York; E. Wigglesworth, Boston; H. C. Yarrow, Washington; H. O. Walker, Detroit; W. F. Glenn, Nashville; H. R. Carter, U. S. Marine-Hospital Service; J. J. McAchran, Laramie City, W. T.; J. A. Octerlony, Louisville; LeG. B. Denslow, St. Paul. Section XI (*Laryngology*).—President: J. N. Mackenzie, Baltimore. Vice-presidents: M. F. Coomes, Louisville; F. I. Knight, Boston. Secretaries: D. Bryson Delavan, New York; E. F. Ingals, Chicago. Council: W. H. Daly, Pittsburgh; G. W. Major, Montreal; E. C. Morgan, Washington; W. Porter, St. Louis; E. L. Shurly, Detroit; R. P. Lincoln, New York; C. Sajous, Philadelphia; H. Goldthwaite, New York. Section XII (*Public and International Hygiene*).—President: H. A. Johnson, Chicago. Vice-presidents: A. L. Carroll, Albany; J. L. Cabell, University of Virginia; J. B. Lindsley, Nashville; J. E. Reeves, Wheeling; J. N. McCormick, Bowling Green, Ky. Secretaries: W. Wyman, U. S. Marine-Hospital Service; G. H. Rohé, Baltimore. Council: A. Gihon, U. S. Navy; H. B. Baker, Lansing, Mich.; G. P. Conn, Concord, N. H.; W. H. Ford, Philadelphia; H. Leffmann, Philadelphia; D. W. Hand, St. Paul; J. H. Kidder, Washington; J. H. Rauch, Springfield, Ill.; J. H. Raymond, Brooklyn; J. R. Smith, U. S. Army; S. Smith, New York; H. P. Wolcott, Cambridge, Mass.; G. B. Thornton, Memphis; R. M. Sweringen, Austin, Tex.; C. M. Hewitt, Red Wing, Minn.; H. F. Lester, Detroit; E. S. Elder, Indianapolis; O. C. DeWolff, Chicago; E. L. B. Godfrey, Camden, N. J.; H. S. Orme, Los Angeles, Cal.; J. Holt, New Orleans; W. S. Robinson, Muscatine, Iowa; W. L. Schenck, Osage City, Kansas; B. Lee, Philadelphia. Section XIII (*Collective Investigation, Nomenclature, Vital Statistics, and Climatology*).—President: N. S. Davis, Chicago. Vice-presidents: J. Cochran, Mobile; E. M. Snow, Providence. Secretary: J. F. Todd, Chicago. Council: N. Allen, Lowell, Mass.; R. A. Cleeman, Philadelphia; J. H. Hollister, Chicago; J. T. Reeve, Appleton, Wis.; J. Tyson, Philadelphia; E. T. Sabal, Jacksonville, Fla.; A. C. Hamlin, Bangor, Me.; T. S. Hopkins, Thomasville, Ga.; T. J. Allen, Shreveport, La.; C. Denison, Denver; H. C. Ghent, Austin, Tex.; E. P. Hurd, Newburyport, Mass.; E. W. Morley, Cleveland; O. W. Wight, Detroit; T. T. Miner, Seattle, Wash. T.; P. C. Remondino, San Diego, Cal.; J. W. Parsons, Portsmouth, N. H.; W. P. Hart, Washington, Ark. Section XIV (*Military and Naval Surgery and Medicine*).—President: D. L. Huntington, U. S. Army. Vice-presidents: F. H. Hamilton, New York; H. McGuire, Richmond; S. P. Moore, Richmond; W. E. Taylor, U. S. Navy (retired); P. O. Hooper, Little Rock, Ark.; E. Andrews, Chicago; E. H. Gregory, St. Louis; D. McLane, Detroit. Secretaries: B. F. Pope, U. S. Army; McF. C. Gaston, Atlanta. Council: D. Bloodgood, U. S. Navy; R. B. Bontecou, Troy, N. Y.; J. H. Brinton, Philadelphia; E. J. Marsh, Paterson, N. J.; C. M. Mastin, Mobile; G. Peck, U. S. Navy; W. F. Peck, Davenport, Iowa; C. Smart, U. S. Army; J. R. Tryon, U. S. Navy; A. A. Woodhull, U. S. Army; J. W. Hamilton, Columbus, O.; W. Murphy, St. Paul; W. C. B. Fifield, Boston; E. Goodman, U. S. Army; W. S. Tremaine, U. S. Army; J. H. Peabody, Omaha; S. T. Armstrong, U. S. Marine-Hospital Service. Section XV (*Practical and Experimental Therapeutics*).—President: H. C. Wood, Philadelphia. Vice-presidents: E. R. Squibb, Brooklyn; R. T. Edes, Boston; F. P. Porcher, Charleston. Secretaries: R. T. Reichert, Philadelphia; R. M. Smith, Philadelphia. Council: G. Griswold, New York; R. Amory, Boston; H. M. Lyman, Chicago; S. Nickels, Cincinnati: F. Steyart, Cincinnati; I. Ott, Easton, Pa.; D. W. Prentiss, Washington; C. Rice, New York; C. H. White, U. S. Navy; T. F. Wood, Wilmington, N. C.; J. M. Flint, U. S. Navy; E. P. Fraser, Portland, Oregon; T. F. Breck, Springfield, Mass.; R. D. Webb, Livingston, Ala.; F. Woodbury, Philadelphia; J. V. Van Velsas, Yankton, Dakota T.; —— Codlock, Knoxville, Tenn.; J. F. Y. Payne, Galveston, Tex.; T. Weed, Cleveland; D. W. C. Wade, Holley, Mich.; R. C. Moore, Omaha; G. M. Garland, Boston; —— Crompton, Lancaster, Pa. Section XVI (*Diseases of Children*).—President: J. L. Smith, New York. Vice-presidents: D. Miller, Chicago; S. C. Busey, Washington. Secretary: E. T. Williams, Boston. Council: F. Forchheimer, Cincinnati; J. M. Keating, Philadelphia; W. Lee, Baltimore; J. H. Pope, Marshall, Tex.; W. B. Atkinson, Philadelphia; A. Walker, Evansville, Ind.; W. A. Conklin, Dayton, O.; W. F. Holt, Macon, Ga.; K. Johnson, Grand Rapids, Mich.; C. A. Leale, New York; S. H. Charlton, Seymour, Ind.; W. H. Dougherty, Augusta, Ga.; B. H. Riggs, Selma, Ala.; H. H. Middlekamp, Ironton, Mo.; J. A. Hodge, Henderson, Ky.; G. W. Moody, Huron, Dakota T.; A. A. Horner, Helena, Ark.

Dr. W. H. Watnen offered the following preamble and resolution: .

Whereas, It has become necessary, in order that this committee may fully understand the professional and personal standing of the various persons suggested for appointment, therefore be it

Resolved, That it is the sense of this meeting that all remarks bearing upon the qualifications of said persons be considered as strictly confidential between the members of the committee, and that the report of such remarks, if heretofore recorded, be expunged from the minutes. Carried unanimously.

The committee then adjourned, to meet in St. Louis on the Monday preceding the next meeting of the American Medical Association.

New York State Medical Association, Northern Branch.—The first annual meeting will be held in Utica on Tuesday, the 7th instant. The following papers are expected to be read: "Well-water and its Uses," by Dr. Malek A. Southworth, Little Falls; "The Treatment of Hæmorrhoids by Recent Methods and Instruments," by Dr. Leroy J. Brooks, Norwich; "Extra-uterine Pregnancy," by Dr. William A. Hall, Fulton; "Ankylosis of the Knee Joint as a Remedy for Extreme Paralysis of the Leg, due to Infantile Paralysis," by Dr. Stephen Smith, New York; "The Advantages of Paris as a Place of Medical Education," by Dr. M. M. Bagg, Utica; "Jaborandi and its Uses in Typhoid Fever," by Dr. Wallace Clarke, Utica.

The District Medical Society for the County of Hudson, N. J., will meet at the Stevens Institute, in Hoboken, on Tuesday, the 7th inst., at 3 o'clock P. M. Dr. W. P. Watson will read a paper on Cholera Infantum, and Dr. J. Lewis Smith and Dr. J. H. Ripley, of New York, are expected to take part in the discussion.

The International Medical Congress and the Medical Profession of Philadelphia.—A meeting of the members of the medical profession of Philadelphia concerned in the organization of the International Medical Congress of 1887 was held at the Hall of the College of Physicians, on Monday, June 29th, Dr. Alfred Stillé in the Chair. Dr. David W. Yandell, of Louisville, was present by invitation.

After hearing a report of the proceedings of the new committee, at the meeting held in Chicago last week, and, after considering the changes in the organization which were made, including the restriction of the scope of the membership, by which a large proportion of the profession of the country would be excluded from the Congress, the following preambles and resolution were unanimously adopted:

Whereas, Certain serious changes have been recently effected in the preliminary organization and rules for the International Medical Congress of 1887, it has seemed desirable for the members of the General Committee and the officers of the Sections resident in Philadelphia to meet for consultation; and

Whereas, It has appeared that these changes are inconsistent with the original plan, and detrimental to the interests of the medical profession in America, and of the International Medical Congress; therefore be it

Resolved, That we, the undersigned, consider that our duty to the profession and to ourselves requires us to decline to hold any office whatsoever in connection with the said Congress as now proposed to be organized:

D. Hayes Agnew,
Roberts Bartholow,
John H. Brinton,
Charles H. Burnett,
R. A. Cleemann,
J. M. Da Costa,
Louis A. Duhring,
William H. Ford,
William Goodell,
Samuel W. Gross,
Robert P. Harris,
I. Minis Hays,
William W. Keen,
Joseph Leidy,
S. Weir Mitchell,
William F. Norris,
William Osler,
John H. Packard,
Theophilus Parvin,
William Pepper,
Edward T. Reichart,
Albert H. Smith,
Robert Meade Smith,
Alfred Stillé,
George Strawbridge,
William Thomson,
James Tyson,
Horatio C. Wood,

David W. Yandell.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 21, 1885, to June 27, 1885:*

Hartsuff, Albert, Major and Surgeon. Assigned to duty at Fort Hamilton, New York Harbor. S. O. 133, Department of the East, June 24, 1885.

Middleton, J. V. D., Major and Surgeon. Granted one month's leave, with permission to apply for fifteen days' extension, to take effect about the 15th proximo. S. O. 88, Department of the Missouri, June 19, 1885.

Brown, H. E., Major and Surgeon. Assigned to duty as post surgeon, Fort Reno, Indian Territory. S. O. 91, Department of the Missouri, June 24, 1885.

Taylor, Blair D., Captain and Assistant Surgeon. Ordered from Department of Texas to Department of the East. S. O. 141, A. G. O., June 20, 1885.

Caster, William F., Captain and Assistant Surgeon. Ordered from Department of the East to Department of Texas. S. O. 141, A. G. O., June 20, 1885.

Davis, William B., Captain and Assistant Surgeon. Leave of absence extended three months. S. O. 142, A. G. O., June 23, 1885.

Ebert, R. G., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, to take effect about July 5th. S. O. 97, Department of the Columbia, June 17, 1885.

Robertson, R. L., First Lieutenant and Assistant Surgeon. Now on leave of absence, directed to report in person by July 7, 1885, to commanding officer, Columbus Barracks, Ohio, to accompany detachment of recruits to Department of Texas. On completion of this duty, to rejoin his proper station. S. O. 143, A. G. O., June 24, 1885.

Society Meetings for the Coming Week:

Monday, *July 6th:* New York Academy of Sciences (Section in Biology); Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford City, Conn., Medical Association; Chicago Medical Society.

Tuesday, *July 7th:* Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Medical Society of the County of Broome, N. Y.; Ogdensburg, N. Y., Medical Association; Hudson County (Jersey City) and Union County (quarterly), N. J., Medical Societies; Chittenden County, Vt., Medical Society; Androscoggin County, Me., Medical Association (Lewiston).

Wednesday, *July 8th:* American Microscopical Society of the City of New York; Medical Societies of the Counties of Cayuga and Seneca (annual). N. Y.; Tri-States Medical Association (Port Jervis, N. Y.); Franklin District (quarterly—Greenfield), Hampshire District (quarterly—Northampton), and Worcester District, Mass. (Worcester), Medical Societies.

Thursday, *July 9th:* Brooklyn Pathological Society; Medical Society of the County of Fulton, N. Y. (semi-annual—Johnstown); South Boston, Mass., Medical Club (private).

Friday, *July 10th:* Medical Society of the Town of Saugerties, N. Y.

Saturday, *July 11th:* Worcester North District, Mass., Medical Society.

Proceedings of Societies.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of June 3, 1885.

A Plea for the Medicinal Use of Pure Alcohol and Alcoholic Mixtures of Known Composition in Preference to Ordinary Fermented Liquids.—Dr. Henry Leffmann read the following paper:

I present to the College this evening, with some misgivings, I confess, a topic which can scarcely yet be considered a "live issue" in clinical medicine, but which is destined, I am certain, to become one. At the present time the profession does not take kindly to suggestions having in view material modifications of its policy in reference to alcoholic liquors. The majority of physicians regard those who preach or practice total abstinence, or throw doubt on the indispensability of alcohol as a therapeutic agent, as entitled to little respect or tolerance. In presenting the view that we should abandon in clinical medicine the use of the natural wines and liquors, and resort to mixtures confessedly fictitious, we must expect to encounter all the force of the conservative spirit. Many centuries of constant use have developed in the race a feeling that fermented drinks, particularly those that, like wines and malt liquors, have suffered no modification by distillation or admixture, are bounties of nature wisely given for our use. The traditions of the past associate the first preparation of liquor with the gods, and in all ages poetry and prose have combined to increase the reverence for these natural products. Yet all this feeling is nothing but a superstition. Fermentation is now known to be a process occurring under the influence of micro-organisms, and it allies itself with ordinary putrefaction. The reverence which we have for "Nature's laboratory" is born of ignorance, and

there is no progress in chemistry more gratifying in its results than that which deals with dispelling the illusions which have surrounded its application to medicine.

Whatever ulterior relations the plan advocated here may have to the questions of total abstinence are not presented for discussion; I merely offer it as a contribution to the methods of exactness and certainty in clinical work.

In the medicinal and dietetic use of fermented liquors, it is the effect of the ethyl alcohol which is sought to be obtained. It is true that those who prescribe liquors a great deal are in the habit of saying that the accessory ingredients, compound ethers, astringents, or bitter principles, etc., are also efficacious, but that, if we closely observe the customs of such prescribers, it will be found not only that the effect expected from the alcohol outweighs that to be obtained from any other ingredient, but also that, in the majority of cases, the accessory ingredients are either not known or recognized.

Taking this fact, then, as a starting point, that an agent universally recognized as one of powerful physiological activity should be used only in the most definite condition. The forms of fermented liquors are numerous, and each form is subject to minor variations, depending on locality and season. The demand exceeds the supply, and hence the strong temptation to dilute and substitute. Within the past few months further notice has been given of the communications by American consuls abroad to the effect that the wines and brandies exported from France and Portugal are fictitious articles, in the majority of cases, and it needs but a little inquiry to show that a very large trade in liquors more or less spurious is carried on over the entire world.

Chemical analysis still has much to accomplish in the study of fermented liquors, but enough is known to enable us to imitate their essential features. The tabular statement of composition gives us a long list of mineral ingredients, but we are reasonably certain that, besides the ethyl alcohol, the only ingredients that need attention are the traces of fusel oil, compound ethers, astringent and bitter principles, and the effect even of their accessories is often more on the mind than on the body.

I suggest first, then, that in all cases in which the general physiological effect of ethyl alcohol is desired, it should be given by prescription, in the form of a rectified spirit of standard strength. My friend, Dr. A. W. Miller, who is familiar with this topic, both from the point of view of the pharmacist and physician, has suggested that such a standard, pure spirit be made officinal under the title *spiritus maydis rectificatus*. Such a suggestion is in the interest of clinical accuracy and safety to the patient. If the medical profession have any concern in the protection of the health and morals of the community—and it would certainly appear that it has great concern—no better opportunity is offered for good work than in reforming the widespread errors in reference to the use of alcoholic liquors. Where is the physician who would say to a patient, Take a little landanum or chloral every day, and leave to the patient or the druggist the duty of determining the dose, or the duration of the treatment? Yet every day physicians give similar recommendations in regard to liquors. The use of rectified spirits in prescriptions is to be recommended on the same ground that we give potassium bromide and iodide in accurate dosage, instead of the sea-water which contains them, or morphine and quinine instead of opium and Peruvian bark. Incidental to the therapeutic accuracy and moral safety which are involved in such practice is the not unimportant question of cheapness. Many liquors command prices far above the actual commercial value of the ingredients they contain. A pure French brandy, for instance, costs twelve dollars a gallon. Its place can be taken by a spirit of much less cost.

Several objections may be made to the plan of using the plain spirit. I can not stop to consider the one which arises from a belief in the superiority of a natural product, from a view that that which arises from a natural process will be necessarily superior to anything artificial; this, as I have said before, is a superstition; but there are some suggestions which are really important. It may be that the accessory ingredients have some therapeutic value, and it has been said to me that while pure alcohol may easily be used during acute disease and in hospital practice, that in long-continued treatment, and as a dietetic, patients can not be made to take it. In these cases the method to be pursued is plain. Let the alcohol be mixed with suitable accessory ingredients. If a combination of bitter tonic, sedative, and stimulant is wanted, it can be prescribed, and so on. There need be no difficulty in the matter, because modern art in the preparation of fictitious liquors has reached such perfection that excellent imitations of the natural liquors are made, and these have the advantage of definite and known composition and greater cheapness.

It is not uninteresting to note here the general nature of this work. I have the samples to illustrate it. In the preparation of fictitious liquors three methods may be employed. 1. The genuine liquor may be diluted with a suitable strength of pure spirit. This will give us a liquor differing but little from the original. 2. The liquor may be imitated by adding to pure spirit coloring and flavoring ingredients. In many cases this will give a liquor substantially identical with the original. 3. The liquor may be made up weak, and then taste and appearance of alcoholic strength be given by means of pepper and bead oil. The latter method is reprehensible, but the two former methods are, I hold, not injurious, and should be recognized.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of June 4, 1885.

The President, Dr. B. F. Baer, in the Chair;
Dr. W. H. H. Githens, Secretary.

Biniodide of Mercury as a Disinfectant in Obstetrics.—Dr. E. P. Bernardy read a paper with this title. His attention had first been called to the use of the biniodide of mercury as a germicide by Dr. Miquel, who had published in "L'Annuaire météorologique de Montsouris" the results of some experiments made to determine the minimum amount of a disinfectant necessary to prevent fermentation in a litre of sterilized beef-broth. His experiments showed that the mercurials were the best antiseptics, the biniodide being nearly three times as strong as the bichloride. In his table of disinfectants he placed the bichloride fourth on the list. To a litre of sterilized beef-broth he found it required 0·025 gramme of the biniodide of mercury to keep the broth pure, while 0·070 gramme of the bichloride of mercury was necessary to produce like effects. This showed that bacterial life was impossible in a solution of one forty-thousandth part of the biniodide, while of the bichloride it required one fourteen-thousandth part. The reader had been so forcibly impressed with these experiments that he had determined to give the biniodide of mercury a trial in obstetric cases where it was necessary to use an antiseptic. The following were the cases in which it had been used:

Case I.—On February 7, 1885, he was requested to take charge of Mrs. D., who had been confined about six weeks previously. It had been her second confinement, the duration of labor had been short and delivery natural, but an extensive laceration of the perinæum had occurred. No attempt had been made to bring the parts together by sutures. On the third evening she had been at-

tacked with severe frontal headache and chills, followed by fever, with great tenderness over the region of the uterus. There being no improvement in her condition, her medical attendant was discharged, and another called in, who gave such an unfavorable prognosis that he also was requested to cease his attendance. The patient had well-marked symptoms of septic poisoning. The pulse ranged from 130 to 140, was small and thready, and disappeared under the pressure of the finger; the temperature was 104° to 105°. She was slightly delirious, and had constant vomiting; the abdomen was swollen and excessively tender; the uterus was enlarged, extending fully three inches above the pubes. In the right side there seemed to be a growth extending up into the abdomen, tender on pressure. On making a vaginal examination, the os was found dilated so that the index-finger could readily enter the uterus. Its withdrawal was followed by a gush of highly offensive matter. The uterus was surrounded by organized lymph, and was immovable. The mass on the right side was easily detected, and was continuous with the lymph surrounding the uterus. The vagina was hot. The perinæum was torn to the anus; the surface was raw and discharged an acrid matter which scalded the surrounding parts. The urine was dark, and, on standing, deposited a reddish material which looked like blood-corpuscles. Dr. A. E. Russell examined the specimen and reported it to be slightly acid, with no albumin or sugar; under the microscope occasional pus-corpuscles were seen, and it was swarming with bacteria. In conjunction with internal treatment, intra-uterine injections were made three or four times a day. A solution of bichloride of mercury, 1 to 2,000, was first used. This was continued for three days without any marked results. The discharges continued as offensive as before. On the fourth day the bichloride was replaced by a 1-to-4,000 solution of biniodide of mercury. Within twenty-four hours an amelioration of all symptoms took place, the pulse fell to 100, and the temperature to 101°; the urine became clear and the discharge odorless. The injections were continued for ten days, their frequency being gradually reduced. The uterus returned to almost its normal size, and the lymph was gradually absorbed. The patient recovered.

Case II.—March 19, 1885, he was called to attend Mrs. W. in her first confinement. On his arrival, he found she had been in labor several hours. Examination showed the os perfectly dilated and the bag of waters protruding. The presentation was of the vertex, in the first position, and he ruptured the amnion. The vagina near its outlet was roughened with venereal warts, and they spread also over the vulva. Labor progressed rapidly and the second stage was happily ended. After waiting nearly an hour, making pressure on the uterus, he made slight traction on the cord, and, while doing so, felt, with his hand upon the uterus, a cup-like depression of the fundus take place. This convinced him that he had an adherent placenta to deal with, and that it would be folly to wait any longer. On introducing the hand he found the placenta completely adherent, so that it could hardly be said which was uterus and which placenta. After considerable trouble, he at last succeeded in detaching the placenta; it took fully three quarters of an hour. On making a second examination, to ascertain if the whole had been removed, his hand came in content with long shreds hanging from all sides of the uterus; the more he scraped, the more there seemed to be. He gave the patient two drachms of fluid extract of ergot. She did well for two days, when toward evening she complained of a chill and severe frontal headache. He then gave her ten grains of sulphate of quinine, with a quarter of a grain of sulphate of morphine, at one dose, and washed out the uterus with a 1-to-4,000 solution of biniodide of mercury. The pulse was 115 and the temperature 102°. The discharge was highly offensive. The injections were repeated every four hours. On the evening of the next day the pulse was 98, the temperature 100°, the discharge odorless, and the patient was perfectly well in ten days more.

Case III.—April 23, 1885, he was requested to call at once to see Mrs. K., who was reported in imminent danger of death. This was her ninth confinement. The history of the previous ones, with one exception, was not good. Her labors had been natural, but followed by terrible flooding and protracted convalescence. He found her in an attack of puerperal convulsions. He gave at once thirty grains of bromide of potassium and twenty of chloral hydrate. This dose was repeated in half an hour; ten minutes later another convulsion occurred. He then bled the patient freely. The os uteri was somewhat enlarged, the cervix soft and dilatable; there was a vertex presentation. Dr. Curtin, whom he had sent for, having confirmed his opinion, and considering that the patient's time was quite up, it was decided to etherize her, dilate the cervix, and deliver. The forceps was applied, and traction made at intervals. A living child was safely extracted. Continuous pressure was maintained over the uterus, but, after the expulsion of the placenta, the organ did not contract until it had been washed out with hot water. The bromide and chloral were continued every two hours, and no more convulsions occurred. The patient did well up to the fourth day, when the discharges became very offensive and the pulse accelerated, and slight tenderness existed over the uterus; but there was no chill or fever. The uterus was thoroughly washed out with a solution of biniodide of mercury, 1 to 4,000, and within twenty-four hours the discharge had become odorless and the tenderness over the uterus had disappeared. The patient recovered after a tedious convalescence.

In these cases it would be seen that the biniodide was prompt in its action, markedly so in Case I, where the bichloride and the biniodide were both employed, the result being decidedly in favor of the biniodide. Naturally, it would be said, here were only three cases from which deductions were to be drawn, and it was only after it had been carefully used in a large number of cases that its efficacy could be proved. It was for this reason that he brought it to the attention of the members of this society, who were in a position to give it a fair and impartial trial, and at some future time give the results of their investigations. He had found the 1-to-4,000 solution of the biniodide non-irritating, and had used it extensively in his gynæcological practice and in washing out pus cavities with good results. In it we had a preparation in which the smallest amount of drug was used with results far exceeding those of any other antiseptic. On account of the small quantity of mercury, there would be less chance of salivation. The method he had pursued in making the solution was: Take three grains and a half of the salt, well triturated in a mortar and rubbed, with one quart of boiling water, slowly added, giving a solution of 1 to 4,390. Since writing the foregoing he had seen in the "Philadelphia Medical Times" for May 16th that Dr. Panas, eye surgeon of the Hôtel-Dieu, used the 1-to-25,000 solution of biniodide of mercury in eye cases. He made the following statements: "After a number of experiments, I have convinced myself that a solution in water, 1 to 10,000, of the bichloride, or a similar solution, 1 to 25,000, of the biniodide of mercury, is much superior to any other antiseptic solution employed in eye surgery.' Here again we had a statement that the biniodide in a smaller quantity was as good an antiseptic as the bichloride.

Dr. Montgomery's experience had led him to the conclusion that the bichloride of mercury was far more effective as a disinfectant than carbolic acid. Its introduction into the Philadelphia Hospital had been due to Dr. Parvin, who had found it very satisfactory. In eighteen cases of puerperal fever that were treated with bichloride injections, only three deaths occurred. This success was attributed by the hospital staff to the use of the bichloride. In private practice the speaker followed the plan of Dr. Garrigues, of New York, and avoided intra-uterine injections after labor, but applied pledgets wet with a bichloride solution over the vulva, after carefully cleansing away clots and washing the external parts with a similar solution. In his last term at the Philadelphia Hospital he had had only two cases of puerperal fever, one of which commenced twelve days after delivery. The history of Dr. Bernardy's cases showed an equal if not better antiseptic power in the biniodide of mercury.

Dr. J. V. Kelly some years ago had had several fatal cases of puerperal fever, and about twenty-five patients that got well.

The trouble commenced in a case of abortion, in which he did not succeed in removing all of the placenta. He was at the same time attending a bad case of erysipelas, and at that time the relationship of puerperal fever and erysipelas was not known to him. He was on the point of giving up his practice and leaving the town, and he consulted Dr. Goodell on that question. Dr. Goodell discountenanced such action, but advised him, when attending an obstetric case, to remove his coat and roll up his sleeves, and wash his hands and arms well with turpentine, using the nail-brush thoroughly. Since that time he had washed his hands in turpentine every day and again before every case of labor. He also used a wash of vinegar or carbolic acid solution before touching a puerperal patient. He had met with no puerperal fever or other septicæmic symptoms since that time.

Dr. Parvin said that, as reference had been made to his having used corrosive-sublimate vaginal injections in the cases of puerperal septicæmia under his care in the Philadelphia Hospital last year, he would refer to the antiseptic treatment in the cases occurring the present year. When he took charge of the obstetrical ward, on the 1st of January, he found five recent cases of septicæmia: two of these patients died; one of the two had apparently recovered and then was attacked by pneumonia —quite possibly this pneumonia had a septic origin. Then there were at least seven other cases, but all these patients, as well as three of the original five, recovered. Injections of a solution of corrosive sublimate, 1 to 5,000, were used in all cases immediately after labor. The external parts were washed, too, with a similar solution. This injection was repeated twice a day in all cases for the first week after labor, while it was used oftener in those having septicæmia. Intra-uterine injections were used only when vaginal injections failed to correct the offensiveness of the discharge, but, as was well known, there might be serious, even fatal, cases of septic disease though the lochial flow was not at all offensive. In private practice, after once washing out the vagina thoroughly with the antiseptic solution immediately after labor, this need not be repeated unless symptoms demanded it, but the bathing of the vulva twice a day with the solution ought not to be omitted. Add, if preferred, to this treatment the use of antiseptic napkins, a practice pursued by Dr. Montgomery at the Philadelphia Hospital so successfully, and he thought we had taken the most important means to guard against the entrance of septic germs after labor. He had had no experience with the biniodide of mercury, and did not know that it would supersede the bichloride. The argument in its favor was as strong as three successful cases could make it, but these were entirely too few, as Dr. Bernardy had justly said, to prove its value and its superiority. In one of the doctor's cases labor was induced, apparently on account of eclampsia. Now, was this the best treatment? Obstetricians were by no means agreed, some of the best condemning such treatment.

Dr. Montgomery used the bichloride solution as an external wash only, not as an injection. He thought the records of the hospitals in which injections were used would not show such good results as those in which they were omitted, if septicæmia was not present.

Dr. Willard had a warning to sound with regard to the use of strong bichloride solutions. He had been using washes and antiseptic dressings made with a 1-to-1,000 solution of bichloride, but, in consequence of what had been written about the advantages of stronger solutions, he had increased the strength to 1 to 500, and within twenty-four hours the stools contained bloody mucus, and were small and griping; there was vesication about the wound and around the limb under the dressings. Entirely dry dressings had been used, but they had been moistened by pus and serum from the wound. He did not see the advantage of solutions in serum so strong as 1 to 100 or 75. Serum was a decomposable substance, and an uncertain portion of the antiseptic agent was destroyed by it. Weak solutions in boiling water seemed more reasonable, and answered every purpose.

Dr. Longaker would like to hear how Dr. Bernardy removed the placenta in the case of adhesion narrated by him. He had been using Credé's method with great satisfaction. He thought the hand should be kept out of the parturient canal as much as possible. He did not use vaginal injections after labor, but depended upon outside washes. He found that the temperature rarely rose during the puerperal period, even after instrumental delivery. He thought care during the third stage would avoid the necessity for antiseptics.

Dr. Parish agreed with Dr. Parvin's views. He had found a solution of 1 to 1,000 of bichloride irritating, and he now used one of 1 to 2,000 or 5,000. Strong solutions caused an appearance resembling erysipelas or inflammation of the derma. Injections were not necessary in every case. Where the surroundings were cleanly and the patient was a multipara he did not use them; but in primiparæ, with contusions or lacerations, and when version or instruments had been employed, he was in the habit of injecting a weak solution of bichloride immediately after delivery. He did not repeat it, but simply washed out the vagina. Cleanliness of hands, instruments, and nurse was the most important point. He had never had any trouble in private practice.

Dr. Bernardy, in closing the discussion, remarked that he thought he had a far better antiseptic in biniodide than the bichloride. He had used the former in surgical cases also, for washing out pus cavities, and always with good results. He did not use intra-uterine washes in every case of labor. He had attended, since the first of the year, about seventy cases of labor, and he had employed the intra-uterine injections in only the three cases detailed. In every case of labor he used carbolic-acid soap on his hands and arms and the external genitalia of the patient. The eclamptic patient had reached or passed her full term, and there was no reason why the child should not be removed. In the case of adherent placenta it was pecled off forcibly and a shreddy lining was left in the uterus, as no line of separation had formed. He believed the dangers consequent on passing the hand and arm into the uterus and vagina were much exaggerated, and he did not hesitate to do so when the exigencies of the case demanded it.

(*To be concluded.*)

NEW YORK OBSTETRICAL SOCIETY.

Meeting of January 20, 1885.

Dr. W. M. Chamberlain Chairman *pro tem.*

A Spiral Tenaculum was presented by Dr. James B. Hunter, who had found it especially useful in operations for fistulæ within the vagina and for repairing the perinæum and cervix uteri. The instrument retained its grasp upon the tissues more firmly than the ordinary tenaculum, and was easily engaged and disengaged.

A Soft-Rubber Female Catheter was also presented by Dr. Hunter. The opening was at the extremity of the tube, and the walls gradually increased in thickness toward one end. He had known nurses to set up a urethritis or cystitis by the use of rigid catheters after minor operations, which was more troublesome than the original disease. He never employed the silver catheter, because of the danger of the mucous membrane becoming engaged in the orifice and being injured.

The Chairman thought the spiral tenaculum might enable

us to avoid hacking the tissues, which sometimes took place when the ordinary tenaculum failed to retain its grasp. With regard to the rubber catheter, he asked if it would not in some cases be too soft.

Dr. HUNTER said that when a firmer instrument was required the ordinary rubber male catheter could be used.

Removal of the Ovaries and Tubes for Extreme Dysmenorrhœa and Mania.—Dr. B. F. DAWSON presented the Fallopian tubes and ovaries removed two days before from a patient with the following history: She was thirty-six years of age, from New Jersey, had been suffering from apparently hysterical symptoms for two years, and from dysmenorrhœa, which became more aggravated at each return of the menstrual flow. Dr. Dawson first saw her eighteen months ago, but was unable to make a satisfactory examination of the pelvic organs because of hyperæsthesia and symptoms of hysteria. Two months afterward he made another examination, and found tenderness over the region of both ovaries, but the patient's condition was still such as to forbid a thorough exploration of the pelvic organs. She then passed into the hands of a physician prominent in the treatment of nervous diseases, who stated that her symptoms were due to simple hysteria and nervous disturbance. But she grew worse, and became the subject of marked convulsive seizures, and two months ago was advised to come to New York for further examination and treatment for disease of the sexual organs. December 29th her physician, Dr. Allen, wrote Dr. Dawson that she was in one of her periodical attacks, and had for four days been lying in a maniacal state. He advised that an operation be performed for her relief before the return of another menstrual period, as it was feared she would not be able to live through another attack. The patient arrived in New York on Saturday night, pulseless at the wrist, the extremities cold, the mind lethargic. There was ovarian enlargement with tenderness. After a consultation it was decided to operate the next morning, but, when morning came, two hours were spent in stimulating the patient, to put her in a condition at all suitable for an operation. It was probable that not more than a wineglassful of blood was lost during the operation. The right ovary was removed with some difficulty. The left one was as large as a hen's egg, and bound down by adhesions. While he was endeavoring to liberate it it burst in his hand, and material escaped which felt like lumps of charcoal. It proved to be a black, granular mass, probably composed of coagulated blood which had become encysted within the tumor. This ovary also contained several cysts, and both organs were in a state of congestion. The patient rallied well just after the operation, her mind was clear, and she said she felt better than for many months, and confidently believed that she would recover. But the following morning the temperature rose to 105·5° F., and, although it was readily reduced temporarily by the coiled tube conveying water, it would again rise, and death seemed inevitable. At 4 P. M. the pulse could scarcely be felt at the wrist. By request, Dr. Howe transfused about three ounces of blood and an equal quantity of salt and water. But neither the pulse nor the respiration showed any marked improvement, and she died in the morning. Death might have been accelerated by shock, but it was thought to be chiefly due to inanition and loss of nerve power resulting from protracted illness.

Dr. DAWSON was of opinion that the blood-clot removed from the left ovary was formed at the last menstrual period, when it was feared the patient would die. He attributed her symptoms to the condition of the ovaries, and said that, had an operation been allowed when he urged it six months ago, the patient would have stood a better chance of recovery, and would have been spared months of extreme suffering.

Dr. A. JACOBI said that, in order to complete the history of the case, one or two things would be desirable. One was, recovery after the operation; another, since the patient had died, a post-mortem examination, and he would suggest that, if it was possible, one should yet be made. Those who had listened to the history had not seen the patient; certainly Dr. Dawson had, and he had given reasons why he had regarded the symptoms as of reflex origin, and therefore had operated upon the ovaries. But possibly an autopsy would give a clew to the origin of the symptoms, as it had done in some other cases, in a direction different from that to which Dr. Dawson had pointed. He would not say that this was one of the cases, but meningitis, more or less localized and more or less old, had given rise to a great many symptoms which had very frequently been mistaken for reflex symptoms. He therefore thought that a post-mortem examination would be very important in order to determine absolutely that there was nothing in the brain which might explain the symptoms. If nothing was found in the brain he would certainly be of the same opinion with Dr. Dawson, that the ovaries were the cause of all the symptoms complained of for so many years.

Dr. DAWSON remarked that the maniacal symptoms dated back only a few menstrual periods, and that after the operation the patient became clear in her mind. The history was not one of meningeal trouble.

Dr. JACOBI said there were many cases of meningitis which did not show pathognomonic symptoms. He did not think our knowledge of reflex symptoms was sufficiently advanced to enable us always to exclude disease of the central organ of which we knew so little.

Dr. DAWSON said that a year ago, at the request of Dr. C. H. Brown, he saw a woman with mania, in whom he detected an enlarged ovary, and, inasmuch as there was a possibility of the mental trouble being of reflex origin, he advised an operation, which was consented to. The specimen was shown to the society. He saw the woman about six weeks ago, and her husband told him that she was herself again, and absolutely free from maniacal symptoms; the operation, he said, had cured her. A month ago, however, her symptoms of mania had returned. This case would go to support the view taken by Dr. Jacobi that we were in ignorance of the influence which disease of the ovaries might have in the production of mania.

Dr. HUNTER thought that time enough was not always allowed to elapse after removal of the ovaries before denying its beneficial effect. He recalled a case operated upon by Dr. Thomas some years ago for the relief of maniacal symptoms for which the patient had been restrained nearly a year. Both ovaries were found to be diseased, but no improvement followed their removal; the patient became a hopeless maniac. But, after the lapse of a number of months, improvement began, and now, two years after the operation, the patient was perfectly well. She had been a burden to her household for ten years. Dr. Hunter had seen several other cases in which recovery did not begin to take place for from twelve to eighteen months after removal of the ovaries for symptoms attributed to disease of those organs.

Dr. JACOBI inquired of Dr. Hunter whether he attributed the patient's improvement eighteen months after the operation to removal of the ovaries.

Dr. HUNTER replied that that was the deduction; there was no question as to disease of the ovaries; they were both cystic. The symptoms of mania began with dysmenorrhœa, and were aggravated during each menstrual period.

Dr. JACOBI thought that such cases ought to be accepted with a good deal of doubt. Eighteen months was a long time to wait after an operation for recovery to take place; he did not think that so great a length of time should be required for

the absorption of inflammatory deposits which might have occurred in the neighborhood of the diseased organs and caused a continuance of the symptoms. Besides, there were many cases of mania which got well without removal of the ovaries, and cases of the kind related by Dr. Hunter should not, therefore, be allowed to prove too much in favor of the operation.

Dr. Hunter remarked that in the case to which he referred menstruation had continued with more or less regularity a year or two after the operation. He had records of cases in which menstruation had continued for about a year after the operation. If the periods continued to recur for a year, it was not unreasonable to suppose that improvement would begin at the end of that time. He believed, with Dr. Jacobi, that it would require a number of cases to prove the matter positively.

The Chairman inquired whether we were to understand that the improvement began with the cessation of menstruation.

Dr. Hunter replied in the affirmative. He further referred to a case of which he had very full records—that of a woman who had suffered from dysmenorrhœa of increasing severity for eight years. She preferred death to her condition before the operation. No marked improvement followed the removal of the ovaries, and at the end of six months she was still suffering from severe pain. At the close of the year, however, she wrote that she was perfectly well. She menstruated about the eleventh month after the operation. One ovary had been found to be enlarged and cystic, and both tubes were enlarged.

Prolapsus of the Rectum.—Dr. A. Jacobi related the history of a case of prolapsus of the rectum in a child nearly three years of age, which was presented at his clinic recently. As it entered the room it walked a little peculiarly, as if suffering from soreness of the inguinal glands. It was unable to have a movement from the bowels without straining, and in the passage of both fæces and urine was obliged to lie upon the belly and face. Dr. Jacobi attempted to place the boy upon a chair, but he struggled against it, and his mother said he was unable to sit. On letting his pantaloons down it was observed there was prolapsus of the rectum a distance of three inches, presenting the appearance of a sausage of a dark-red hue. The protrusion bled very easily when touched. At the outer end was an opening, into which he inserted his thermometer-case to take the measurements. As the silver case passed the anus it was grasped rather tightly, which would explain why there had been difficulty in having passages. This condition had lasted for three weeks. An attempt had been made at reduction, but unsuccessfully. Dr. Jacobi supposed the intestine, being so tightly grasped by the anus, could not be in a healthy condition, and, on examining the parts with great care, he found that at the seat of the constriction there were numerous cuts, with rough edges, of varying depth, some extending as deep as the peritoneal coat, showing that amputation of the protruded gut was gradually taking place. He certainly would not undertake reposition at the college clinic-room, and, accordingly, had the child sent to Mount Sinai Hospital, there to be kept under observation. It seemed wiser to allow the colon to become gradually amputated than to undertake reduction, in view of the liability of tearing the exposed peritonæum. He drove to the hospital himself shortly after the child was sent, to instruct the house physician to do nothing in the case except under his directions or those of the physician in charge. He was told the next day that one of the assistants, on seeing a case of prolapsus of the rectum enter the wards, availed himself of the absence of the house physician, and squeezed and handled the parts long enough to reduce the protrusion. The next day the child had some difficulty in passing fæces, but the difficulty disappeared by the third day. Little or nothing that was peculiar could be felt in the rectum; probably the incarcerated parts were too high to be reached. But the patient was unable to pass urine, and the catheter had to be used. Six or seven days afterward, learning that the elastic catheter had been used two or three times daily by the nurse in the presence of the house physician, Dr. Jacobi told the physician to employ a silver catheter so that the bladder could be properly explored. A good deal of difficulty was experienced in introducing the catheter; the bladder was bent at its neck, and some force had to be employed to overcome the obstruction. Before the catheter was withdrawn the curve was turned, which straightened the canal, and no further difficulty was experienced in urination. It was not easy to say what had caused the flexion of the neck of the bladder to become aggravated on the reduction of the prolapsed rectum. It could not very well have been caused by peritonitic adhesions, for the reason that one introduction of the silver catheter, with anteflexion of the bladder to the normal or nearly normal position, was sufficient to relieve the trouble. While the child at present seemed to be quite well, an important question arose as to what would be the final result in the case. It was hardly possible that a considerable amount of cicatrization would not take place where there had been partial amputation of the gut, and it seemed more than probable that in the course of time the child would suffer from stricture of the intestine. If this should occur, the case would be a difficult one to treat, because of the marked sigmoid flexure which existed in children. Had spontaneous amputation taken place the child would have been under his immediate observation, and it was not probable that it would have been attended by any serious danger, inasmuch as a portion of the gut was sometimes successfully amputated in intussusception.

The Chairman thought there was at present danger of fæcal matter becoming lodged in some of the cuts within the intestinal coats, and producing further injury.

Henry J. Garrigues, M. D.,
B. F. Dawson, M. D.,
Frank P. Foster, M. D., *ex officio*,
Committee on Publication.

Miscellany.

The Albany Alumni Lectures.—The "Albany Medical Annals" announces that the next course will be given on the 3d of March, 1886, by Professor S. Oakley Van der Poel, M. D., LL. D., of New York, on "Hygiene; its Relations to the Profession and the General Public."

The Republic of Guatemala owes a debt of gratitude to a physician of this city, who, according to the "Eastern Medical Journal," has presented a collection of serpents to the American Museum of Natural History which consists of "all the serpents of the Republic of Guatemala." Surely an easier way of ridding a country of snakes can scarcely be imagined, although our contemporary does not give us the *modus operandi* by which it was accomplished.

Infectious Endocarditis.—We are indebted to Dr. John H. Musser and Dr. George A. Piersol, of Philadelphia, for a copy of their pamphlet entitled "Notes of a Case of Infectious, so-called Ulcerative, Endocarditis, and of a Case of Acute Pericarditis," extracted from the "Transactions of the College of Physicians of Philadelphia." It has seldom been our fortune to meet with so satisfactory a clinical study, and we would particularly commend the photographs, by Dr. Piersol, which accompanied the copy sent us. They seem to represent the perfection of the photographic art as applied to medicine.

The French Medical Year-Book.—We have received from the publishers, the Messrs. E. Plon, Nourrit et Cie., of Paris, the seventh volume of the "Année médicale," for the year 1884. This excellent pub-

lication, edited by Dr. Bourneville, the *rédacteur en chef* of the "Progrès médical," with the collaboration of a number of eminent practitioners, furnishes a *résumé* of the progress of medicine during the year. It is divided into departments corresponding to the practical branches, and an excellent index makes it easy of reference.

Parturition and Measles.—Dr. A. R. Simmons, of Ithaca, N. Y., writes as follows: "On the morning of March 22d I first saw the patient. On Friday morning, the 20th, she had complained of headache and sore throat, and the next day she had begun to cough. That night labor pains set in and continued all night. The next morning I found the mouth of the womb patulous, but the pains had nearly ceased. The conjunctivæ, the roof of the mouth, and the throat were then reddened, and she coughed a little. Labor pains began again about 6 P. M., and the child was born about 1.30 A. M. It was a normal labor in every respect, and the signs of measles were then very prominent. Seven hours afterward the measles rash was out on her face and neck, there was some delirium, the pulse was 128, and the temperature was 104° F. I was obliged to catheterize her, and continued to do so until April 3d; the expulsive power and the desire to urinate were wanting. The average daily quantity of urine was about a pint, and it contained no albumin or casts. On the 24th the pulse was 108, and the temperature 100°; the tongue was moist. She had passed a very good night, but with some delirium. The rash covered the whole body; the cough was severe, the result of the usual bronchitis; there was some soreness over the bowels, but pressure was very well borne; the lochia were normal; the bowels had moved. At night the pulse was 100, and the temperature 101·3°; there was no tympanites. On the 27th the temperature was 100·8°, and the pulse 120; there was no tenderness of the abdomen, but her back ached; the lochia were offensive, but normal in quantity; the breasts were full of milk. In the afternoon the temperature was 99°, and the pulse 100; a free movement of the bowels had been secured, which had relieved her. From this time she convalesced rapidly, and was sitting up on the sixteenth day after delivery.

"I consider that there was no possibility of error in the diagnosis of measles; a very extensive epidemic was raging at the time, and a case had occurred in the same house early in the month. Knowing that the pregnant woman had not had measles, I advised her removal from the house, but it was not done. The baby coughed some on the 29th and 30th of March, and a rash appeared on the latter day, but, when I saw it at night, it was hardly perceptible, and it was all gone the next day. The child had a convulsion on the 2d of April, but, has since been well. I will add that in the same epidemic a child seven weeks old had the measles a week after its mother was attacked. Both recovered."

Congenital Dislocation of the Patella.—A correspondent writes from Louisville, inclosing a letter from a former pupil of his, asking for information bearing upon the following case: A girl, seven years old, having loose joints, although in robust health, has the patella resting on the external condyle. It is easily replaced while the limb is extended, but requires considerable force to keep it in place during flexion. Both limbs are affected alike. The girl's father, her aunt, and the aunt's daughter, all have their patellas resting on the outer condyle. The doctor asks: Can anything be done to rectify the deformity, what can be done, and is there anything in literature in regard to such an hereditary deformity?

Prevailing Diseases in Illinois.—A correspondent writing from Stillwell, Ill., says that he has encountered an "epidemic" of inflammatory rheumatism and one of paralysis in both children and adults; also that he has regularly to contend with typho-malarial fever in the autumn and cholera infantum in the summer. He would be glad to receive hints as to the management of these various affections.

A Correction.—We regret that an error crept into our report of the proceedings of the recent annual meeting of the Illinois State Medical Society. In the issue for June 20th, page 701, we gave an abstract of a paper entitled "How the Vitality of a Seed is Preserved," and credited the paper to Dr. H. Judd, of Galesburg. The paper, we now learn, was really read by Dr. A. Wetmore, of Waterloo, and we take pleasure in making the correction.

THERAPEUTICAL NOTES.

Veratrum Viride in the Treatment of Palpitation.—M. Sée ("Union méd."; "Dtsch. Med.-Ztg.") recommends the use of tincture of veratrum viride for controlling over-action of the heart in cases of exophthalmic goître. From three to five drops are to be given three or four times a day, for several weeks or months together.

Persian Insect Powder as a Medicine.—The "Deutsche Medizinal-Zeitung" alludes to the fact that a Russian physician, Dr. Swiontezki, has lately recommended an alcoholic extract of Persian insect powder, with the addition of santonin, as a "sure cure" for cholera; and then quotes from another Russian source to the effect that enemas of the insect powder are effective in the treatment of ascarides, and have no poisonous action.

Massage in the Treatment of Fæcal Accumulation.—Kriwjäkin ("Protok. der kankasisch. med. Gesellsch."; "Dtsch. Med.-Ztg.") reports four cases of obstinate constipation, varying from eight to twelve days in duration, in which the trouble was overcome by deep massage. The fingers, previously oiled, are to be pressed firmly upon the abdomen, and movements of massage are then to be executed, especially upon those parts where hardened masses are felt. The process is to be continued for twenty minutes, and repeated at intervals of an hour and a half until the bowels are moved.

Strychnine in the Treatment of Supra-orbital Neuralgia.—Howe ("Revist. Argent. de Buenos Aires"; "Dtsch. Med.-Ztg.") has succeeded in curing with strychnine a patient who had suffered for fifteen years with a neuralgia that had resisted all other treatment. Four hypodermic injections of the drug were given at the seat of the pain, and this was followed by improvement. The subsequent injections were thrown into the back. The treatment lasted three weeks, and the result is said to have been brilliant.

Sucupira.—This seems to be the generic name of the *soukoupire*, a tall tree found in several varieties in Brazil. According to M. Campardon ("Gaz. hebdom. de méd. et de chir."), the Brazilians use the bark as a depurative and to mitigate the pain of rheumatism.

Iodine and Pyridine in the Treatment of Asthma.—The alkaloid termed pyridine (C_5H_5N) is a colorless, volatile liquid, of a very penetrating odor, miscible with water, and forming with the mineral acids salts which are very soluble but unstable. It is obtained by the dry distillation of various organic substances, such as Dippel's animal oil, certain alkaloids (including cinchonine, quinine, morphine, and atropine), and coal-tar. It is found also in the condensed products of tobacco-smoke and in nicotin itself. M. Germain Sée lately read an interesting paper before the *Académie des sciences* ("Rev. méd.") on the use of pyridine in the treatment of asthma. He declares that iodine is the greatest curative agent in this affection, whatever form it may take, and that pyridine is the best palliative for use during the attacks. It causes a decided and immediate diminution of the feeling of oppression, so that the breathing becomes calm, while the action of the heart preserves its regularity as well as its force. After about an hour there is in many cases an irresistible desire to go to sleep, but no stupor or any approach to anæsthesia, although the reflex excitability is diminished. The remedy should be given by inhalation, a fluidrachm or more being poured on to a napkin in a close room. The inhalation should be continued for twenty or thirty minutes, and should be repeated three times a day. After two or three inhalations, auscultation will show great improvement of the physical signs. A few persons seem to have their susceptibility to the action of the drug impaired at the end of a week or ten days, and then it is well to begin with the iodine treatment.

Preparations of Iodoform.—The same journal quotes from the "Courrier médical" as follows:

Iodoform	15 grains;
Glycerin	5 drachms;
Essence of mint	6 drops.

Used on vaginal tampons.

Iodoform	15 grains;
Glycerin	75 "
Distilled water	3 ounces.

For injections in cases of gonorrhœa and chronic catarrh of the bladder.

Iodoform		15 grains;
Sulphuric ether, Olive oil,	each	75 "

For subcutaneous injections in cases of syphilis, from half to three quarters of the mixture being used daily or every other day.

Iodoform	15–30 grains;
Potassium iodide	1 drachm;
Tokay wine	2½ drachms.

For internal use, in cases of convulsions, in doses of from three to fifteen drops, in a glass of wine, three times a day.

Iodoform	1½ grain;
Lycopodium	6 grains;
Extract of phellandrium seed	15 "

Divide into ten pills, from three to five of which are to be taken daily, for bronchorrhœa or emphysema. It should be borne in mind that the internal use of iodoform disposes to hæmoptysis.

Discs for Sick Headache.—At a recent meeting of the *Société de thérapeutique* ("Progr. méd.") M. Mayet, fils, stated that he had had discs made after the following formula:

Menthol, Chloral hydrate,	each	7½ grains;
Spermaceti		30 "
Cocoa butter		15 "

A disc is to be bound on over the seat of the pain. M. Mayet said that he had never observed that these discs had an irritating effect.

Erythrina Corrallodendron as a Calmative.—Bochefontaine and Rey ("Année méd.") have found this plant, which is in common use in Brazil, where it is called *mulungu* or *murungu*, of service as a calmative and hypnotic in the agitation and sleeplessness of the insane, seven or eight grains of an extract being sufficient to cause sleep in such cases.

The Treatment of an Acute Attack of Articular Gout.—In a recent monograph by Dr. Robson Roose (London: H. K. Lewis), the author says that, when called to a case of this sort, he invariably examines the urine for albumin. If he finds none, and there is constipation with signs of congestion of the liver, he orders two or three grains of calomel, to be followed by a draught containing sulphate and carbonate of magnesium. If there is no marked evidence of hepatic congestion, milder remedies will suffice for the constipation; the saline draught alone, or ten grains of pilula colocynthidis et hyoscyami, with perhaps a grain of calomel or a quarter of a grain of resin of podophyllum, generally producing a free action of the bowels. At the same time he orders a mixture containing ten minims of wine of colchicum and from ten to twenty grains of some alkaline salt, such as bicarbonate of potassium or of sodium, carbonate of magnesium, or citrate of magnesium or potassium. This should be taken four times in the twenty-four hours, and continued according to circumstances. If there is much fever, two drachms of solution of acetate of ammonium may be added to each dose. The following application gives great relief from the pain:

Extract of belladonna	2 drachms;
Glycerin	½ ounce;
Water	2 drachms.

It is applied to the affected joint on cotton wool, and the part should be raised on a pillow and kept in a comfortable position. While active symptoms continue, the diet should be restricted to such articles as arrowroot, sago, gruel, milk puddings, etc. Seltzer, Apollinaris, or any other aërated alkaline water may be used freely. When the acute symptoms have subsided, beef-tea, fish, and chicken may be taken in small quantities, but the return to the usual diet should be very gradual. Rest and care are essential for some days after the subsidence of the paroxysm. Leeches, blisters, and especially cold applications, should be avoided.

The Hygiene of the Lying-in Chamber.—In a recent address before the Medical Society of the County of Albany ("Albany Med. Annals"), Dr. T. K. Perry said: "I attend everything that I am called to within the legitimate domain of my profession, from scarlet fever to phagedenic erysipelas. I witness, assist in holding, and hold a fair number of autopsies every year, and all this time keeping right on with my obstetric work without regard. I have never ordered the paper from the walls of the expected lying-in chamber, nor have I ever had them sized with a solution of mercurie bichloride. Neither do I immerse hands or instruments in any disinfectant previous to or during attendance on these cases. I will also add that I have never in a single instance employed intra-uterine injections at such times, contenting myself with simple vaginal douches; and, notwithstanding this very great carelessness and almost criminal neglect on my part, I am still able to hold up my hands for inspection, and find them perfectly clean, washed of even the stigma of misfortune. Not a death has occurred to any patient I ever attended during confinement, save as above reported [two deaths from hæmorrhage and one from eclampsia]; and, although I have many times witnessed chill, fever, abdominal tenderness, etc., hot water *per vaginam*, hot fomentations to the abdomen, diet, and anodynes have constituted and completed the treatment and cure."

Inhalations of Oxygen for Puerperal Convulsions.—It is known, says Holstein ("Gaz. méd. de Paris") that oxygen has the property of enfeebling, or, to use a fashionable term, "inhibiting," exaggerated reflexes. On the strength of this fact, Professor Lachkiéviteh, of Kharkow, lately proposed inhalations of oxygen in cases of puerperal eclampsia of reflex origin. In two consecutive cases Favre ("Wratch"), acting on the suggestion, has produced truly brilliant results. He is convinced that a bag of oxygen will soon be considered as indispensable in lying-in hospitals and obstetrical clinics as the forceps, the craniotclast, and other like instruments.

Tannate of Mercury in the Treatment of Syphilis.—According to Leblond ("Gaz. hebdom. de méd. et de chir."), this new preparation of mercury (the *hydrargyrum tannicum oxydulatum* of the Germans) has the composition $Hg_2(C_{27}H_{19}O_{17})_2$. The simplest way of preparing it is by adding to a solution of mercurous nitrate a slight excess of sodium tannate in solution. The tannate of mercury falls in the form of a yellow precipitate which rapidly turns green. It is washed by decantation until the washings no longer precipitate on the addition of acetate of lead, and cease to show an acid reaction. The precipitate is then collected on a filter and dried in the open air. It is insoluble, and should be given in the form of pills, for which Casanow's formula is as follows:

Tannate of mercury	45 grains;
Extract and powder of licorice	q. s.

Divide into sixty pills; two to be taken twice a day, after eating. The salt is incompatible with alkalies, even in weak solution.

The Action of Veratrine in Cholera Nostras.—Schulz ("Dtsch. med. Wchnschr."; "Ctrlbl. f. klin. Med.") infers that the effect of this alkaloid in the treatment of cholera nostras is not due to its action on the micro-organisms, but to its inducing a temporary hyperæmia of the intestine, whereby the resisting power of the latter is enhanced.

Lotions for Pruritus of the Genitals.—A contributor to the "Union médicale" credits Doyon with the following prescriptions:

Bichloride of mercury, Chloride of ammonium,	each	4 grains;
Almond mixture		13 ounces.

In case this fails, use:

Chloral hydrate	75 grains;
Rose-water	3 ounces;
Distilled water	4½ "

After the parts have been bathed with the lotion, they are to be powdered with starch.

Cocaine in the Treatment of Sore Nipples.—Herrgott ("Ann. de gynéc."; "Union méd.") sums up his experience as follows: 1. All the women with sore nipples who came under observation were able to give suck without pain after a four-per-cent. solution of cocaine hydrochlorate had been applied to the nipple. 2. The condition of the nipple was improved, and, where the cracks were not deep, they disappeared rapidly. 3. Cocaine should be used whenever the nipples are sensitive, in order to prevent fissures, the latter being often due to a shrinking movement on the part of the mother whenever the child seizes the breast.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON,

BY AMBROSE L. RANNEY, M. D., NEW YORK.

LECTURE I.

(*Continued from page 715.*)

THE CHOICE OF A BATTERY AND ELECTRICAL APPARATUS.

In selecting a battery for purely medical purposes, the chief objects to be attained are (1) *cheapness;* (2) *constancy of the elements*, and their *accessibility for repairs, cleaning*, etc.; (3) *durability of the elements;* (4) a *sufficient number of elements;* (5) *ease of renewal of the elements;* (6) *ease of introduction of any number of elements into the circuit;* and (7) an ability to select such as may be required *from any part of the battery.*

FIG. 26.—THE PHYSICIAN'S HANDY CABINET BATTERY.—The accompanying cut represents a light and compact form of cabinet battery, designed by the author. It is on castors, and can be wheeled about the consultation-room. This admits of the use of the instrument when the patient is in the gynæcological chair or upon the office lounge; or when any form of fixed apparatus, such as the laryngoscope, the inhaler or spray, etc., is being simultaneously employed. In some of my later models an immovable tray is placed beneath the battery for electrodes, and a movable shelf is also provided upon which a milliampère-meter, the solution of table salt, and the electrodes in actual use can be set. A glass cover protects the battery from dirt when not in use. *E*, faradaic coils; *K*, plunger; *G*, faradaic binding-posts; *F*, interrupter; *D*, drip-cup; *R*, current-selector of single cells; *S*, the same of four cells to each button; *M*, coil to work the interrupter for the galvanic current; *L*, switch to work or disconnect the interrupter (*V*); *P*, galvanic binding-posts; 3-5 and 4-6, connecting rods to allow of the action of *M*. The commutator lies above *P*.

For the general practitioner it is necessary, as a rule, that a galvanic or faradaic battery *shall be arranged for transportation;* hence the cups which hold the fluid should have a rubber cover, or some other device which will preclude the possibility of spilling the fluid. Again, some of the batteries manufactured are liable to become rapidly oxidized by the fumes of the battery fluid. This tends to destroy their durability, and to cause difficulty in keeping them in good working order. Finally, it is very desirable that portable batteries should be as light as possible, and not too large to be handled easily.

The *attachments upon the key-board* of every portable galvanic battery should comprise a current-selector and a commutator. There should be at least four rheophores, in order to make allowance for breakage, additional connections, etc. Several electrodes of different sizes and shapes should also be selected—preferably a large, a medium, and a small one—a wire brush, and an interrupting electrode. These can be added to as circumstances demand.

For office purposes a CABINET BATTERY has some decided advantages over a permanent one placed in an adjoining closet or cellar and connected, by means of wires, with a key-board in the consulting-room. A cabinet battery can be easily wheeled about, and is readily repaired. The cabinet should be so arranged as to allow the back and front of the compartment for the cells to be removed, in case the battery needs repairs, or a renewal of the fluid. The connections of the battery with the key-board should also be made as easy of access as possible; this decreases the expense of alterations or repairs when such become necessary. They should be protected, moreover, as far as possible, against oxidation and dirt.

The cabinet battery which I use in my own office was made, under my special direction, by Waite & Bartlett, of this city, and is as nearly perfect as one could desire. It contains *forty cells of the Leclanché pattern*, which are equivalent to sixty of the gravity cell. The connections and the cells can be exposed and easily reached by removing the front and back of the case. The accompanying cut represents its special features better than a verbal description. Considerable expense in constructing such a battery may be saved in the case, and by dispensing with some of the accessory apparatus shown.

The *gravity cell* makes a very serviceable and durable permanent battery for office work. It has one advantage over some other cells—viz., that it has great constancy of action and that its activity can be renewed by the addition of crystals of sulphate of copper to the fluid when necessary without disturbing the cells. For this reason the sulphate-of-copper cell, in some one of its various forms, is employed exclusively in telegraphic lines. It can not be transported, however, about the room to suit the convenience of the patient or the physician during his examination so well as some other cells adapted for a cabinet battery. It is also difficult in many cases to repair the wire connections of a fixed battery (running, as they often do, through partitions and plastered walls to reach the key-board) when they become inefficient from any cause.

A PERMANENT BATTERY is somewhat cheaper to construct and takes up less room in the office than a cabinet, because no

case is required; but, in my opinion, these two advantages are not sufficient to render it preferable to the other for office or experimental work. I have known several of my medical friends to discard it (after a thorough trial) for a cabinet battery. If a permanent battery is deemed preferable by any of you (for reasons of your own) rather than a cabinet battery, be sure and place your cells on shelves in your office or waiting-room, and not in a cellar. The wires will not be so liable to corrode from dampness, and the cells will be constantly under your eye, so that you can see when they require attention.

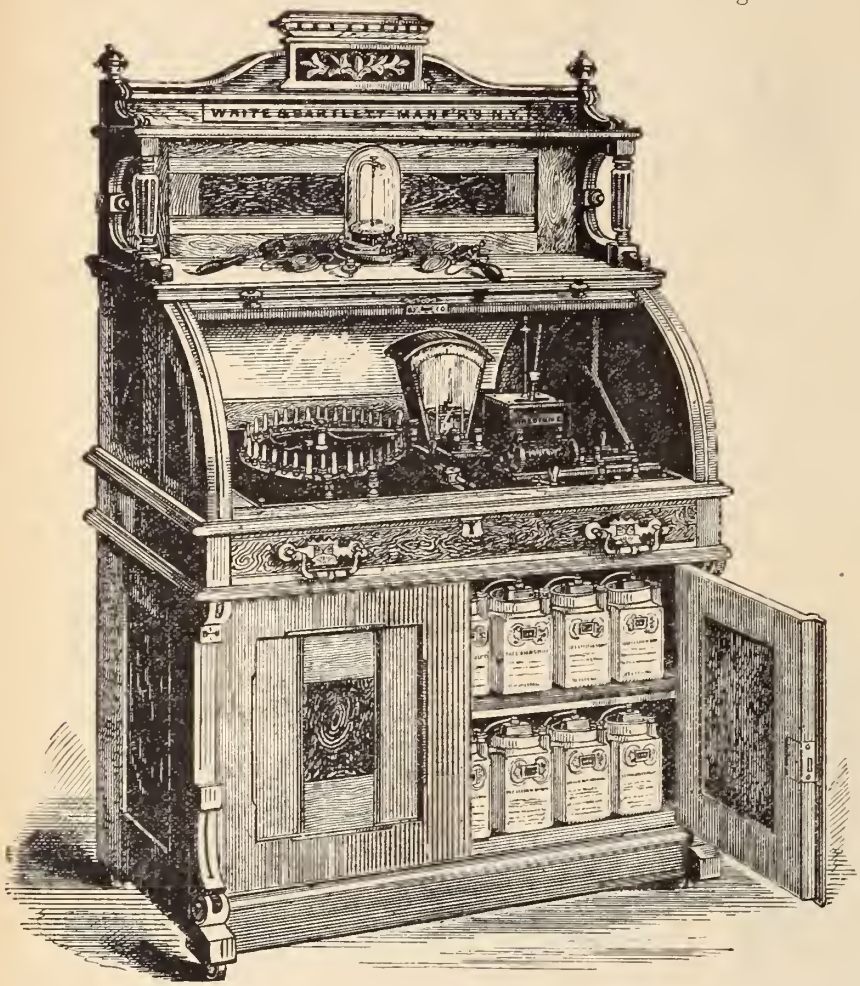


Fig. 27.—Large Cabinet Battery. From a photograph of one used by the author, and constructed from designs specially furnished by him. The current-selector and rheotome differ in several respects from those commonly used. The faradaic attachment has a Du Bois-Reymond coil. The milliampère-meter shown in the cut is that devised by Dr. Rudisch. I am at present engaged in the construction of one of a novel pattern, which I hope to present to the profession hereafter. The cells are of the Leclanché pattern. The faradaic attachment is operated by a Fuller's cell.

Respecting the selection of the cheaper forms of batteries for general medical use, it is important that accuracy of workmanship shall not have been sacrificed in order to lessen the cost. The construction of the primary and secondary coils of a faradaic machine and the adaptability of the interrupter to slow and rapid breaks in the circuit should be looked into before a decision is reached. Poor coils and a bad interrupter render a faradaic machine almost worthless. A "*drip-cup*" containing mercury, in which the zinc element is placed when the battery is not in use, is a desirable feature in a faradaic machine.

Do not buy a magneto-electric machine whose motor power is furnished by a crank to be turned by the hand. It is practically useless for medical purposes when compared with a good faradaic instrument.

The Grenet cell is now used by most of the manufacturers of electrical apparatus for a portable galvanic or faradaic battery. It is the best cell for many reasons. A thirty-cell galvanic battery gives all the current that is required by the general practitioner. Personally, I prefer the one made by Waite & Bartlett, of this city, over that of other manufacturers, on account of its modified current-selector (Fig. 23). It does not oxidize as do other forms of batteries (which have a dial current-selector attachment) when in constant use. It is also cheaper than those made by many other firms. Every galvanic battery should have a *commutator* on the key-board. Without this appliance electro-diagnosis becomes difficult.

Respecting the purchase of a STATIC ELECTRIC MACHINE, it may be well to state that a good one is quite expensive, and is only adapted for office use. I am convinced that static electricity has some points of advantage which can justly be urged in its favor as a therapeutical agent, but it can never be extensively employed or take the place of galvanic and faradaic currents. Its use unquestionably creates a profound impression upon the mind and body of the patient. He sits upon an insulated stool, sees the "wheels go round," feels himself getting charged with electricity, and is made painfully conscious of its presence when sparks of an inch in length are elicited from his surface and through his clothing. How much of the reported benefits derived only from the use of this instrument are due to the mental impression so made upon the patient is still a problem which I have not solved to my satisfaction.

The best American instrument of this kind is probably made by I. & H. Berge, of New York. It works well in all weathers, and their largest machine will produce a spark eight inches long. The electrodes for static electricity have to be made specially for its use. They must be well insulated by means of glass or hard rubber. Dr. W. J. Morton * has done much to popularize the use of static electricity in this country. A water-motor is required to run a large static machine with uniformity, although it is not absolutely essential to its use in medical practice, as hand-power will answer all practical purposes. A single-plate

* "Medical Record," April, 1881.

machine is but a toy as a means of treatment of nervous diseases. *Sufficient quantity*, as well as length of spark, is essential to the satisfactory employment of static electricity. My own machine consists of six revolving twenty-inch plates and three stationary plates. It works well in all weathers, and gives as large a quantity as any patient can bear.

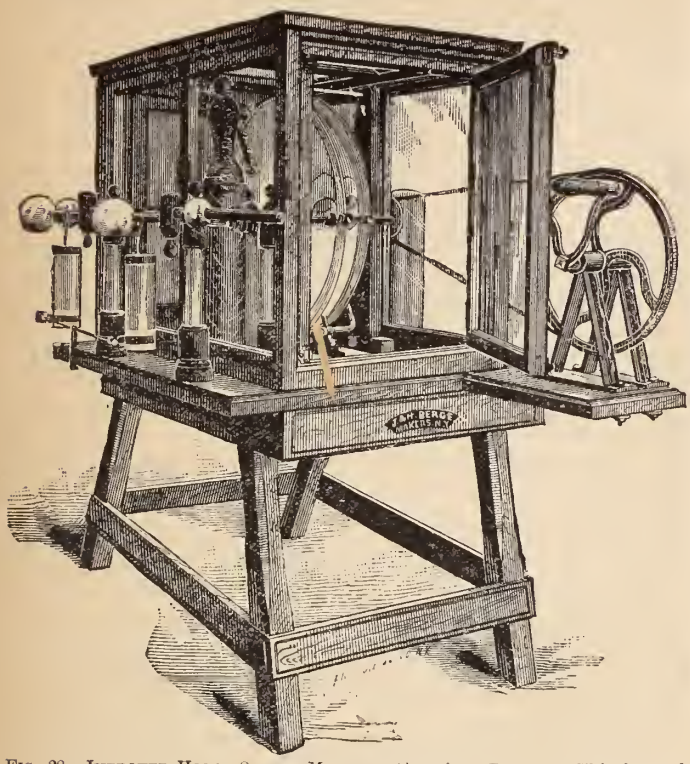


FIG. 28.—IMPROVED HOLTZ STATIC MACHINE (American Pattern). This form of machine is the best now offered to the profession. The author is at present engaged in devising some radical improvements upon the instrument which will (in his opinion) greatly enhance its practical utility and reduce its cost.

The following deductions express my convictions regarding the therapeutical value of static electricity, derived from an experience with it in quite a large number of cases:

1. In certain diseased conditions I regard its effects as more instantaneous and satisfactory than those of galvanism or faradism.

2. A machine so inclosed in glass as to prevent the action of dampness upon the revolving and stationary plates will work in all weathers, and is therefore free from the most serious objection which can be raised against franklinism. In the summer months the dampness of the air is liable to cause diffusion of the electricity generated by friction, and thus to render its employment upon a patient difficult and often unsatisfactory.

3. Quantity, as well as intensity, is requisite; hence large plates, and several of them, are preferable to any of the single-plate machines.

4. In the treatment of muscular pains, chronic muscular rheumatism, spasmodic affections, the functional nervous diseases, and neuralgia, I have found this form of electricity of great value.

5. In treating muscular pains and muscular rheumatism, spasm, and neuralgias, I prefer the spark to insulation. Patients who may have suffered for years are frequently cured in a few sittings.

6. I prefer insulation over all other methods when the tonic action of static electricity is desired. Cerebral hyperæmia and anæmia, headache, and vertigo are often rapidly relieved by this method. I frequently combine insulation with the "electric wind" (drawn from the head by means of an umbrella electrode) in these cases, as the accumulated electricity is thus concentrated toward the head.

7. Sparks are particularly to service in treating numbness and cutaneous anæsthesia. I have remarked this effect especially in the sensory disturbances which frequently accompany hemiplegia of cerebral origin.

8. Hemiplegia and paraplegia are best treated by means of the direct spark rather than the indirect spark. Sometimes quite severe shocks are required before the remedial effects become apparent.

9. Wooden electrodes are preferable to those composed of metal when employed about the eye or ear, or when the patient is very sensitive to electric currents.

10. By drawing sparks from the region of weak or diseased viscera, I have sometimes noticed very apparent benefits. Pulmonary, gastric, and hepatic disorders are often directly affected by this agent when so applied. I have relieved bronchitis in this way, and have had in some instances equally beneficial results in thus treating nervous dyspepsia, gastralgia, torpidity of the liver, etc. Some authors have reported beneficial effects from this agent in the treatment of phthisis.

11. Muscular contractions can be excited by static electricity with far less pain than by faradism or galvanism.

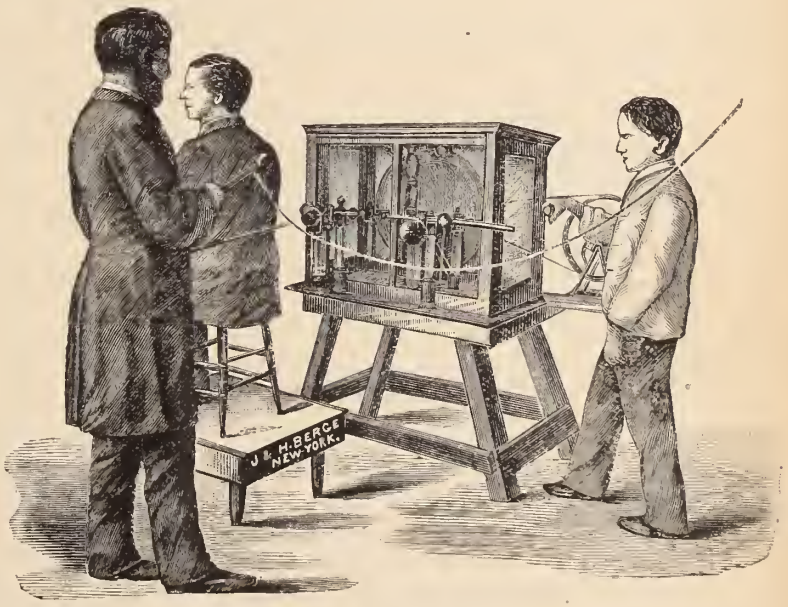


FIG. 29.—DRAWING THE INDIRECT SPARK FROM THE BODY OF A PATIENT. The chain attached to the electrode is connected with a neighboring gas-pipe or water-faucet. This cut should be compared with Fig. 3.

The so-called "static induced current" * is a very efficient way of subjecting individual muscles to the current when

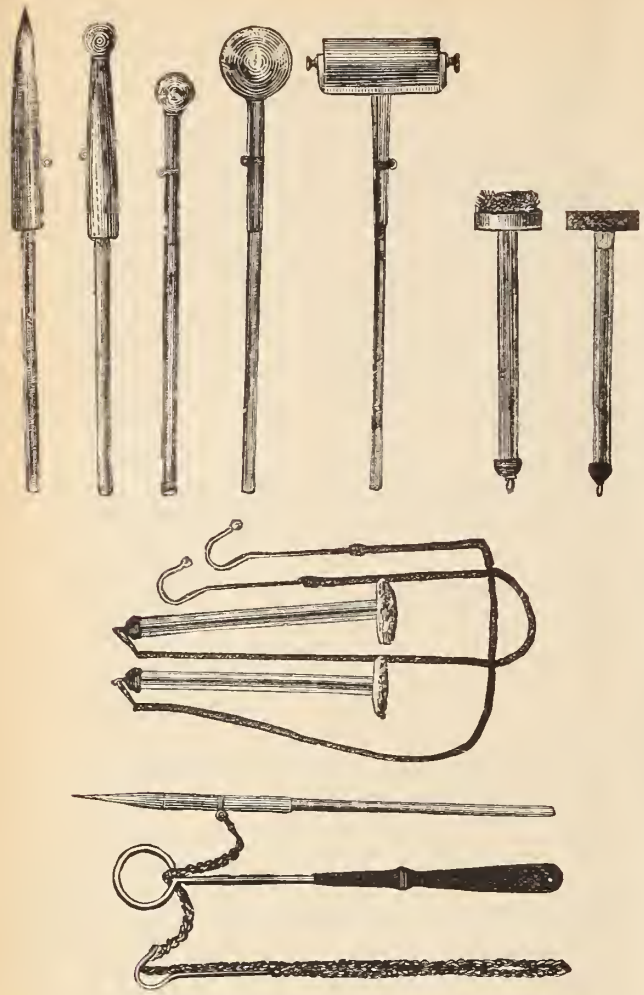


Fig. 30.—Various Forms of Electrodes Employed with a Static Machine. The handles are usually of glass. The author has substituted handles of hard rubber, which do not break easily and are equally efficient for the purpose of insulation.

their contraction is desired. The painlessness of this method is a point which alone should strongly recommend it.

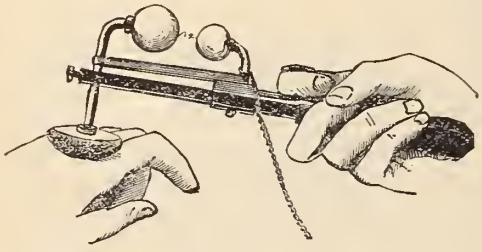


Fig. 31.—Morton's Spark Electrode. The sponge-covered tips may be of any size or shape.

12. Perhaps the most phenomenal results which have been obtained by static electricity are achieved in the treatment of hysterical patients. Hysterical aphonia, hemianæsthesia, paralysis, and hystero-epilepsy have been cured by a few sittings, by means of insulation and sparks.

(*To be continued.*)

* First described by Dr. W. J. Morton.

Original Communications.

CHOLERA ASIATICA AND CHOLERA NOSTRAS;

THEIR DIAGNOSIS AND TREATMENT,

WITH SPECIAL REFERENCE TO THE BACILLUS.*

By ARNOLD STUB, M. D.,
BROOKLYN.

Mr. President and Members of the Kings County Medical Society: At a meeting of the Royal Medical and Chirurgical Society of London, March 31, 1885, Sir Gnyer Hunter made the remark that he had not been able to find a difference between cholera asiatica and cholera nostras. Upon reading this remark, I remembered a case which occurred in my own practice, and whose history tends to support the opinion of the English physician. Permit me to relate the case:

Monday, July 26, 1881, a prominent gentleman, closely connected with one of the transatlantic steamship companies, was taken with a light diarrhœa, which continued Tuesday and Wednesday; a few dark-colored, painless stools and a feeling of being tired were not sufficient to make him call for medical aid, and he contented himself with taking a few drops of essence of ginger and some of the so-called Sun cholera mixture, which, however, did not relieve the disorder. After midnight, during the night from the 28th to the 29th, his diarrhœa increased, vomiting commenced, spasmodic contractions of the muscles of the calves of his legs and severe griping pains created considerable suffering, and I was sent for.

I found the gentleman very much prostrated. Constant vomiting of a greenish fluid, profuse odorless alvine discharges of rice-water appearance, a cold skin, an anxious countenance, cold tongue, constant spasms of the muscles of the lower extremities, and extreme prostration marked the case. I ordered at once sinapisms to various parts of the body, alternately applied, and brushing of the skin with diluted alcohol. Internally I prescribed a mixture consisting of

℞ Ol. cajeputi,
Ol. cinnamomi,
Ol. menth. pip., ... āā gtt. xii;
Sp. vini gallici ..... ℥ j;
Mist. potass. citrat ..... usque ad. ℥ vj.

M. S. One tablespoonful every half-hour until vomiting ceases.

I also ordered

℞ Mass. hydrarg. ..... gr. xx;
Pulv. opii ..... gr. viij.

M. ft. massa in pil. No. 8 divid. S. One pill every two hours.

Ice in small pieces to relieve thirst, hot flat-irons to the soles of the feet, and heated flannels to the abdomen, in numberless other cases, had not failed to give the desired relief, and when I called again, a few hours afterward, I expected to find a change for the better. However, I was sadly disappointed, and the patient remained in the same condition until next day.

On the morning of the 30th I found all the symptoms increased—the vomiting and purging were almost constant, the skin was cold and clammy, and the hands had the characteristic appearance of those of a washerwoman. If I lifted a fold of

* Read before the Medical Society of the County of Kings, May 19, 1885.

the skin from any part of the body, it remained standing in the same position for some time. The eyes were sunken, and the nose looked pinched. The whole face had an anxious and dusky look, the tongue was as if paralyzed, the voice was almost inaudible, the lips were blue, and the radial pulse could not be felt. The vomited matter as well as the rice-water discharges was strongly alkaline, and changed litmus-paper from red to blue. The urine was suppressed. I ordered at once a hot bath, and continued treatment; also ordered bags filled with hot bran to the lumbar region. To allay the excessive thirst, I ordered the ice to be continued. I also prescribed iced champagne and brandy.

August 1st, the patient became still lower. The tongue and skin were of a reptile-like coldness. A few drops of urine, drawn with a catheter, coagulated immediately upon being heated in a test-tube. Ordered one ounce of Tokay wine hourly *per rectum*, because champagne or brandy was not retained by the stomach. Directed another hot bath to be given, and called Dr. Hesse, formerly of this city, in consultation.

We both came to the conclusion to try musk and camphor, āā gr. ij, every two hours; ordered oatmeal gruel and Tokay wine *per rectum* every two hours; repeated the bath in a few hours; and continued the friction of the skin. Hot bran bags were constantly applied to the lumbar region.

The first of the powders the patient vomited at once; the second, given immediately afterward, he retained. Sometimes his stomach rejected the champagne, when we alternated the latter with iced brandy.

The following day we added strong black coffee to the stimulants prescribed, and continued this treatment until the eighth day of his illness, when his skin gradually became of natural warmth, his pulse noticeably of greater volume, his stomach less irritable, his mind less confused, and his speech more audible.

During this time he had taken every twenty-four hours one bottle of Tokay wine, with oatmeal gruel, *per rectum;* one bottle of champagne and a considerable quantity of brandy by the mouth. The urine was entirely suppressed for three days, when it returned, and became gradually less albuminous.

After the eighth day we commenced to feed with clam-broth, beef-tea, etc., and continued champagne and brandy according to circumstances. Prostration still remained.

About the ninth day well-marked typhoid symptoms developed, with a range of temperature of 102° in the morning and 104° in the evening.

At the end of the second week he complained of an intolerable itching, particularly in the face, and, in spite of all efforts to prevent him, he would scratch until the blood trickled down his face. I may remark here that no opiates had been given him for over a week. During the whole time he had been kept in a horizontal position, and even a change of garments was effected in that position. The itching lasted for about twenty-four hours, when all at once a furunculosis commenced, particularly attacking the face. Some of the boils were very tardy in healing, and had an almost gangrenous appearance in the center. The whole illness lasted five weeks, when I considered the gentleman sufficiently strong to be removed to the Catskills.

Dr. Hesse, as well as myself, came to the conclusion that this was a case identical with Asiatic cholera, although we did not feel ourselves justified in calling it by that name, because no other case of such a nature had appeared in the city. We were at a loss to find symptoms for a differential diagnosis between cholera nostras and cholera asiatica, except from the circumstance that no epidemic cholera existed in this country or in Europe.

I may add that from the time I made my first call I ordered disinfectants in the form of chloride of lime and carbolic acid to be used in the sick-room as well as all over the house, and restricted the attendance upon the patient to as few persons as possible, who avoided intercourse with the rest of the family.

During the year 1868 or 1869 I was called upon to see a case of sporadic cholera in consultation with the late Dr. Barthelness. The patient lived in Boerum Place. When I saw him the disease was in the algid stage, and all I am able to remember about it is, that he died the same day, which was the third day of his illness.

During the summer of 1866 I had spent a whole night at a boarding-house in Flatbush, whose inmates had been taken down with cholera asiatica. Myself and the husband of one of the victims were the only persons who left the house alive next morning.

I was called upon to attend the wife of this gentleman, and found a whole house full of dead and dying without a single attendant. If Dr. Conklin, who was health officer at that time, happens to be present, he will perhaps be able to refresh my memory by telling us how many people died in that house that night.

Gentlemen, I have a very vivid recollection of that terrible night and of those cases, and I assure you that I am not able to draw a line of distinction between the cases seen in 1866 at Flatbush, in the boarding-house kept by the keeper of the Penitentiary, from whence the disease had been communicated to the inmates of the boarding-house, and those cases of sporadic cholera which I have seen since, in 1868 or 1869, and in 1881.

The question naturally presents itself to my mind, Are the views of Sir Guyer Hunter correct, and is there actually no line of distinction between cholera nostras and cholera asiatica, when the first case or cases of the latter appear in a community like ours? I must answer this question in the negative as long as we take the complex of symptoms into consideration only.

But, gentlemen, within the last year or two investigations have been made into the ætiology of Asiatic cholera which bring us a step farther toward distinguishing between the two diseases above mentioned.

When I first became acquainted with the labors of Dr. Koch, and read of his discovery of the comma bacillus, I was enthusiastic in the belief that at last we had found the real cause of Asiatic cholera, and, by a simple microscopical investigation, would be able to diagnosticate cholera asiatica from cholera nostras.

But, gentlemen, here I was doomed to be disappointed. Then, immediately afterward, Dr. Prior and Dr. Finkler published the result of their investigations, and proved, or at least attempted to prove, that the comma bacillus might also be found in cholera nostras.

Dr. Deneke found the curved bacillus in old cheese, Dr. Lewis found it in sputa, and last, but by no means least, Emmerich declared that the comma bacillus was not the cause of cholera, but that a bacterium, discovered by him in Naples, alone was the whole source of the disorder.

After I became acquainted with the foregoing state-

ments I immediately began to investigate, and spoiled about a large boxful of covering glasses in the attempt to find the comma bacillus in sputa, in old cheese, in the discharges of cholera nostras, in chicken cholera, and in the discharges of typhoid-fever patients.

I certainly did find curved bacilli in every one of the specimens, but I did not find the characteristic spirillum which I found in the preparations sent me by Dr. Nicati, of Marseilles, and those I received afterward through Mr. Emmerich and Mr. McAllister, of New York, procured from microscopical laboratories in Berlin and Brussels, and representing comma bacilli artificially cultivated.

Although the curved bacilli found in cholera nostras and in old cheese are also spirilla, they are of a different size and have less of the corkscrew shape than the comma bacilli. After the former have been prepared for the cover glass and put up in balsam for examination, they assume partly the form of the cholera bacillus; but even in this condition they are larger than the latter. But if a suspended drop from the rice-water stools of a cholera-nostras patient and one from the stools of a patient suffering from Asiatic cholera are examined alongside of each other, a difference in the size and shape of the spirilla will become easily apparent. The spirillum of Asiatic cholera is only to be mistaken for that of recurrent fever, and Koch himself declares that he could not distinguish one species from the other if placed alongside of each other.

Gentlemen, I believe that Koch is correct in reference to his views of the ætiology of cholera and in regard to the bacillus question. And the reason why I think so I shall state later on.

Starting from this base, let me suppose that the cholera raging in Spain at the present time assumes wider proportions; it spreads again to France; it reaches Germany and invades England. Steamers bring us within ten or twelve days in direct communication with ports which may be visited by cholera patients at any time. One of the latter may get on board of the steamer; he may be well at the time he enters the steamer; he may be taken with a diarrhœa during the time he is on board. According to authors, the time of incubation may vary from one to fourteen days, and, if this is correct, a man may travel from Marseilles to Liverpool or London, and from London to New York, without having the slightest symptoms of cholera before he lands here, or he may have diarrhœa which may pass unnoticed by him and others; but this man, although he may never himself develop the second stage of cholera, may deposit upon the steamer, or perhaps afterward in this city, the germ which will, in a few days, infect the whole city with the pestilence, and we may never find out where it came from.

Now, gentlemen, let me suppose that such conditions prevail this coming summer; we have learned that the cholera is in France, perhaps in Germany, but not in England. The English steamers, consequently, are not subjected to quarantine. All rags have been carefully excluded from landing upon these shores, although I never heard that rags had carried the disease, provided they were not wet. And I am called, perhaps after midnight—which, by the way, seems to be the time such cases first become most troublesome—to see a patient who suffers from symptoms of cholera. The question naturally arises, Have I to deal with a case of cholera morbus or cholera asiatica? The question is an important one. Shall I notify the Board of Health, and perhaps unnecessarily alarm the community? Shall I isolate the patient, or shall I let matters go on, wait for developments, and jeopardize the lives of other people? In order to come to a proper diagnosis of the case, I proceed at once to look for the cholera bacillus in the rice-water discharges. In three different ways this object may be attained. I take two covering glasses, clean them well, after the most approved method, in nitric acid, wash them in alcohol and in ether, and afterward in distilled water.

As soon as they are dry I place a drop of the rice-water discharges upon one of those glasses with a spatula, previously sterilized by heating it over an alcohol-flame or a Bunsen burner, and spread the drop of the rice-water discharge carefully out upon the covering glass. I place the second glass upon the first and draw them asunder, in order to cause an even and uniform spread of the material upon both glasses.

As soon as they are completely dried, which will be in a few minutes, I draw them slowly three times through the flame of an alcohol-lamp, holding them with a pair of forceps covered side upward. Then I take them home and heat in a test-tube a small portion of a watery solution of gentian violet or fuchsin. As soon as the fluid begins to smoke, I pour some of it into a watch-glass, and, taking the covering glasses between two fingers, I let them drop upon the fluid with the side containing the suspected material downward. I let them swim for about ten minutes, take them from the fluid, wash them in sixty-per-cent. alcohol for about two minutes, remove the water by dipping them for a few seconds into absolute alcohol, wait a few minutes longer until they are dry, and then examine them under the microscope with a power of $\frac{1}{15}$ water immersion, or, better still, with $\frac{1}{12}$ oil immersion, and expect, of course, to be able to diagnosticate, from what I see, true Asiatic cholera or cholera morbus.

But, gentlemen, although the method above described is exactly the one used by Koch to bring the comma bacilli into view, if the material is taken directly from the patient, or if taken from an artificial cultivation, I may be sadly disappointed in all probability, because, in the first place, I may find no characteristic spirilla, and those bacilli we do find may belong, as far as their microscopical appearances show, just as well to cholera morbus; or I may find only straight, rod-like bacteria mixed with a few curved ones, such as can be seen in all the excrements of ordinary diarrhœa; because it is a well-established fact, I think, that in the beginning of Asiatic cholera the characteristic spirillum can not be immediately recognized under the microscope. A better method, however, would be to place a drop of rice-water discharge upon a covering glass, and put the latter, with the drop of fluid downward, upon a shallow glass cell; if this suspended drop, which may be stained with one of the basic aniline colors, is examined with a powerful immersion lens, it is possible that we may find sufficient evidence

to base a diagnosis upon. We shall see at least a large quantity of bacteria alive, and, if the fluid contains a sufficient quantity of the cholera bacilli, they will appear like a swarm of mosquitoes moving hither and thither, and among those there will be noticed occasionally a few spirilla of a wave-like form. So, at least, does Koch describe the microscopical appearance of a suspended drop of artificial beef-tea cultivation, and there is no doubt that the same may be observed if rice-water discharges are used for examination from a patient who has been sick for some time, but it is very doubtful if we shall be able to gain this result in the earliest stage of cholera.

Another method of distinguishing the cholera bacilli is published in the "Deutsche medicinische Wochenschrift," Berlin, April 2, 1885. Professor Max Schottelius, of Freiburg, went to Italy to study the cholera, and, being admitted into a cholera hospital of Turin, he made numerous investigations. The principal result he obtained is the following: He mixed 100 to 200 c. cm. of the suspected fæcal matter, or rather rice-water discharge, with 250 to 500 c. cm. of slightly alkaline meat-broth. This mixture must be shaken and put into a high beaker-glass. The glass must be put in a warm place, the temperature of which does not exceed 40° C., or 104° F. The fluid remains standing for from ten to twelve hours. After this time the surface of the fluid is touched with a glass rod, and a drop placed upon a covering glass; further preparation, and staining with a concentrated watery solution of fuchsin, as described before, will, under the microscope with a power of about 600 diameters, show almost a pure cultivation of the comma bacillus, if the case has been genuine cholera. Examination of a suspended drop of this mixture gives also a characteristic and perhaps still better demonstration. The surest method, however, suitable for diagnostic purposes, will be the cultivation with nutritive gelatin upon glass plates, and we shall find it of sufficient simplicity to make practical use of it, provided we are able to obtain at short notice the necessary nutritive gelatin of slight alkaline reaction. I herewith will mention briefly two formulæ found to be most efficient for use: First, 17 ounces of good, finely chopped meat, added to 34 fluidounces of distilled water, and well stirred, remains standing in the ice-box for twenty-four hours. Afterward the whole is strained through gauze by means of a press, and sufficient distilled water added to make again 34 ounces. To this must be added 2½ drachms of table-salt, and from 1½ ounce to 3 ounces of the purest gelatin; allow the whole to dissolve by gentle heat, neutralize with carbonate of sodium, and add a little of the latter in excess to give the mass a weak alkaline reaction, sufficient to turn red litmus-paper slightly blue. The neutralized solution must be boiled for an hour upon a water-bath and, still hot, filtered through paper. The filtrate, boiled again and afterward put upon ice, must be clear and transparent. During the boiling process a turbidity, caused by phosphates, may appear, which, however, will disappear as soon as the gelatin has been cooled upon ice.

Another process, described by Dr. F. Hueppe, professor of hygiene and bacteriology at the laboratory of Fresenius, of Wiesbaden, is the following: Peptone, 3 p. c.; grape-sugar, 0·5 p. c.; extract of meat, 0·5 p. c. and from 5 to 10 p. c. gelatin. I will not try your patience by giving the whole process necessary for this preparation. It will be sufficient, I think, if I mention that a little apparatus is required and a great deal of exactness and time. We, as practical physicians, may have the former, but hardly the latter, at our command, consequently I would like to take the liberty of suggesting that Dr. Squibb, for instance, take the matter in hand and prepare for us the gelatin, or that the Board of Health establish a laboratory where not only shall the gelatin be prepared, but, under the supervision of a competent medical man, such investigations carried out as I have already suggested or shall hereafter describe.

Supposing we are in possession of the necessary gelatin and desire to make the cultivation as above mentioned. For this purpose we take an object-glass, according to the size of the stage of our microscope, to enable us to examine the same afterward in all directions with a lens. We put some of the nutritive gelatin into a test-tube and warm it in hot water until the gelatin becomes fluid; then, by means of a pipette, we carefully transfer some of the gelatin to the object-glass.

The portion of gelatin transferred must be a few millimetres thick and no part touch the edge of the object-glass. Then we take, with a sterilized platinum-wire, a drop from the rice-water discharges, and inoculate the gelatin by making a few strokes upon it of not sufficient depth to reach the glass below the gelatin.

The longer our object-glass, the more strokes we shall be able to make, and the easier it will be to recognize and differentiate the colonies of bacteria which will grow there. After the gelatin has been inoculated, the plate of glass must be placed under a bell-glass whose walls are dampened inside with distilled water. This, however, is not absolutely necessary. Eighteen hours afterward we shall observe the result of the inoculation by the growth of the different species of bacilli. In case of Asiatic cholera we shall observe in the early stages of the growth a small, pale drop, not of a perfectly circular appearance, such as almost all other colonies of bacteria present, but with irregular, rough edges. From the very beginning of its growth it has a granulated appearance. A few hours after the first appearance of these drops upon the gelatin the granulation appears more marked, and looks like a mass of irregular-shaped, highly refractive granules, which Koch compares to a little pile of small pieces of glass. Within twenty-four hours the gelatin becomes fluid in the immediate neighborhood of the colony, and the latter sinks deeper into the gelatin. A small funnel-shaped impression is formed, in the midst of which the colony may be seen as a small whitish spot or dot. For the purpose of making these observations, the glass plate must be placed under a microscope and examined with a power of about eighty diameters. In order to make these cultivations, a temperature not lower than 68° F. is necessary, which during the summer months will be easy to reach. In case we have to deal with a cultivation of the bacilli of cholera nostras discovered by Finkler and Prior, we shall find discs of a regular, even shape, and within thirty hours a funnel of 1 cm. in diameter will have formed, which

in two or three days will have widened out to such an extent that the whole of the gelatin will have flowed off from the object-glass.

(*To be concluded.*)

A CASE OF COMMINUTED AND DEPRESSED FRACTURE OF THE SKULL; TREPHINING; FUNGUS DURÆ MATRIS; RECOVERY.*

By W. C. BURKE, Jr., M. D.,
SOUTH NORWALK, CONN.

C. R., aged eleven, was struck by a locomotive attached to an express-train, running at a high rate of speed, on the afternoon of November 6, 1883.

He sustained a compound comminuted and depressed fracture of the left temporal bone, involving slightly the frontal and parietal bones of the same side. The blow was given while the boy was in the act of jumping from a car directly in front of the approaching train, which he did not see. He was thrown a considerable distance to the side of the track, and, when picked up, was unconscious, breathing stertorously, and bleeding profusely from the divided temporal artery. He was taken to the accident-room at the station, and seen by me within ten minutes after the accident. At this time the pulse was very feeble and slow; breathing stertorous; pupils moderately but unequally dilated, the right more than the left. The wound was cleansed, the bleeding vessels were secured, a temporary dressing was put on, and he was conveyed to his home a mile distant. He had lost a good deal of blood.

An hour later, with the assistance of Dr. J. G. Gregory, I removed the dressings, and, enlarging the opening in the scalp, found that the skull had been fractured and depressed over an area two inches by two and a half, located a little above and in front of the left ear. The fractures did not extend beyond this oval in any direction. I found nearly all the pieces of bone lying loose in the wound, and they were easily removed. After removing all the fragments in sight and carefully cleansing the exposed membranes, I found a gaping wound of the membranes and brain substance. Gently insinuating my little finger into this opening, at the depth of an inch and a half from the surface of the skull, I felt two pieces of bone, which I cautiously removed, carrying the slender forceps along my finger as a guide. They proved to be fragments of the internal table of the skull turned edgewise and in their long diameter, evidently shot into the brain by the blow, like flying glass. These increased the depth of the wound by nearly an inch, making the wound of the brain about two inches and a half deep. The direction was obliquely downward and backward toward the pons Varolii. Considerable hæmorrhage from the brain substance was controlled after some delay. Two vessels in the external wound required ligatures.

Just as I was withdrawing the last fragment from the wound the patient gave the first symptom of returning consciousness. He groaned and turned his head partially to the left. After careful cleansing of the membranes they were smoothed out, everything being left in as natural a condition as possible, and the external wound was closed by fourteen interrupted sutures.

A compress, wet in a five-per-cent. solution of carbolic acid and secured by a roller bandage, completed the dressing. These dressings were to be moistened repeatedly during the night with the solution. He rallied well from the shock, but passed a restless night, tossing about a good deal. Sixty-nine hours after the accident he uttered his first coherent sentence, although he had spoken detached words twenty-four hours previous. Everything progressed favorably, the wound apparently healing well. On the sixth day I removed a part of the stitches, and the remainder on the seventh. When union had taken place throughout, except at the point of exit of the two ligatures, a piece of rubber tissue was laid next the wound, and over this several layers of gauze secured by the roller. The next day the dressings were not disturbed. On the ninth the boy complained of a pain in the wound, and the dressings bulged at the seat of injury. On removal, a cauliflower-like growth, protruding three eighths of an inch above surrounding scalp, had reopened the wound to the extent of the opening in the skull-bone. The edges were everted so that its diameter was a little over three inches. In the afternoon of the same day I attempted to remove a portion with the galvano-cautery, but with only partial success. Several things were tried in the next day or two, but were of no avail.

The growth by this time had increased to formidable proportions. I then determined to try the dried sulphate of zinc upon it. So I put on a free coating of this, and over it a compress and bandage, drawn as tight as the patient would allow, which was not nearly so firm as I should have preferred, as he complained that it gave him "a feeling in his head of bursting."

This dressing was allowed to remain forty-eight hours, when, on removal, I was pleased to find a slough, three eighths of an inch thick, easily removed. Another coating of the zinc was put on and similarly dressed, remaining forty-eight hours. This process was continued until all the diseased tissue had been removed down to the level of the healthy brain substance, when the zinc was discontinued and iodoform substituted. When the dressings were again removed, healthy granulations had sprung up all over the wound, and the process of repair went on as rapidly as could be desired. The constitutional treatment had been with iron and quinine—in short, supportive.

At no time had the temperature been above 101° F., and that only once, during the first forty-eight hours. A slight amount of brain substance had been lost. He was discharged, January 25th, two months and nineteen days after the accident.

A recovery from so frightful an accident is rare when we consider the extent of injury to the brain substance, the wound extending well toward a region of the cerebrum usually considered vital. And the recovery from fungus duræ matris was hardly less remarkable. There were, I believe, fifty-one cases of this disease following wounds of the brain during the late war, in which forty-five of the patients died, only 1·13 per cent. recovering. The boy is in perfect health now, and has no headache or other unpleasant symptoms. Mentally, no special change is noticeable; but his teacher thinks he does not commit to memory with quite so great facility as before the accident. But even this is doubtful.

* Read before the Brooklyn Pathological Society, February 12, 1885.

ON THE ERADICATION OF SYPHILIS DURING THE FIRST STAGE BY SURGICAL MEANS.*

By A. H. P. LEUF, M. D., Brooklyn,
PATHOLOGIST TO ST. MARY'S GENERAL HOSPITAL, TO ST. MARY'S FEMALE HOSPITAL, AND TO THE HOSPITAL FOR NERVOUS AND MENTAL DISEASE, ETC.

Inasmuch as it was originally planned that this paper should not appear till the end of this year or the beginning

* Read before the Medical Society of the County of Kings, May 19, 1885.

of the next, I am enabled to give but an outline of what it is my intention ultimately to say upon this subject. Being but the outline of an argument in favor of a specific therapeutic measure, it will necessarily be very brief. For the purpose of economizing time, I will purposely avoid reference to authors and the discussion of the various views held upon this interesting and intricate question. Various, however, as are these views, and great as may be the intricacy of this subject, it is yet possible to reduce them to simpler proportions for convenience of analytical study and synthetical deduction. My plan, therefore, this evening, will be to submit to you only that way of viewing this question which accords with my argument, and the digressions therefrom shall be as limited as possible for the purpose of saving time.

Syphilis is a constitutional disease and contagious in the true sense of the word; that is, communicable only by contact, and therefore produced invariably by inoculation—except it occasionally be autogenetic. It is preceded by a period of incubation, and manifests itself in three periods—primary, secondary, tertiary.

The primary stage consists in the formation, growth, and decadence of a highly characteristic sore at the seat of inoculation after an average incubation of much longer duration than precedes any other sore with which it might be confounded. A variable time after the formation of this sore, or chancre, the nearest set of lymphatic glands become enlarged.

The secondary stage is ushered in by acute characteristic general signs and symptoms after a definite interval, measured by weeks, succeeding the appearance of the chancre. This continues for a variable time, to be followed by a period of quiescence, usually measured by months.

The tertiary stage exhibits itself in the form of special pathological changes in one or a number of places, and either in one or a number of tissues, at the same time or at different times. These manifestations are mostly dependent upon their location for their greatest significance. Thus, a nodular enlargement of the tibia is in itself harmless; long radii of the calvaria perhaps the same, but for the proximity of a vital organ; an exostosis within the lower part of the spinal canal, although similar in character, is not now so harmless, but, if sufficiently large, will induce paralysis of the parts below; the same projecting from the walls surrounding the medulla has a significance that is fatal; even in this latter instance the effect may be nil so long as the growth does not continue beyond a certain size. This is the general character of tertiary manifestations. A carcinoma of the breast will kill by its virulence and not by its increase in size, while the converse is essentially true of syphilitic formations.

Thus we understand that the existence of syphilis is a constant menace to the body it inhabits. Of the nature of its active principle nothing definite is known. One fact is quite universally admitted, and that is, that, when inoculation has once taken place and the chancre is formed, secondary symptoms demonstrating systemic infection are inevitable, and so, as a rule, are tertiary manifestations in the majority of cases.

As rational therapeutics preponderates over empiricism, it becomes more evident that ætiological data increase in value for the treatment of disease. A thorough comprehension of these is impossible without an exact knowledge of the minute pathological changes that accompany disordered states of the body. In syphilis we have no knowledge of the character of the virus itself. Its manifestations are known to us both macroscopically and microscopically, the latter especially in the tertiary forms. The changes it induces at the beginning, in the formation of the primary lesion, are not so well understood nor so generally accepted.

To adopt a rational plan for the interception of this poison previous to its general invasion of the body, the following questions must be answered:

1. Does the disease arise *de novo*—is it autogenetic?
2. What are the necessary conditions for inoculation?
3. What is the effect of the virus at the seat of inoculation?
4. Is there a decided interval between local and systemic manifestations?
5. By what channels does the disease enter the system—by the blood or by the lymphatics?
6. Can the progress of the virus be traced from the time and place of its entrance into the tissues until general infection has occurred?

That all this can be done I shall now proceed to demonstrate:

1. *Does the disease arise de novo—is it autogenetic?*

Syphilis must have originated at some period, and at not so remote a day but that the circumstances existing at that time to favor its production must also exist at the present day. Therefore I can not deny the possibility of its occasional spontaneous origin, although compelled to admit that it must be a comparatively rare occurrence.

2. *What are the necessary conditions for inoculation?*

These consist in the presence of the virus and stable living cells in direct contact. The cutis being composed of dead, and to some extent desiccated, cells, it is evident that inoculation can not take place through it. Observation demonstrates that this is true, for the rule is, in carefully studied cases, that a denudation of the cutis vera is a constant and necessary precursor of the chancre. I will relate an incident in point:

Two medical students, at a Western university, spent a night together in the same bed with a woman of obtuse morals. Neither student had had any sexual congress for several months preceding this night, nor did they during a long period subsequent. One developed a chancre, and, later, secondary symptoms; the other never suffered the least local or general disturbance. Circumstances would not warrant the supposition that the chancre developed *de novo*. On the other hand, it would be contrary to clinical observation and the result of scientific experimentation to suppose that the more fortunate student escaped because he enjoyed a special immunity, for he had never had syphilis. The correct solution of the problem lies in the assumption that the one affected had abraded a portion of the mucous membrane of his penis while the other had not, and this

was actually the case. This is not a lone instance; there are many others.

The denudation of the cutis vera—an abrasion, in other words—is, therefore, necessary for the introduction of syphilis through the skin or mucous membrane; that is, direct contact between the virus and the stable living cells.

3. *What is the effect of the virus at the seat of inoculation?*

It gradually, but inevitably, induces circumscribed tissue changes of a special character, which become evident only after a lapse of time varying from a little more than a week to more than two months. The tissue changes consist mainly of a proliferation of the vessel-walls and immediate fixed cells, without the usual amount of serous effusion and hyperæmia. They manifest themselves in the form of an elevated ulceroid, with a hard base, and having a serous rather than a purulent discharge. The variation in the time at which the initial lesion appears after inoculation is due more, if not entirely, to its location with reference to the lymphatic vessels than to various grades of susceptibility by some supposed to exist in the individual. This is also especially true as regards the length of the interval between the appearance of the chancre and the onset of secondary symptoms.

4. *Is there a decided interval between local and systemic infections?*

An affirmative answer to this question will be gainsaid by no one. An intermediate manifestation, however, is apparent between these local and general disturbances, and it shows itself in the first set of lymphatic glands reached by the lymphatic vessels beginning at the seat of inoculation. The time at which these glands show evidence of participation in the syphilitic process varies. Enlargement may commence shortly after the formation of the primary lesion or within a brief period before the onset of general secondary symptoms. There can be no doubt, though, about there being a distinct interval between local and general infection. The action of the lymphatic glands leads to the next question.

5. *By what channels does the disease enter the system—by the blood or by the lymphatics?*

By the blood?—When we consider the rapidity with which the blood flows through our bodies, and the uniform results obtained in producing rapid effects by intra-sanguineous injections, it is impossible to reconcile these well-established facts with the comparative exceeding slowness of general syphilitic infection, unless it be on one ground. This would be that a second incubation takes place in the blood analogous to that at the point of inoculation, or that the period of incubation of the virus in the blood is longer than that among the stable cells; but this would be contrary to all known physiologic laws and processes. Were the blood-vessels and their contents the distributing channels of this poison, the general infection of the patient would not be so long in taking effect, nor would it be interrupted. The blood is not the channel by which the virus enters the system.

By the lymphatics?—We all know, from the results of investigation in the physiological and pathological laboratories, as well as clinical experience, that the blood is the body's distributer of food and air in its passage from the heart, while on its return it renovates the tissues by the abstraction of those impurities that are the natural result of physiological metamorphosis. The lymphatics, on the contrary, among other things, perform an interceptive function in preventing or retarding the entrance into the circulating blood of those deleterious substances for the elimination of which there appears to be no special provision. Thus, although carbonic oxide and urea are very poisonous, they enter the blood to be promptly excreted, the one by the lungs and the other by the kidneys; there is a special provision for their elimination, as they are a normal, constant, and necessary product. Contrariwise, the virus of carcinoma is not the outcome of normal, constant, and necessary physiological activity, but the result of changes that are abnormal, inconstant, and decidedly unnecessary, and hence has not provided for it a special and normal eliminative organ. If it once enters the blood, it will remain and spread disaster. It only gets there insidiously. The blood does not take it up. Lymphatic vessels which ramify throughout the body and lymph-spaces existing in nearly all the tissues absorb this product of unusual and abnormal metamorphosis and conduct it to the first set of lymphatic glands. Here it is retained as long as the gland is capable of holding it, and, when this retentive function becomes inefficient, the poison passes into the blood, and the general infection of the individual is the immediate and inevitable result.

It is through the lymphatics, then, that syphilis enters the system, although retarded in its progress through the glands.

6. *Can the progress of the virus be traced from the time and place of entrance into the tissues until general infection has occurred?*

This is possible, and it occurs in the following way:

As soon as the poison comes in contact with the living cells it sets up an irritative process, which, in consequence of its persistence and special qualities, eventuates in the peculiar cell proliferation that gives rise to the initial lesion of syphilis. This cell formation is peculiar in that it involves the vessel-walls, causing them to grow eccentrically as well as concentrically, thus giving rise to an increase in their external diameter coincident with a diminution of caliber. Many detached cells and nuclei are to be found within the lumen of the capillaries obstructing the flow of blood. The immediate fixed connective-tissue cells also participate in the proliferating process, and to such an extent that the intercapillary spaces become packed with these new formations. In consequence of the diminished caliber of the vessels, there is an absence of the degree of hyperæmia so common in pathological cell formations. Serous effusion is also lacking on account of the scanty blood-supply and the thickening of the vascular walls. Those compacted cells which are on and nearest the surface, being enabled to imbibe their nourishment from all directions except one, die and fall off from this side—that is, die at the surface. Considerable pressure is exerted within this cell accumulation and causes the contained serum to find its way out through

the surface breach, in which direction evidently is the least resistance. The induration of this, the chancre, is due to the close packing of the cells, the lessened blood-supply, and the spare amount of serous effusion. The long continuance of the induration after it has healed over is also accounted for by the diminished local circulation and abnormal condition of the vascular walls as being a decided interference in carrying on any absorptive process.

The lymph-spaces and vessels in contact with these new products absorb the virus and convey it to the nearest lymph-glands. Here the virus is arrested and tends to set up a process identical with that existing at the place whence it just arrived. Eventually this is accomplished as well as it is possible in a different tissue. The result is an enlarged and indurated gland. We all know, too, how hard are these glands and how hard is the chancre. The typical primary sore does not really suppurate, for it simply throws off superficial layers of cells and *débris* with a limited amount of modified serum. A fact that is interesting to note now is that the glands involved, although enlarged and indurated, rarely suppurate.

The production of leucocytes constitutes one of the functions of lymphatic glands, and from them the white corpuscles are at once admitted to the circulating blood. It is evident from this that, after a brief residence in these glands, the poison will be admitted to the blood and pervade the whole body. The glands, however, as a rule, either destroy the virus they have brought to them, or render it innocuous, but not in all instances. It is hardly necessary to remark that in the case of syphilis we have a notable exception to this rule, but not without compensatory action of the gland—to wit, the retention of the virus for a sufficient length of time to admit of its mechanical removal. When the virus has penetrated those parts of the glands which are about to be launched into the circulating blood, the first step toward general infection has been taken. Additional loads of virus are thereafter constantly being thrust into the circulation and carried by it to all parts of the body. The other lymphatic glands being more susceptible to the influence of this and similar poisons than any of the other tissues, it is but natural that a general glandular disturbance should note the beginning of secondary symptoms, and that is actually what occurs in most instances. That the more superficial glands should be the ones mentioned as being enlarged at this time is only natural, for the deeper ones are not felt by the physician. Therefore does it happen that we are usually told that the cervical and supra-trochlear glands are the ones most commonly found enlarged at, or just preceding, the onset of secondary symptoms.

When we consider that of all disorders, excepting phthisis, there is probably none that is so malign in its effects upon our species as syphilis; when also we regard the fact that a very large proportion of the victims of this affection are a prey to heredity; and when, lastly, we reflect upon the present utter impossibility of preventing a general systemic syphilitic infection, and that too in defiance of valuable palliative medicinal resources—I say, then, it must be admitted that any therapeutic measure that may be proposed for the eradication of syphilis previous to systemic infection is justifiable, if based on rational grounds. Not only is it justifiable, but it is unmistakably our duty to attempt these means if they give a reasonable promise of success.

In the light of established facts, it is hard to believe that well-informed men still exist who will not admit the purely local nature of the chancre and resulting enlargement of the nearest lymphatic glands. It is a widely known fact that a person having syphilis is unable to develop a second primary lesion so long as he gives evidence of existing constitutional infection. Less widely known is the equally well-established fact that additional chancres may be developed *ad libitum* up to a short time before the outbreak of symptoms denoting constitutional infection.

In fact, the strongest claim for the curability of syphilis is based upon this very fact of a person with general symptoms being uninoculable with the same disease. He enjoys absolute immunity from additional infection, and must be cured to be at all susceptible of reinfection and the development of a second chancre after having once suffered constitutional syphilis.

If this is the correct view, and surely it is the most reasonable one, it is equally as certain that constitutional syphilis does not exist up to a short time before the secondary eruptions, because a second chancre or series of chancres may be developed either by auto-inoculation or hetero-inoculation during this particular period.

In the treatment of any disease, it should be our first effort to attempt its abortion, and of none can it more truly be said that such attempt is our first and imperative duty than syphilis. Complete excision of all the structure harboring the virus while it is still local would positively abort the disease. At present it appears that the chancre and nearest set of lymphatic glands are the only structures affected during this primary period. Their thorough excision promises to effect the immediate termination of the disease, if accomplished sufficiently early. I should call sufficiently early any time previous to the appearance of secondary symptoms, and while the glands were still not much enlarged. All measures of this kind would be, however, absolutely contra-indicated after the outbreak of the secondary stage.

As regards the mode of operating, I think one thing very important and essential to success. It is that, inasmuch as glandular infection is due to material coming from the chancre, the safest way would be to remove the primary sore first and the glands afterward. Then, again, as the virus traverses gland after gland in regular order, reaching the one farthest removed after it has affected the nearer ones, it would be most safe to begin the glandular excision with the removal of the most distant one first and ending with the nearest and first affected.

I recognize at once one possible source of failure in this treatment, and that is that some of the virus may be retained in the lymphatic vessels between the excised sore and glands and permit of its absorption through collateral channels. This is guarded against, as far as possible, by the elimination of the active source of infection, the chancre, before the absorbents are cut off from their receiving

glands. Perhaps it would be well to allow several hours to elapse between the excision of the sore and of the glands, so as to admit of the convergence of all the virus in the lymphatics to the glands about to be extirpated. Or, best of all, it would be most advisable to excise all the lymphatics between the chancre and glands if at all affected, and possibly it would be still better to always excise these vessels, whether they appear to be affected or not.

Only clinical experience and experimental research can, however, positively settle this point, and it is for the purpose of gaining this valuable experience as soon as possible that I have thus early offered this paper. If every man will cast aside his prejudices and attempt this abortive treatment of syphilis, we shall soon see demonstrated the fallacy or correctness of this view. That it will prove correct I have not the least doubt. It is only necessary to cast our eyes about and note the increased percentage of cures from carcinomatous excisions, since complete extirpation of the whole set of lymphatic glands nearest the neoplasm has come into vogue, to gain hope and confidence for the method of cure herein advocated. These glands, be it remembered, in operations for carcinoma, are thoroughly excised, although very often without the slightest evidence of disease. We have but to recollect the character of syphilis and its associations to feel the deepest commiseration for the innocent progeny who inherit the disorder. For this reason alone, if for no other, every rational means ought to be tried, and is justifiable, to prevent its spread not only around us but to future generations.

Perhaps many former advocates of chancre excision will be opposed to this abortive plan of treatment because of the almost generally conceded failure of that half-way therapeutic measure. Yet even this method may be all that is necessary in rare instances where the glands have not yet received any of the virus. I am willing to believe that some of the reported cases of cure in this way were actual instances of aborted syphilis. It is to be hoped, therefore, that those gentlemen who once championed chancre excision, and, of course, those who do so still, will be the first to take in hand the practical testing of the more thorough method it seems to me so proper to advocate.

Deeming the foregoing sufficient an outline to subserve the purpose of creating intelligent discussion on this question, I will complete my remarks with a few additional statements.

My object has been to be fair and temperate in all that has been said. Although readily admitting plenty of room for honest differences of opinion in more than one part of my argument, I have refrained from attempting a systematic refutation of everything that seemed inconsistent from my standpoint, as it would only have interfered with the real objects of this paper. It is also well to recollect that the deductions I have made are based on the *rule* of behavior in syphilitic processes and their manifestations. Exceptions to these general rules in the clinical history of this disorder are many and various, yet, if thoroughly analyzed, will be found to have no confuting effect upon the preceding argument. Even this, though, is only a rule, and also may have its exceptions, and exceptions, be it remembered, are often proof that rules exist.

I have been as general as possible in the treatment of this question instead of being more specific, so that it should have the widest application and be followed by the broadest and most profitable discussion. The failure to mention the names of authors, or relate interesting and important experiments and cases, must not be construed in any other sense than that the object was to avoid undue complexity and to save time. The great and only point at issue in the discussion of this question is, How soon after inoculation does systemic infection occur?

In the hope that the discussion of this question will be frank and constantly to the point at issue, I have the honor of submitting to your judgment this argument on the early and prompt eradication of syphilis for all that it is worth.

IMMUNITY IN DISEASE.

By ROMAINE J. CURTISS, M. D., Joliet, Ill.,
PROFESSOR OF HYGIENE IN THE COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO.

The paper read by Dr. R. G. Eccles before the Brooklyn Pathological Society, and published in the "New York Medical Journal," May 23d, refers to a subject which must eventually be settled. People will never be contented with the phenomena of disease, in relation to the causes, without a generalization which will cover the whole group of phenomena. The hypothesis of gravitation and that of the existence of a light-ether explain the phenomena of the universe relating to the motions of the spheres, and also the phenomena of light. What gives immunity in disease, what causes disease, and how do the causes act? are leading questions that must all be grouped together under one generalization which can explain them all, and I take it that any contribution looking to this end will be welcome to the profession.

Before proceeding to actual work, it may be useful to examine the methods of doing this particular kind of work —to get the tools in good working order. I believe it is understood that whatever classes, orders, or varieties of things or phenomena we are studying—whether they be affairs of common life, or any special science, or whether the most complex questions that confront the philosophers—one of the objects of our study is to generalize laws from the things or phenomena, and the method or tool with which we work is hypothesis. It is a "cut-and-try" method. The hypothesis is designed to occupy the place of a general cause or antecedent to the whole group of questions under consideration. In selecting an hypothesis, care is required to be certain that the selection is a real cause in Nature, or else can be proved to be, and, when the selection is made, it appears that we have the question to settle next that the hypothesis is capable of causing such results as we are studying, and at the same time it must be proved that other supposed causes, or hypotheses, are not sufficient.

I think this is a fair conception of the method employed in the study of all things and phenomena, including disease; and now, before proceeding further, it is necessary to define what is meant by immunity from disease.

This inquiry being limited to the zymotic diseases, the meaning of immunity from disease must be that the organ-

ism can by some means resist the living agent of disease. The power of resistance, whatever it may be, is acquired, as we certainly know, by an attack of the disease; and it is known that this power is also acquired by heredity. A person may be exempt from the attacks of given species of parasites, by reason of a former battle with the same species, or a variety of the same species, or the person may have immunity from the successful attacks of these enemies which he obtained by heredity from a long line of parasite-pestered ancestry.

Unless it can be proved that people inherit the actual germs of disease, the law of heredity must impose the inference that, instead of inheriting a disease, persons inherit an immunity from disease, or else fail to inherit the immunity. The heredity of disease would appear to be negative—that is, a person inherits the disease simply because he fails to inherit an immunity. This view of the question of heredity will fully explain the fact that consumptives and syphilitics and the victims of other hereditary diseases are the victims of these diseases because their ancestors have not acquired, by natural selection or by actual combat with the infectious causes, an immunity from the diseases.

We know very well that immunity from such a disease as small-pox in an individual is acquired by an actual combat with the infectious cause of small-pox. The inference must follow, therefore, that the people who escape the zymotic diseases, by reason of personal immunity or by reason of a successful vital or physical resistance to the germs, do so not because they have failed to encounter the germs or failed to inherit them, but because they have inherited the physical resistance from ancestors who acquired the same by reason of having the disease.

But we find that immunity from disease has quite indefinite relations to time. In a certain ratio the immunity lasts a life-time, but in a far larger ratio it lasts for only a year or a few years. Probably, if an average could be known, it would be found that seven or eight years would express it. Now, whatever the immunity may be, it is evident that it is not lasting enough or forcible enough, in more than a small ratio of cases, to make much impression on hereditary transmission. Suppose one hundred people have small-pox; possibly out of this number there might be twenty instances where the immunity would be powerful enough to cause more or less impression on the forces of heredity.

The two great forces of the development of all organisms are atavism and variability. Development is a resultant of these two forces. Behind them both are the most complex antecedents pertaining to the struggle for existence; but these complex antecedents, grouped as they all are under two heads, all converge into the two forces which we understand as atavism and variability. The character of human development, from the mental and moral peculiarities to even the color of the skin and the stature of the man, must be referred to the interactions of these two forces for a solution, and we must look to these things also for a solution of the problem of immunity from disease.

From these data there is no better inference than the hypothesis that an actual attack of pathogenic organisms produces a variation of structure, the character of the variation and the structure subject to the variation being determined by the nature or method of onslaught and the tissues or cells that are attacked. Following up these special lines, we find that different pathogenic organisms attack different portions of the body, and that the method of warfare is by poisons.

To fortify this hypothesis it may be mentioned that living things which are adapted to each other as a food-supply must kill each other or catch each other first, and I think the two methods of causing death are by mechanical means and by poisons. Animals use stratagem, speed, tooth, beak, claw, muscles, and poisons, while the pathogenic bacteria use poisons. The micro-organisms, it is supposed, absorb their diet by osmosis, and it can not be imagined that this force of absorption can overcome the vital or physical integrity of a tissue-cell, and therefore the inference is that, if the cell resists the absorptive force of the micro-organism by its quality of life, it must resist the poison of the same agent by a variation of its vital or physical power of resistance, which is acquired by actual combat.

If the ancestor of the antelope was given an occasional chase by a personal enemy—for instance, a wolf—and succeeded in escaping, no one will dispute the fact that the antelope obtained its speed by such means, and transmitted this quality to its progeny. The difference in speed between the ancestor of the antelope and the modern species is the measure of the variation produced by actual combat with a personal enemy. The struggle for existence of this special character caused this variation. If a whole herd of wolves should now be turned into an inclosed lot with an antelope, it is quite likely that the antelope would fall a victim, but this would not disprove the fact that in a state of nature the speed of the antelope was developed in this manner, and that nature, or natural selection, by this means has preserved the antelope as a species. This bit of biology explains a special instance of the law of variability. But now, suppose the species of wolf is destroyed; the force behind this variation is removed; the antelope has no care to exercise its speed, and gradually loses its power, and, in time, by what is called atavism, it again resembles, in this respect, its ancestor.

The pathogenic bacteria are organisms of prey, and a disease is simply a combat between the cells and the organisms which are there after food. It is difficult or impossible to say how a poison may destroy a cell, but it is certain that the effect of the poison is to destroy life, and such is its object. If it is true that disease is thus caused by destroying the life of cells, then it is true that immunity may be aequired by a variation of the cell in structure or function, so that it may resist the poison. The question of drug-tolerance by cells is established by experiments with morphine, alcohol, etc. There is no scientific method of explaining this fact except by the inference that a variation in structure and function is produced in the cell as a consequence of actual combat with the poison. The cell may secrete an antidote to the poison of the enemy, or its molecular elements may be rearranged in such a manner that the poison is not effective. Either of these propositions may do as an hypothesis, and, though they may be difficult

to verify, they are true *veræ causæ* in nature, and they can explain the phenomena of the immunity from disease, singly and collectively.

Suppose, now, the cause of disease is removed; the cells which have acquired a variation of structure or function, by the law of atavism, lose this variation. In time the immunity ought to run out, and we find this to be true. The immunity from, or protection given by, one attack of disease varies, in time, in direct proportion to the severity of the disease, as a rule. There is no other method of explaining this phenomenon except by these laws of variability, atavism, and natural selection.

The artificial tests for the protection thus afforded against disease, which consist in injecting a large quantity of pathogenic bacteria into an animal which is sufficiently protected to resist the attacks of disease by natural invasion, resembles the method mentioned of testing the protection given the antelope through its speed by exposing it to a pack of wolves in an inclosure. The conditions of nature in these instances are not imitated, and, consequently, no information of value can be inferred from such experiments.

(*To be concluded.*)

Book Notices.

A Practical Treatise on Nasal Catarrh and Allied Diseases. By Beverley Robinson, A. M., M. D. (Paris), Clinical Professor of Medicine at the Bellevue Hospital Medical College, etc. Second Edition, Revised and Enlarged, with One Hundred and Fifty-two Wood Engravings. New York: William Wood & Co., 1885. Pp. xii–276.

Those who were so fortunate as to read the first edition of this excellent work will hardly recognize it in the elegant second edition now before us. To the book as it first appeared five chapters have been added. These are devoted to the study of: 1. Aural Complications of Catarrhal Affections of the Nose. 2. Deflections of the Nasal Septum and Bony Obstructions of the Nasal Passages. 3. Ulcerous Coryza. 4. Adenoid Vegetations at the Vault of the Pharynx. 5. Mucous Nasal Polypi.

The text of the original edition has also been carefully revised, and changes or additions made where required, while ninety-six illustrations have been added, and the work made complete up to the date of its issue. Want of space forbids the extensive review which should be given it. There is much in it which deserves commendation, and every evidence of experience in the use of the methods advised and of painstaking care in their presentation.

The main fault of the author is an undue redundancy of style, which adds unnecessarily to the length of his chapters without in any wise contributing to their clearness.

Among the cuts the reader will recognize the familiar face of many an old friend. Figs. 26 and 27 might well have been omitted.

Compared with the substantial merit of the work, however, these are trifling matters. It will be difficult to find in any language a more exhaustive and thorough treatise upon nasal catarrh, so that the book should, and we believe will, have a wide circulation

Post-Nasal Catarrh and Diseases of the Nose causing Deafness. By Edward Woakes, M. D., Senior Aural Surgeon and Lecturer on Diseases of the Ear, London Hospital, etc. Illustrated with Wood Engravings. Philadelphia: P. Blakiston, Son & Co., 1884. Pp. 224. [Price, $1.50.]

This is an American reprint from the third English edition. The first chapter is devoted to some observations on the correlating and reflex functions of the sympathetic nervous system. Then follow two chapters on the Ætiology of Acute and Chronic Catarrh, in which are considered what Woakes calls the "pre-catarrhal state," and the mechanism of "taking cold." The chapter on the Hygienic Management of the "Catarrhally Predisposed" is full of useful hints and suggestions. The difficulties and importance of posterior rhinoscopy are well emphasized, and a most excellent account is given of the method of anterior rhinoscopy. There have been so many additions made to the original work that the English publishers thought it wise to issue the new matter in a volume by itself, and this is what is presented to the medical profession. It is a most clear and valuable contribution to our hitherto rather defective knowledge of diseases of the naso-pharynx. Some of the author's views will certainly not be accepted without careful consideration and repeated observations; but those on therapeutics will meet with cordial commendation.

A Hand-book of the Diseases of the Eye and their Treatment. By Henry R. Swanzy, A. M., M. B., F. R. C. S. I., Surgeon to the National Eye and Ear Infirmary, etc. With Illustrations. New York: D. Appleton & Co., 1884. Pp. xv–437.

Mr. Swanzy has here given to the medical student and general practitioner a most admirable hand-book upon what is perhaps the most important and extensive of the special departments of medicine. The author, who, as a former assistant to von Graefe, has been brought up in an admirable school and whose experience has been very large, treats his subject in a very thorough manner, while the style is readable and clear. There is a minuteness of detail in regard to treatment which will prove especially attractive to the student. The book consists of twenty-two chapters, the first three of which are devoted to elementary optics, anomalies of refraction and accommodation, and the theory and use of the ophthalmoscope. Under the latter head there is a full and excellent account of the method of determining the refraction by the ophthalmoscope known as "retinoscopy," now much employed in England. A special chapter is devoted to a consideration of the motions of the pupil in health and disease, which is a concise and admirable discussion of a subject of great importance to the general practitioner as well as to the ophthalmologist. Under this head we find both irritation- and paralytic-myosis, and irritation- and paralytic-mydriasis. This is prefaced by a consideration of the size of the pupil in health, and of the action of mydriatics and myotics on the pupil. A new feature in ophthalmic literature is to be found in the insertion upon the inner side of the cover of a set of Holmgren's wool-tests for the detection of color-blindness. The book is extremely well printed with clean, sharp type on tinted paper, and the illustrations are excellent. As a specimen of the book-maker's art, it is admirable.

A Hand-book of Ophthalmic Science and Practice. By Henry E. Juler, F. R. C. S., Junior Ophthalmic Surgeon to St. Mary's Hospital, etc. With One Hundred and Twenty-five Illustrations. Philadelphia: Henry C. Lea's Son and Co., 1884. Pp. 467.

Of the making of books on ophthalmic science there seems to be no end; but very little fault will be found by any one

with Mr. Juler's contribution to the library of ophthalmological text-books. It is a handsomely printed volume of about four hundred and fifty pages, well illustrated by plain and colored drawings and numerous colored lithographs of the fundus of the eye in health and disease. Some of the plates representing pathological processes in the cornea, iris, and ciliary body are particularly good. The book consists of sixteen chapters, to the arrangement of which in their order of sequence some exception may be taken. There seems no very good reason why the crystalline lens, the vitreous humor, and glaucoma should be considered after the subject of color-vision and its defects, nor why the chapter on Diseases of the Orbit should be placed last. It is much to be regretted that in the chapter on Conjunctival Diseases the author does not clearly distinguish between membranous and diphtheritic conjunctivitis, instead of classing them under the same head. They are two distinct diseases, and should not by any means be confounded. It may be said that ophthalmic surgeons, at least on this side of the Atlantic, are almost unanimous upon this subject. Due prominence is given to Mr. Wolfe's operation by transportation of a flap without pedicle for correcting certain cases of ectropium, or lid defect. The chapters on the Visual Field, Color-vision, and Color-blindness, Anomalies of Refraction and Accommodation, and the Ophthalmoscope are good, but it is necessary to state that they are all written from the English standpoint, which differs in some respects decidedly from that prevailing in this country. The pathological work is mainly represented by the colored drawings, there being very little in the text. The importance of the ophthalmoscope as a means of measuring the refraction is well stated, and there is a very good description of the method known as retinoscopy, or the shadow test, which, however, can be employed only by the practiced expert. In the chapter on Diseases of the Muscles the author prefers Anderson Critchett's operation for advancement of a muscle.

Notes on Operations on the Eye. By Ram Kishen, L. M. S., Lahore, Assistant Surgeon. Lahore: Printed at the "Tribune" Press, 1884. Pp. 2–ii–78–iii.

This little duodecimo volume of about eighty pages is by a native of the Punjab, and, as the author says in the preface, is an attempt to draw attention to the practical points in connection with the principal operations in ophthalmic surgery. There are no illustrations, and the English is awkward and at times verging on the ludicrous. The operations are, however, sufficiently well described.

A Guide to the Diseases of Children. By James Frederick Goodhart, M. D., F. R. C. P., Assistant Physician to Guy's Hospital, and Lecturer on Pathology in its Medical School, etc. Revised and edited by Louis Starr, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania, etc. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. 738. [Price, cloth, $3; sheep, $4.]

The special design of this book, the author tells us in his preface, is to furnish to medical students a manual for ready use in this department. A careful examination of the book will convince any one of the fact that he has succeeded admirably. We predict that its use will not be limited to students, but that the practitioner will find it convenient, trustworthy, and extremely suggestive upon most of the practical questions which it discusses. It is pre-eminently a book written out of the author's personal experience. Every page bears witness to the fact that he has been a wide and careful observer. The book is written in a readable, forcible style, and the points are clearly stated. The author possesses the rare faculty of condensing minor details and bringing out salient points vividly. Being at the same time a teacher in pathology, he has not neglected that branch of his subject, although the size of the work has made it necessary to condense very much.

When there is so much to praise, it is not easy to say which parts of the book are the most valuable. The articles on whooping-cough, empyema, scarlatina, and diphtheria are especially good. The author holds that the last-mentioned is distinct from membranous croup, but states that this distinction must rest on clinical and not on histological grounds. His treatment of empyema is by early evacuation, preferably by incision, although he says other means may be tried in some cases. He reports twenty-six cases treated consecutively, with but a single death. We can not quite agree with him that there is no advantage in distinguishing between the two forms of acute pneumonia.

There are many minor matters in which the book might be improved, but its excellences are so many that they can be overlooked. On the whole, we consider the work one of the best of its kind that have appeared in a long time. It will undoubtedly demonstrate its right to existence.

The work of the American editor has been fairly done, but we should have been quite as well pleased with the book in its original form. He has avoided the error of too extensive additions. In the translation of the expressions of the British Pharmacopœia into those of the United States Pharmacopœia he has rendered a real service.

The Theory and Practice of Medicine. By Frederick T. Roberts, M. D., etc., Professor of Materia Medica and Therapeutics, and of Clinical Medicine, at University College, etc. With illustrations. Fifth American Edition. Philadelphia: P. Blakiston, Son & Co., 1884. Pp. 1008.

Dr. Roberts's book is sufficiently well known to need but little reference to it. This is the fifth edition—an evidence in itself of its favorable reception by the profession. It is the text-book used in many of the medical schools in this country.

Since the last edition the author has revised his work throughout, and has incorporated the results of discussions which have taken place since the appearance of the last edition in so far as they seemed of practical importance. He has paid special attention to diseases of the nervous system in this edition.

He discusses Koch's theories on the *Bacillus tuberculosis*, and gives a plate of illustrations of the bacillus. He does not commit himself to a positive opinion, but closes his discussion of this subject with the following significant remark: "It would be premature at present to come to any positive general conclusion on the subject; but there seems to be no doubt as to the possibility of tuberculosis being developed by infection from within and from without under certain circumstances." The discussion on the cholera bacillus had not taken place at the time this edition was issued. The author has here, as in previous editions, included skin diseases, which seems odd, at least to physicians in this country.

The work is an admirable one, and fully deserves the excellent reputation it has gained both as a text-book and as a safe and reliable book for the practitioner.

BOOKS AND PAMPHLETS RECEIVED.

Bacterial Pathology. A Series of Papers on the Exhibits at the Biological Laboratory of the Health Exhibition. Under the Charge of Watson Cheyne. Reprinted from the "Lancet." New York: The Industrial Publication Co., 1885. [Price, 25 *c.*]

Report of the New York Hospital Saturday and Sunday Collection of 1884.

Introductory. Fifth Annual Report of the [? New York] State Board of Health.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, JULY 11, 1885.

THE RUMP CONGRESS OF 1887.

It was scarcely to be expected that those eminent physicians of Philadelphia whose action in regard to the organization of the Ninth International Medical Congress we recorded last week would find themselves alone in the resolve to stand aloof from a gathering which, as is constantly growing more and more manifest, will be an international congress only in name. As will be seen by our news columns, Boston and Baltimore have promptly followed suit, and, like the Philadelphia resolutions, those passed in Boston and Baltimore are signed by men whose names are indissolubly connected with American medicine. Whether organized action of like significance will be taken in New York and elsewhere, it is impossible to say, but this much is certain, that some of the New York men whom the new committee of the American Medical Association placed among the officers of sections have no sympathy with the ostensible motives—far less with the real motives—which led a little band of malcontents to plot the destruction of the Washington meeting. Even if those gentlemen do not formally express their feelings in the matter, there can be no doubt that they will abstain from any participation in the Washington meeting.

It looks, indeed, very much as if the part of Hamlet would be left out at Washington in 1887, for our foreign colleagues will in all probability decide not to cross the Atlantic in any great numbers for the pleasure of meeting the rump of the American profession. And all this disgrace is the logical outcome of the false and artificial issues which for the past three years have enabled men in no way representative of the profession to masquerade as its leaders, through the medium of that degenerate and utterly ridiculous concern the American Medical Association. That organization long ago ceased to work for the benefit of the profession, and for a number of years past its annual meetings have been little more than scenes of the most shameless intrigue and demagogism. From the nature of its make-up, and from the character of the men who manipulate it year after year, the hope is exceedingly untenable that, within any reasonable period, this state of things will be mended. It has made itself as odious as any board of aldermen in the land, but, unfortunately, it is so intrenched in jugglery that to draw its fangs is almost as unpromising a task as that of uprooting municipal misgovernment. Difficult as this task is, however, its accomplishment is only a question of time, and it is even now evident that, for at least five years past, the association has owed its continued semblance of life to the force of the familiar politicians' plea that, whatever its shortcomings might be, it was, after all, the only organization of a national character that professed to be in any way representative of the whole profession. If its hangers-on think that its steady degradation is for ever to be condoned on the strength of this plea, we would point them to what lately happened to one of the great political parties of the country. The plea amounts to this, that anything which the American Medical Association chooses to do is better than no concerted action at all. How long this specious cry is likely to prove potent may be judged of from the fate which, in the history of the world, has uniformly overtaken organized villainy sooner or later, no matter what its seeming power, and no matter how white its hypocritical cloak.

The crowning act of infamy in the downward career of the American Medical Association has been achieved in the wrecking of the American meeting of the International Medical Congress, a meeting which, but a year before, it had seemed to be doing its best to make creditable and successful. Doubtless it may be said with truth that the action it took at New Orleans is not in consonance with the deliberate convictions of the great mass of its members, but that consideration is in fact a most telling arraignment of its methods of dealing, for an organization which fails year after year to bring out the real sentiments of its members falls conspicuously short of the aims it ostensibly has at heart.

That the wreck of the Congress of 1887 has not been irretrievably wrought we can now see no reason to hope. It is, of course, not to be supposed that the Congress will formally reconsider its acceptance of the invitation extended to it by the American profession, but the conclusion can scarcely be avoided, nevertheless, that the European members who would add luster to the gathering will individually make up their minds not to attend the meeting, and it will simply go by default.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 7, 1885:

DISEASES.	Week ending June 30.		Week ending July 7.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	13	4	13	4
Scarlet fever	29	7	35	5
Cerebro-spinal meningitis	1	1	4	4
Measles	100	25	56	12
Diphtheria	63	35	41	21
Small-pox	0	0	3	0

Yellow Fever.—A single case was reported to the New Orleans Board of Health by a physician last Saturday, and two inspectors confirmed his diagnosis. The patient was convalescent at the time, and we have no information of the spread of the disease.

Small-pox.—An Astoria physician encountered a case of small-pox at Hunter's Point last week, and at once notified the sanitary officials of Long Island City, who, however, seem to have been in no haste to adopt measures for the protection of the community. Early this week a case was discovered in New York, in the upper part of Fourth Avenue. The patient, a child, was removed to the Riverside Hospital.

The International Medical Congress and the Medical Profession of Boston.—At a meeting held in the Medical Library Building, in Boston, on July 2, 1885, the following resolutions were unanimously adopted:

Whereas, We had been led to believe that the authority to organize and control the Ninth International Medical Congress had been permanently delegated by the American Medical Association to its original committee, thus providing against any radical changes in its published programme; and

Whereas, The American Medical Association has revised the action and annulled appointments of that committee in a way which we regard as detrimental to the interests of the medical profession of Ameriea and fatal to the success of the Congress; therefore be it

Resolved, That we, the undersigned, members of the medical profession in Boston and vicinity, concerned in the organization of the Ninth International Medical Congress, decline to hold any office in said Congress as now organized.

Robert Amory,	R. H. Fitz,
G. M. Garland,	Thomas Dwight,
H. P. Bowditch,	C. J. Blake,
R. T. Edes,	J. C. Warren,
J. J. Putnam,	O. F. Wadsworth,
Francis Minot,	S. J. Mixter,
J. R. Chadwick,	F. I. Knight,
C. F. Folsom,	G. H. Lyman,
Hasket Derby,	Jacob L. Williams,
S. G. Webber,	H. W. Williams,
T. M. Rotch,	H. P. Walcott,
T. Fillebrown,	J. Orne Green,

E. Wigglesworth.

The International Medical Congress and the Medical Profession of Baltimore.—In consequence of the dissatisfaction caused by the recent action of the new Committee on the Organization of the Ninth International Medical Congress, the subjoined paper has been signed by those whose names are appended.

Whereas, The new Committee on the Organization of the Ninth International Medical Congress, at its recent meeting, held in Chicago, made such changes in the arrangements for the Congress as, in our opinion, will mar its success, and will prove injurious to the interests of the medical profession, it is therefore

Resolved, That we, the undersigned, disapprove of the action of the committee, and decline to accept the positions to which we have been appointed under it:

I. E. Atkinson,	Richard McSherry,
S. C. Chew,	F. T. Miles,
Julian J. Chisolm,	Alan P. Smith,
Christopher Johnston,	Samuel Theobald,
William Lee,	L. McLane Tiffany,
John N. Mackenzie,	H. P. C. Wilson.

The New York Post-Graduate Medical School and Hospital.—Dr. Horace T. Hanks has been elected professor of diseases of women, and Dr. Lewis S. Pilcher professor of clinical surgery.

The New York Polyclinic.—The "Journal of Comparative Medicine and Surgery" announces that the faculty of the Polyclinic, of which Dr. Frank S. Billings is a member, has consented to his teaching special classes of veterinarians in the pathological laboratory of the institution.

The Water Supply of Manhattan Beach having been made the subject of complaint, the local health officer, Dr. R. L. Van Kleek, has caused an examination of the water to be made, and reports that it is of good quality.

The New Hospital for Infectious Diseases, on North Brother Island, is nearly ready for occupation, and it is expected that the Riverside Hospital will soon be abandoned.

Cremation in Buffalo.—It is announced that a crematory is soon to be built near the cemetery in Buffalo, the incinerating apparatus for which is to be made in Milan, Italy.

The Glasgow Obstetrical and Gynæcological Society.—Our English exchanges announce the organization of a society with this title in Glasgow, with Professor Leishman for president.

The Royal Academy of Medicine, of Rome, according to the "Lancet," has admitted the British delegates to the recent International Sanitary Conference, Sir Guyer Hunter, Dr. Thorne Thorne, Sir Joseph Fayrer, and Dr. T. Lewis, as honorary fellows.

The Death of Dr. Joseph Estabrook, of Rockland, Me., took place last Sunday. The deceased was eighty-seven years of age, and is said to have been the oldest graduate of Williams College at the time of his death. He was an alumnus of the Harvard Medical School. Many years ago he was the demonstrator of anatomy in the Medical School of Maine, and had been president of the Maine Medical Association.

The Death of Dr. G. B. Soresina, the distinguished Italian syphilidologist, is announced in the "Gazzetta degli Ospitali." The deceased was eighty-three years of age.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 28, 1885, to July 3, 1885:*

Ainsworth, F. C., Captain and Assistant Surgeon. Relieved from duty at Headquarters Department of the Missouri. S. O. 93, Department of the Missouri, June 26, 1885.

Taylor, B. D., Captain and Assistant Surgeon. Assigned to duty at Little Rock Barracks, Arkansas. S. O. 139, Department of the East, July 1, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the two weeks ending July 4, 1885.*

Bransford, John F. Commissioned as surgeon on active list. June 16, 1885.

Ross, J. W., Surgeon. Detached from Naval Laboratory, and waiting orders. June 30, 1885.

Shafer, Joseph, Assistant Surgeon. For duty on board the U. S. Receiving Ship St. Louis, League Island, Pa. July 10, 1885.

Society Meetings for the Coming Week:

Monday, *July 13th:* Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *July 14th:* Medical Societies of the Counties of Clinton (Plattsburg), Jefferson (Watertown), Madison, Oneida (Utica), Ontario (Canandaigua), Rensselaer, Schuyler, Tioga (Owego), and Wayne, N. Y.; Norfolk District, Mass., Medical Society (Hyde Park).

Wednesday, *July 15th:* New Jersey Academy of Medicine (Newark).

Thursday, *July 16th:* New Bedford, Mass., Society for Medical Improvement (private).

Letters to the Editor.

THE MEDICAL PROFESSION IN CINCINNATI.

Cincinnati, *July 3, 1885.*

To the Editor of the New York Medical Journal:

Sir: In your issue of May 30, 1885, page 608, appears a "Letter from Cincinnati," upon which I ask permission to make comment. Some of its statements are unjust to the medical societies and profession of Cincinnati. For the sake of brevity, I condense some paragraphs from the letter and place them in relation without special regard to their order in the letter.

"About ten years ago Dr. Reamy, then a new comer, made the declaration in debate in the Academy to the effect that there *were members of the Academy, in otherwise good standing, who were guilty of criminal abortion.* . . .

"Dr. R. was a member of the faculty of the Medical College of Ohio; his immediate antagonists were of the faculty of the Miami Medical College. The third party, the Cincinnati College of Medicine and Surgery, kept its hands off and watched the fun." . . . The vote came. Dr. R. was vindicated. "The Miami people said, No man can maintain his self-respect and remain a member of the Academy. They resigned and organized the Cincinnati Medical Society." . . . The feelings then engendered have succeeded in keeping many people from both the Academy and the Cincinnati Medical Society, for in that way alone was it possible to maintain friendship with both factions. The result has been a dearth of good matter presented at both societies, . . . "the generally meager attendance at the meetings particularly of the Academy and the Cincinnati Medical Society." . . . "The fact is that either animosity or apathy interferes with the popularity of both these societies." . . .

Comment.—1. Dr. Reamy's charge was in these words: "For we must not shut our eyes to the fact, known to us all, that there are members of the medical profession, in otherwise good standing, who sometimes commit abortions." The Academy of Medicine was not mentioned by the speaker.

2. Neither the gentlemen who introduced the resolution arraigning Dr. R. for his utterances, nor either of the three gentlemen composing the committee on ethics conducting the prosecution, were members of, or in any way connected with, the faculty of the Miami Medical College, nor have they since been so connected.

3. One of the most active members of that committee was for some time an able lecturer in the Cincinnati College of Medicine and Surgery. And the present professor of surgery in this same college was one of Dr. R.'s most earnest supporters during the controversy referred to. And one of the spiciest letters of the many received by Dr. R. during that controversy was written by the father of your Cincinnati correspondent, who was at that time one of the oldest and most active members of the Cincinnati College of Medicine and Surgery.

4. Though a new society was organized, and though many of those who participated in its organization had recently resigned from the Academy, there were many, and are now many, who are members of both societies.

5. The membership of the Academy is as large as before the organization of the new society. The average attendance at stated meetings is as great, the papers read, cases reported, and discussions thereof are as able, interesting, and instructive as at any period in its history. An examination of its recorded proceedings will prove the truth of this assertion. Many of the papers and discussions will compare favorably with the work of any similar society in the country.

6. Though the attendance at the meetings of the Cincinnati Medical Society is not quite so large as that of the Academy, as the membership is not so large, yet the attendance is good, and their papers and discussions merit the same commendation as above given to the Academy. Both of the societies are popular. Of neither can it be said that "there has been a dearth of good matter presented."

7. There is no bitter feeling held against the other by either of these societies. Nor is there any hatred between individual members thereof. Nor between the faculties of the Medical College of Ohio and the Miami Medical College.

8. The statement that "the active participants in the old fight are gradually retiring from the field of active practice, and are, fortunately, quite unable to leave their hatreds as a heritage to the new generation," demands the following reply: Two or three of the participants in the old fight have died. Of those remaining, every one is in active practice, some of them doing six times more professional work now than then. As to hatreds, they have none. Personal and professional friendships prevail between the leaders on both sides. It is true the fight was "acrimonious," but, as no personal issues were involved—only misunderstandings as to the application intended by Dr. R. in his original statement made in the Academy—it was quite natural that, after all was over, friendship should be restored; and it was. All this occurred without an apology or explanation being made by the former antagonists in any instance. The absolute obliteration of ill-feeling which has for years existed may be considered exceptional, and is certainly commendable to all parties.

It is the testimony of those who know best, that friendship, harmony, and good feeling never prevailed more supremely in the medical profession of Cincinnati than at present.

The impressions sought to be made by the letter of your correspondent are therefore unwarrantable, and demand contradiction.

But what prompted him? His intelligence is well known; that he wrote in malice toward any is not at all probable. That he would write what he knew to be untrue I do not believe. What then?

Residing and practicing in another town, he can not attend the meetings of the societies in Cincinnati nor mingle with the profession, and has therefore been misled as to his facts.

Very respectfully,

Thad. A. Reamy.

Proceedings of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of May 27, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Epithelioma of the Tongue.—Dr. C. W. Knight presented a portion of the posterior part of the tongue, the seat of epithelioma, removed after ligation of the lingual artery.

Lipoma of the Back.—Dr. L. Waldstein presented the specimen, removed by Dr. Lange from a woman eighty-six years of age. The tumor was removed because of the presence of an ulcer of the skin which refused to heal. The specimen illustrated the fact that lipomas sometimes developed and did not become reduced in size in persons in whom there was marked emaciation.

Adeno-sarcoma of the Stomach.—Dr. Waldstein presented a second specimen of adeno-sarcoma of the stomach, of

the diffuse variety, located chiefly at the fundus and cardiac extremity. The patient, forty-six years of age, had suffered extremely during the last four months of life. There were large quantities of granular detritus from division of the nuclei which had sometimes been mistaken for micro-organisms. There had been marked jaundice, and a diagnosis of carcinoma of the liver was made, a tumor of the size of a pigeon's egg being mistaken for that disease. The autopsy showed the tumor to be the enlarged gall-bladder, the duct of which was partially obstructed by metastatic tumors of the lymphatic glands of the porta hepatis.

Diphtheritic Laryngitis.—Dr. Joseph E. Winters presented the lungs of a child nearly two years of age, which had died of exhaustion and asphyxia due to diphtheritic laryngitis. The disease had for some days been limited to the fauces, not involving the larynx for more than a week. When dyspnœa was present tracheotomy was proposed, but rejected by the father. The autopsy showed the presence of the exudate only for three fourths of an inch below the vocal bands. There were muco-pus and vascularization below that point. There was marked vascularization at the bases of the lungs, and in the anterior portion there was some degree of anæmia with unusual distension.

Dr. C. C. Lee asked Dr. Winters what had been his experience with Dr. O'Dwyer's laryngeal tube.

Dr. Winters said that, the tubes having been so generally discarded in France, he had not employed them.

Dr. Lee remarked that the tubes used in this city had arrested the progress of spasmodic disease and had saved lives where laryngotomy doubtless would have failed. He thought the tube might prove useful in cases of diphtheritic laryngitis by relieving dyspnœa when the parents would not consent to tracheotomy.

Dr. Northrup remarked that at the New York Foundling Asylum the tube had relieved urgent laryngeal symptoms almost immediately. He asked Dr. Winters whether in his experience the past season the false membrane had shown a strong tendency to extend downward into the bronchi.

Dr. Winters said that most of the cases which he had seen were consultation cases, and he thought that when treated early the membrane had not extended much below the larynx. He thought the tendency of the exudate to spread would be greater in institutions than in private practice.

Dr. H. J. Boldt said that, according to his experience during the past winter, the false membrane had shown a great tendency to extend below the larynx.

Dr. J. C. Peters had employed frequent irrigation of the throat and used bichloride of mercury in cases of false membrane upon the top of the larynx, and the patients recovered without extension of the membrane downward.

Pott's Disease; Necrosis of all the Principal Long Bones.—Dr. W. P. Watson, of Jersey City, presented the specimens, consisting of certain vertebræ, removed from the body of a child five years of age, which had died of pneumonia. The child had first developed a swelling over the right thigh, which was said to have entirely disappeared. Afterward there was curvature of the spine in the cervico-dorsal region, reaching a right angle, but at no time was there paralysis. Abscesses also developed over the thigh and both wrists, and exsection of a considerable portion of the right radius and of the right knee joint and lower portion of the femur was performed. At the autopsy there was found to be marked absorption of the fifth, sixth, and seventh cervical, and of the first and second dorsal, vertebræ. It was remarkable that but very little compression of the cord had taken place.

Frequent Recurrence of Pregnancy.—Dr. Watson also presented a fœtus of the sixth week which was aborted a few days after the repair of a bilateral laceration of the cervix uteri. The patient was an English woman of robust health, who had been pregnant seven times in six years, three being single and four twin pregnancies. Only two of the pregnancies went to full term. Menstruation had occurred less than a month before the cervix was repaired, and there was no reason to suspect pregnancy.

Multilocular Cystoma of the Right Ovary with Hydrosalpinx, and Cystic Degeneration of the Left Ovary with Simple Salpingitis.—Dr. R. W. Wilcox presented the specimens removed from a patient thirty-seven years of age, married, never pregnant. The enlargement of the abdomen had been observed for fifteen years, and during the last two years had been so great as to interfere considerably with locomotion. The patient was first seen by Dr. Wilcox in February last, when she was suffering from peritonitis pretty generally distributed, and from acute nephritis due to diuretics administered by her physician, who supposed her to be suffering from abdominal dropsy. There was no difficulty in making a diagnosis of tumor of the ovary. The nephritis subsided, and the peritonitis resulted in adhesions. Dr. Thomas performed ovariotomy. The larger tumor weighed a little more than forty-five pounds; the others were small. The tube was adherent to the tumor, elongated and atrophied, the uterine extremity occluded; there was distension with a clear yellow fluid. The left ovary had also undergone cystic degeneration, and the tube was adherent to it.

Thrombosis of the Left Coronary Artery; Interstitial Myocarditis and Dilatation of the Heart.—Dr. J. F. Ridlon presented the heart, very much enlarged, with thrombosis of the left coronary artery, of a man about fifty-five years of age, who had for some years suffered from dyspeptic symptoms with an interval of apparent good health extending over some months. About noon, April 30th, having been in his usual health, he felt distress in the stomach, and soon afterward became faint and vomited. He was seen by several physicians during the course of the afternoon and night, and at one time was supposed to be dead, but revived. The pain and restlessness were finally checked by a small hypodermic injection of Magendie's solution of morphine. The patient was able to walk to the fixed basin, which he insisted upon doing when compelled to vomit. At 7 A. M., May 1st, he seemed to be much better, but was found dead half an hour later. The most important lesions found post mortem were, as stated, thrombosis of the left coronary artery, completely obstructing its caliber, marked enlargement of the heart with dilatation, interstitial myocarditis, and fatty degeneration; there was also enlargement of the liver, spleen, and kidneys. The stomach appeared normal, but contained a few ounces of blood.

Intra-meningeal Hæmorrhage.—Dr. W. P. Northrup presented a microscopical slide, illustrating this condition. He also presented a

Section of a Lung embedded in Celloidin.—After finding that the ordinary processes were inadequate for the preparation of the entire lung for section, he placed the lung in a weak mixture of alcohol and water for some days, afterward in celloidin for a number of days, and finally again in alcohol. By this process he was enabled to make a complete section of the base of the lung. The section presented showed interstitial emphysema and in places pneumonic consolidation and infiltrated and dilated bronchi.

Multiple Abdominal Tumor.—Dr. C. C. Lee presented the specimen, removed from a quadroon, twenty-six years of age, of delicate frame, emaciated, who had observed an enlargement of the abdomen said by several physicians who had seen her not to be due to pregnancy. Dr. Lee diagnosticated tumor of

the ovary, although he had never seen a pure ovarian cyst in the negro race. At the operation the growth was found to involve the uterus, which was also removed. The tumor had probably begun as a fibro-cyst of the uterus which had undergone colloid and partial cystic degeneration. At one point were found a few hairs and a slight osseous formation. The patient had shown no bad symptoms since the operation.

Exsection of the Hip Joint.—Dr. L. H. Sayre presented the remains of the necrosed upper portion of the femur and detritus of the acetabulum removed by exsection in the case of a girl eight years of age, who had for some years suffered from hip disease. The trouble began with pain in the knee. Different forms of apparatus had been applied by physicians in Illinois, Missouri, and Kansas, and with varying degrees of success so far as relief from the symptoms was concerned. There was a phthisical history in the family, and this child was born prematurely between the seventh and eighth months. The operation of exsection was done by Dr. Sayre the present month, and the child was doing well.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of May 19, 1885.

The President, Dr. J. A. McCorkle, in the Chair;
Dr. Z. T. Emery, Secretary.

Cholera Asiatica and Cholera Nostras; their Diagnosis and Treatment, with Special Reference to the Bacillus.—Dr. Arnold Stub read a paper with this title. [See page 32.]

Dr. Chase remarked that the author had stated that raising water to a high temperature would destroy cholera bacilli. Would the cooking of fruit, particularly apples, have the same effect?

Dr. Stub replied that he thought it certainly would, provided that after the apples had been cooked they were not allowed to stand exposed.

Dr. L. Barkan said that, having been deputed by the Austro-Hungarian Government to treat cholera patients, he had had some experience with the disease. He had seen no benefit result from the use of opiates, but had had excellent success with sulphate of quinine. From a theoretical standpoint, he would oppose the use of hot baths, because the increase of temperature might be followed by a marked decrease, in accordance with Traube's theory.

Dr. W. H. Thayer remarked that the paper covered so much ground that he was neither able nor inclined to examine it critically throughout. One or two points, however, in the treatment of cholera appeared to him to be worthy of notice. He could not agree with Dr. Stub in his statement as to the effect of hot baths in the algid state of cholera. It was the experience of many physicians in several epidemics that the use of the hot bath was injurious and fatal to the patient. Dr. Parkes, an East Indian surgeon, who had published a very admirable report on cholera, after five years' experience in India, said patients to whom a warm bath was given invariably came out of it colder than when they went in, and the disease was more rapidly fatal than if the bath had not been given. The speaker was confident that this had been the experience of physicians in other parts of the world, and it had been his experience in the epidemics of 1849 and 1866. A similar statement was made in the report of the Boston Cholera Hospital, in which, in 1849, they treated two hundred and fifty patients. Cold water had not only been more grateful to the patient, but it had had no unpleasant effects. Another point he wished to speak of was the use of opium, which Dr. Stub had advocated. In the speaker's experience, and that of all others who had seen much of cholera, it had been found to be wholly inert after the establishment of the algid stage. It was universally employed in the management of the premonitory diarrhœa, and with great advantage; but it must not hence be inferred that it was applicable to the algid stage. It was possible that its inefficacy was due to the failure of the stomach to absorb it, and that administered hypodermically, as Dr. Stub had recommended, it would have a favorable effect—but that was hypothetical.

Dr. Stub replied that he had not mentioned opium in connection with any stages of the disease except as given hypodermically and in the algid stage, in combination with atropine. Opium internally would be of no use in any other form. With the exception of calomel, he would give no remedy by the mouth. As regarded the question of hot baths, he was not in the position to deny the statements of Dr. Thayer, in former epidemics, but he was of the opinion that, had he not given hot baths to the gentleman connected with the transatlantic steamship company, he would have died. The circulation was very low, and he could feel only the carotids. The radial pulse had ceased beating altogether. The baths instilled new life into him. The pulse became stronger, and he rallied. The speaker had not the least doubt that the experience at Boston, as mentioned by Dr. Thayer, was correct. He was aware and believed that different epidemics of cholera had different features. One epidemic could be managed by certain remedies, while another epidemic required different remedies. So it might be in the instances mentioned. He had had the same experience with yellow fever. In one epidemic a certain course of treatment would prove very efficient, but would fail, perhaps, in the next.

Dr. R. G. Eccles stated that in some late investigations into the literature of disinfectants he had come across an analysis of the results of treatment as compared with non-treatment in a number of cholera outbreaks. Of the patients under medical care, fifty per cent. survived, and, of those left entirely alone, fifty per cent. survived. Among the numerous remedies recommended, the best results had been reported as coming from aqueous solutions of glycerite of tannin, injected as far as possible up into the bowels. One French physician had reported extraordinary success in using this remedy. It was less likely to produce injury than any other. The tannin was decomposed into glucose in the system, so that its products were harmless. It was alleged for this remedy that it destroyed the comma bacilli wherever it came in contact with them, and, by reducing their numbers, necessarily reduced the quantity of poison to which the dangerous symptoms of the disease were due. If treatment had given no better results than non-treatment in the past, and this or any other remedy could save a larger percentage, it would be a blessing to the race. The reader of the paper had said he could see no reason for expecting benefit from inoculation in cholera, since the disease was primarily local. The speaker thought that on *a priori* grounds the experiments were not only justifiable, but commendatory. While the comma bacilli were probably primarily responsible for the disease, all the evil symptoms resulted from absorption into the blood of the ptomaines produced by the micro-organisms. Persons who survived an attack did so because they could resist the paralyzing effects of these toxic agents. Inoculation, perhaps, accustomed the system to these poisons, thus establishing a tolerance like that of the morphine and alcohol habits. Such tolerance might constitute immunity by giving the cells of the body an advantage over their foes, so that the germs could gain no *habitat*, and would fail to multiply. On the question of disinfectants he thought the essayist must have meant that chloride of calcium was almost useless, and not chloride of lime. The latest investigations had shown that good chloride of lime ranked next to corrosive sublimate, both in cheapness and in value as a disinfectant. For

some purposes it was superior to everything else. It not only destroyed the comma bacilli, but quickly and effectually rid us of the most persistent spores known. But it must be good, the tests of which were dryness and solubility in water. If moist, it had too much chloride of calcium; if insoluble, too much lime. Where corrosive sublimate failed, it must take its place. In the dejections of patients, and in sputa, where there was likely to be albumin, mercuric chloride was worse than useless. It coagulated the albumin, forming a protecting sheath, within which the germs were secure from harm. As to the connection between cholera asiatica and cholera nostras, he thought the weight of evidence pointed to their common origin. Continuity in disease would become pretty certain to such physicians as kept their mental eyes open. In scarlet fever it had been observed that exposure sometimes produced symptoms so mild that but few would be bold enough to make a diagnosis. So far as the comma bacillus itself was concerned, the part it played in the disease was not yet certain. A case had been reported of a regiment of soldiers being attacked by cholera in their barracks. After many deaths had occurred they were ordered to tent out a short distance away. They drank the same water, ate the same food, and attended to the same duties, but the mere change of a few perches arrested the outbreak. If their soiled linen, water, hands, or anything else likely to convey micro-organisms had been responsible for the disease, why did it cease on mere change of locality? If Koch was right, while it was advisable for us to disinfect sewers now, it would be a fatal policy to pursue during an epidemic of cholera. We should thus kill the *Bacterium termo*, the natural enemy of the comma bacillus, and give the latter a better chance to multiply.

Dr. Stub wished to mention that tannic acid as an injection had been mentioned by him in his paper as having been very efficient during the last epidemic in France, but he would object to the use of glycerin because it could do no possible good, and might do much harm, for it might deplete the mucous membrane, when our aim should be to add water to the system, and not to deplete the blood still more. He also thought that Dr. Eccles's objection to the bichloride as a disinfectant because it coagulated the albumin might be overcome by the fact that it would kill the bacilli before it coagulated the albumin, and besides, in the speaker's opinion, the bacilli were albuminoid bodies themselves.

(*To be concluded.*)

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of February 12, 1885.

The President, Dr. B. F. Westbrook, in the Chair;
Dr. A. H. P. Leuf, Secretary.

Necrosis of the Femur.—Dr. Justus E. Gregory presented a small sequestrum removed from the inner side of the middle third of the left femur at a point where the femoral artery lies nearest to the shaft of the bone. February 15, 1883, the patient, a man aged forty-six years, consulted him in reference to a carbuncle situated over the left shoulder blade, which was treated by deep incisions. On the 20th of April he complained of a swelling on the front of the left thigh in its upper two thirds, which proved to be an abscess. This was freely laid open and search made for diseased bone or periostitis, neither of which was discovered. After thorough irrigation with bichloride solution (1 to 2,000), large drainage-tubes were introduced and the wound was packed with bichloride gauze. It healed by granulation. In February, 1884, the speaker's attention was called to a sinus which had formed on the anterior surface of the thigh about its middle third and taken a course directly toward the femoral artery. From this sinus there was a slight discharge of pus, and, upon passing a probe, diseased bone was discovered. An operation for its removal was performed by Dr. Wackerhagen on February 5th. Esmarch's bandage having been applied, a large hand probe was introduced into the sinus and followed by incision up to the femoral artery. The opening was enlarged over the course of the vessel, and when the latter was reached it was separated from the bone by retractors, as it actually covered the cloaca. This was enlarged and several small sequestra were removed. The patient recovered, with a perfectly useful limb.

Dr. Kretzschmar desired to know how periostitis could be diagnosticated by simple incision of an abscess.

Dr. Wackerhagen said he had believed at the time that the abscess was due to bone disease, and if he was right it could be better ascertained by the opening of the cavity.

The President remarked that periosteal abscess of the femur was usually so deep that it was hard to find; the abscess in this case was superficial, and so out of the usual course.

Dr. Kretzschmar rejoined that he still failed to see how simply opening the cavity would enable one to make the diagnosis.

Dr. Wackerhagen replied that the abscess was diffuse and had to be opened to let out the pus, and he took advantage of that fact to probe for any of the bone that might be diseased.

Self-mutilation by Amputation of the Genitals.—Dr. H. D. Bliss gave the history of a case he had seen during the summer in the practice of his friend, Dr. J. H. Taylor, of Mount Holly, N. J. A farmer became affected mentally after the death of his wife. He grieved much at the loss of his wife, and, as the neighbors afterward said, acted somewhat queer at times, but continued his work as usual. One morning he was found with his scrotum and penis amputated. The reason, as he explained the next day, was that he had felt impelled to do it, for, as he had been the cause of his wife's death, he thought this would be a relief; so, taking a razor, he had taken the entire external genitals in the left hand, pulled them well out and up, and, with one cut of the razor, severed the entire organs. They were afterward found well connected together. He was not discovered for some time, and it was several hours before the medical attendant arrived. The hæmorrhage, which had not been very considerable, had nearly stopped, except a slight welling up around the urethra, probably from the dorsal arteries of the penis. This was slight, but continued troublesome for several days on account of the difficulty of securing the vessels which lay in close contact with the urethra. It could be stopped with *serre-fines*, but it would begin again every time a catheter was passed. It was finally stopped by applying compound tincture of benzoin. The cut with the razor had exposed the pyramidalis muscle and removed the skin over the pubes, making a wound that could scarcely be covered by the palm of the hand. It was at first intended to dress it with carbolized water, but the nurse allowed it to dry so often that a cloth dipped in carbolized oil was kept over the parts, and the man made a good recovery. The penis being put on the stretch at the time of the cut, the urethra retracted about three fourths of an inch below the surrounding tissue, and there was trouble in keeping it from closing. Catheters of various kinds were tried—silver, rubber, flexible, non-irritant, etc.—but all proved so irritating they had to be discontinued and some other means resorted to. On December 27th Dr. Taylor made a cut an inch and a half down the perinæum, dissected up the skin, and trimmed the tissue so that the integument could be stitched to the urethra. This was done, and all closed with silver wire, and in one week, as the doctor said, "he had a good working urethra."

Among the points of interest in the case were the recovery from the delirium, the speedy recovery of the patient, and the small amount of hæmorrhage from so vascular a structure.

The President related a similar case that had occurred in the Eastern District some years ago, in which the victim's paramour cut off his genitals with a razor, causing fatal hæmorrhage.

A Case of Hysterectomy for Cancer was then related by Dr. W. C. Burke, Jr., of South Norwalk, Conn. [It has already been published.]

Dr. A. H. P. Leuf remarked that he fully coincided with Dr. Burke in considering carcinoma at first local, and thought that thorough eradication of the disease *in loco*, with the extirpation of the first set of lymphatic glands and intermediate lymph-vessels in all cases, as an additional safeguard, would be followed by satisfactory results, if done in time. Many lives, he thought, were sacrificed because of a great lack of fearless and intelligent surgery.

Dr. R. G. Eccles desired to know if any embryologist was present to tell the society about the transition of embryonic cells into pathological cells.

Dr. C. N. D. Jones said that the case just brought before us was another one in favor of the operation.

The President remarked that many of these growths were at first local and benign, and afterward became malignant. This was especially true of the skin, for moles and other benign affections of the integument sometimes, and perhaps in the experience of many present, became malignant. A case had occurred in his experience about one year ago. The patient was a lady who had a "mother's mark" two inches below Poupart's ligament. He did not see it at the beginning, but believed it was a mole, and not a nævus. Subsequently, when she had been sewing with a machine, the irritation due to the friction of her clothing while at work was painful, and caused bleeding. When seen by him, the lesion looked like an excoriation, and it was not raised more above the general surface than was usual in moles. There was no perceptible involvement of the glands. He ordered an ointment. Six months later the patient returned with the sore much worse, painful, bleeding freely, and emitting a very offensive odor. He found a projecting mass about an inch and a half in diameter and fully half an inch high. It had the general appearance of a malignant growth. He removed the whole mass at St. Mary's Hospital. Everything was extirpated down to the cribriform fascia, and the fascia lata scraped for several inches around the original sore. Several affected glands were removed at the same time. A few days later one of the Sisters at the hospital called his attention to a lump over the patient's iliac crest. There seemed to be no connection between this lump and the wound. Two weeks later these nodules developed over the whole body, and a few months after the operation she died in horrible agony. It was hard to account for the malignancy of this case by the accepted views of cancer genesis. Paget's case of cancer at the outer side of the thigh was referred to. The same was true of the female breast. It was notoriously difficult to differentiate between benign and malignant growths. As regarded Dr. Eccles's question, he would say that it had been, and by many was still, maintained that all cancerous growths were developed from the cells of the intermediate layer of the embryo. Cohnheim had asserted that all cancers were congenital. The whole being was abnormal from the onset, and only required an irritation to start the malignant processes. The outer and inner layers of the embryo had between them undeveloped cells, which, by subsequent irritation, became developed into malignant structures. Thus we met with most of these formations in the uterus, gullet, etc. Cohnheim's views were opposed to those of Dr. Burke and others. These latter gentlemen make it local, while the former would have it general.

Dr. Eccles wished to know if Cohnheim's views could not be reconciled with those of the other gentlemen by supposing the irritation to extend after the local disease had existed for a sufficient length of time.

The President replied that Cohnheim supposed that some of the cells in many people had not properly developed, and that it was at such places that cancer began.

Dr. Eccles reiterated the question, whether these cells passed through several stages or at once became cancerous.

The President replied that in embryonic life they became differentiated by a comparatively immediate transition.

Dr. Andrew Otterson had seen a bad case of "cancer" which, after excision, turned out not to be cancer. It was not always easy to make a diagnosis, and more especially a prognosis. Of about twelve patients upon whom he had operated, only two had survived for five years. In one the tumor had been said to be certainly very malignant and in the other doubtful. A former librarian of the Brooklyn Library, fifty years of age, was on a step-ladder, and, while reaching up, fell and struck his breast. It troubled him a good deal. He was under the care of a good surgeon, and was advised to have a resulting lump cut out. Some told him not to have it done. Eventually the speaker cut it out. It came back again in the cicatrix within a year, also involving some of the neighboring parts. No glands appeared to be affected. It was again excised, and again returned in two years and involved the body generally, but more especially the spinal cord and other parts of the nervous system, as shown by post-mortem examination. Another case was that of an old woman in Fulton Market. A boy struck her in the breast with a stone. The resulting nodule remained for years. At last it began to suppurate, and all the neighboring glands were involved. Yet another case was that of a janitor with a nodule of the size of a walnut on the shin from a fall off a step-ladder. It became a suppurating and bleeding sore. The stench was as bad as it could possibly be. The part was very painful. The speaker removed the whole mass with a ligature, and there never had been any return. The man lived for many years, and died of a totally different trouble. He had been sure that this was a case of malignant disease. He believed every practitioner could relate similar cases. As to the indiscriminate removal of all nodules, he thought it impracticable because of the objections on the part of patients.

Dr. Burke said that, as to the justifiability of hysterectomy, he was sure that a large proportion of patients would be saved if surgically treated before it was too late. He had seen an operation two days after his, but the case was so far gone that the patient did not live. There was no peritonitis, but death was due to asthenia. In such advanced cases the operation was not justifiable, but it was if done early and when the disease is local. He thought the operation would become more popular.

Comminuted and Depressed Fracture of the Skull; Trephining; Fungus of the Dura Mater; Recovery.—Dr. Burke then read a paper with this title. [See page 36.]

Dr. R. G. Eccles asked if there had been other psychological effects noticed than those that had been mentioned, for the piece of bone driven into the brain must have entered at about the speech center.

Dr. Burke replied that there had been no such symptoms.

Dr. Eccles: "Has he lost any words?"

Dr. Burke: "No."

Dr. A. Ross Matheson related a case. A piece of frontal and temporal bone about an inch and a half in diameter was driven into the brain by a horse's kick. Fissuring extended

completely across the frontal bone. The upper fragment overlapped the lower fragment. Considerable brain-substance was lost. The case was also seen by Dr. Daniel Ayres, Dr. George K. Smith, and Dr. H. Messenger Ayres. Those parts of the bone that had been driven into the brain were removed. Dr. Smith desired to correct the position of the overlapping fragments, but, Dr. Ayres and the speaker objecting, they remained. There was complete paralysis. Two weeks later a fungus duræ matris developed. It grew as large as the one in Dr. Burke's case. He could not get rid of it by shaving it off a number of times. At last it was sprinkled with sulphate of copper, and a rubber compress was applied. Then it soon healed. At present the patient was well and was an operator in a stock office in Wall Street, New York. The overlapping in the frontal region no longer existed, and in its place could be seen a line of pulsation, half an inch wide, extending all the way across the forehead. He continued a little aphasic for about six weeks after getting up. Now, however, he had no physical or mental symptoms whatever.

Dr. Eccles called attention to the fact that, according to phrenologists, the patient ought to have lost the sense of attention after losing so much cerebral substance from such a locality.

Dr. Matheson stated that the loss of brain substance had amounted to two or three ounces.

Dr. Joseph H. Hunt desired to know if the opening in the skull in Dr. Burke's case had been filled in by new bone.

Dr. Burke replied that it had not, and that at present it was only covered with membrane and skin. During quiescence the skin was sunken in, but when the patient became excited it bulged out.

Dr. Hunt said he had been unusually interested, as he had had a similar case some years ago. The skull was fractured at the vertex and the fragment depressed about an inch. It was removed by Dr. Jarvis S. Wight. The boy was quite well now. There was no fungus duræ matris. The scar looked almost like a fontanelle.

Dr. Leuf remarked that he had seen Dr. Hunt's patient not very long ago and had taken occasion to make some inquiries. He was now a vigorous, healthy, and active young man, engaged in rather hard work. Since the recovery from the injury he had become irascible and rather quick-tempered, qualities diametrically opposed to those he had exhibited previous to the receipt of the injury. The opening was now quite small and triangular in outline. Pressure upon this opening caused the patient to experience a sickish sensation, and, if it was increased, he felt a gradual onset of insensibility. Further than this, he was afraid to have the experiment tried.*

The President remarked that in Dr. Burke's case the motor regions had been involved according to Ferrier and Rolando. Brown-Séquard held that, if one side was injured and its functions were abolished, the other side would assume them in addition to its own. Dr. Burke's case seemed to be a demonstration of the latter view.

Dr. Burke replied that the case had struck him as being so unusual that he had closely observed it from the beginning, but could not say that he had noticed anything in addition to what had already been stated.

Dr. Otterson mentioned a case that he had had in which the brain oozed away for years. Afterward the patient became a conductor on a railway car. His intellect was not in the least impaired. He had never had any unpleasant symptoms of any kind.

* *Note by Dr. Leuf.*—Because of the interest attached to this case, I would mention another fact. Since the meeting of the society the opportunity presented itself to me to sail in a yacht (less than ten days previous to this writing), which was solely managed by Dr. Hunt's former patient. It was done with skill, after a whole morning and early afternoon's hard work of rigging up for the first trip of the season. The sail was such that it required no ordinary amount of skill, care, and ingenuity to get along without mishaps, of which latter we had no experience whatever. This in addition to the above-noted facts connected with the after-effects of loss of brain-substance.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of June 4, 1885.

(*Continued from page 24.*)

Gestation in a Sarcomatous Uterus simulating Extra-uterine Pregnancy. — Dr. Bernardy related the following case: On the 3d of October, 1884, he was requested to visit Mrs. McG., a delicate woman, about thirty years old, whom he found suffering with double pneumonia. At the same time he was told that she was five months pregnant. The abdomen was rather large for that period. On the 5th she complained of a sharp pain in the right inguinal region, which required large doses of morphine before any relief was obtained. He found the right inguinal region filled by an immense growth reaching almost to the lower border of the liver. The uterus, or what appeared to be the uterus, was enlarged and pushed well toward the left side. The right side of the pelvis was filled by a growth. At first he thought he detected fluctuation, but closer examination showed the growth to be hard to the touch. The uterus was immovable, the neck being somewhat absorbed and the os tilted up behind the pubes. To reach it, the finger had to be passed well upward; it was closed and soft. The patient had never had any uterine trouble. The menses had never appeared after her marriage, which occurred one week after a period. Her health remained good for three months after marriage, when, while out walking, she was suddenly seized with a sharp lancinating pain in the right side of the abdomen. The pain was so great that she almost fainted, but finally reached home and went to bed. No physician was called in. The next day there were slight traces of blood on her night-dress. Under absolute rest the pain subsided, and at the end of a week she was about her household duties. The pain in the side returned if she exerted herself. Sexual intercourse was painful and was followed by traces of blood the next day. Believing that the symptoms pointed to either extra-uterine pregnancy or a tumor complicating pregnancy, he asked Dr. Goodell to meet him. By the time the consultation was held, on the 8th, a severe attack of peritonitis had begun. A close examination was therefore impossible. On account of the distended and painful condition of the abdomen, the outline of the growth or uterus could not be traced. It was decided that the symptoms and history pointed to extra-uterine pregnancy, but, whether the uterus contained a tumor or a child, in the present condition of the patient it was impossible to decide. By the 16th the peritonitis was under control, but the lungs were no better. On the 19th he was sent for, the messenger stating that there was a renewal of the peritonitis. He found the patient in active labor, the fœtus descending rapidly. In half an hour labor was completed. He readily detected the large growth filling the upper portion of the right side of the pelvis; the uterus was surrounded by a hard growth. The cervix was hard. From this time the lungs improved, but the patient remained extremely weak and there was a constant dribbling of blood from the vagina. November 3d, the growth was still present and the cervix hard, and he began to think of malignant disease in connection with the tumor. He had applied to the abdomen, night and morning, an ointment of mercurial ointment, belladonna, and iodine, which seemingly had

the effect of causing the absorption of the large growth, but the mass surrounding the uterus remained the same. On the 27th vomiting occurred and was arrested with difficulty; there was a bloody discharge from the vagina and a constant sore feeling over the region of the uterus, which was still toward the left side. The patient was extremely weak; the slightest exertion exhausted her and brought on bleeding from the uterus. December 26th he found her suffering from pleurisy, the left pleural cavity being full of fluid. January 1st abdominal dropsy had set in. A consultation with Dr. Goodell was held, and a positive diagnosis of malignant disease was made. It was thought that death might occur at any moment, and she died suddenly the same evening.

The post-mortem examination, by Dr. E. A. Russell, showed the entire abdominal cavity greatly distended with a dark fluid full of broken-down lymph. The intestines were forced upward. There were slight evidences of beginning peritonitis. A portion of the ileum on the right side presented a black, unhealthy appearance bordering on gangrene. The uterus was increased in size. The outer surface presented an irregular mottled appearance, and large veins covered its surface. At the fundus there appeared a spot, about one inch in diameter, of a bluish tinge. On pressure by the finger the surface readily broke, and underneath was a cavity, of about the size of a large hickory-nut, which did not communicate with the interior of the uterus. The cavity of the uterus was found to be almost obliterated; the tumor seemed to have entirely absorbed the true uterine tissue with the exception of the neck. In the body of the tumor were observed small masses or growths varying in size up to that of an egg. The ovaries were small and seemed to have participated in the general disease. Microscopic examination proved the tumor to be an adeno-sarcoma.

At first the speaker had been convinced that he had a case of extra-uterine pregnancy; but the peculiar hardness of the tumor made him doubtful. Here was a patient that had never had any uterine ailment, who married, became pregnant, at the end of the third month, without any premonition; while quietly walking, was seized with pain of an excruciating nature in the right side, went to bed and remained quiet, and the next day blood flowed from the vagina. She remained comparatively well for two months and a half more, when she was again suddenly seized with pain in the same side, followed by peritonitis. A tumor was found in the affected side; the uterus was enlarged, but not sufficiently so for a five and a half months' pregnancy, the os giving no signs of that softening which should accompany pregnancy. Could we have a group of symptoms more allied to those of extra-uterine pregnancy?

Infant Feeding.—Dr. J. M. Keating said that, at his request, Dr. Charles Potts had instituted a series of experiments which had a decided practical value, and they hoped to present them to the society at an early date. He desired to place on record a statement of the results so far reached, which appeared to be interesting and important. The question often arose, Was it of advantage or not for an infant to be partly nursed and partly bottle-fed? What action had milk upon starch, if any? To answer this the following tests were made: 1. A sample of milk composed of the milk of several women, contained, according to a quantitative estimation by Fehling's method, 6·84 per cent. of sugar. Ten c. cm. of this milk were then taken, ½ gramme of powdered starch was added, and the mixture was allowed to stand at a temperature of 99° F. for thirty minutes, after which 5 c. cm. diluted with 45 c. cm. of distilled water, were tested and showed 8·62 per cent. of sugar. The other 5 c. cm., after standing sixty minutes, gave 9·09 per cent. 2. Another sample, found to contain 7·14 per cent. of sugar, had ½ gramme of powdered starch added as in No. 1. In thirty minutes it gave 9·803 per cent. of sugar in 5 c. cm. The other 5 c. cm., after remaining sixty minutes, gave 8·62 per cent. Possibly part of the sugar deposited was drawn off with the first 5 c. cm. 3. Another sample showed 6·32 per cent. of sugar, and, after the addition of starch as before, gave in the first 5 c. cm. 8·19 per cent., and in the next 5 c. cm. 7·93 per cent. These investigations showed that the women's milk gave an increase of sugar after digesting with starch. 4. A sample of cow's milk was tested and found to contain 3·87 per cent. of sugar. To this was added ½ gramme of starch to 10 c. cm. At the end of thirty minutes 5 c. cm., diluted with 45 c. cm. of distilled water, showed no increase of sugar. 5. A sample of cow's milk gave 4 per cent. of sugar, and was treated as before, but at the end of thirty minutes, and then sixty minutes, it gave the same result. 6. Another sample of cow's milk gave 3·703 per cent. of sugar. It was treated as before, with the same amount of starch. In thirty minutes 5 c. cm. gave the same result; in sixty minutes 5 c. cm. gave the same result. These investigations showed that cow's milk gave no increase of sugar after the addition of starch. Did the acidity of cow's milk prevent the sugar change? Did the sugar change continue in an acid medium? 7. Another sample of human milk—from one woman—yielded 6·25 per cent. of sugar. Starch was added as before. In thirty minutes 5 c. cm. gave 7·14, and in sixty minutes 5 c. cm. gave 7·6 per cent. of sugar. To 10 c. cm. of this milk (containing 6·25 per cent. of sugar) a few drops of dilute hydrochloric acid, enough to faintly acidulate it, were added, and then ½ gramme of starch, and it was allowed to stand as before. In thirty minutes 5 c. cm. gave 6·41 per cent., and in sixty minutes 5 c. cm. gave 7·35 per cent. of sugar. 8. Another sample of woman's milk without starch gave 6·17 per cent., with starch 7·24 per cent. Ten c. cm. of the same, acidulated with hydrochloric acid, diluted, gave in thirty minutes 7·35 per cent. In these tests 10 c. cm. of Fehling's solution were used with 40 c. cm. of distilled water. If future investigations proved the correctness of these statements, we might safely assert that the nursing woman might advantageously supplement her breast milk with some well-prepared digestible form of food containing a small quantity of starch, and also that the amylolytic ferment would remain active in the slightly acid stomach of the infant.

The Surgical Treatment of Infants.—By invitation, Dr. DeForrest Willard read the following paper:

Your committee having invited me to speak to you to-night upon the surgical treatment of infants, I purpose to confine my remarks chiefly to personal experiences in the means of relieving the principal surgical difficulties which are met with during the first two years of life. If the subject shall occasionally lead me to mention older children, it will be because the line between infancy and childhood is not a marked and well-defined one. As you are all active practitioners also, it will be unnecessary for me to dwell upon detail, and I shall only touch upon practical points in treatment.

The surgery of childhood, as compared with that of adult life, is, aside even from congenital defects, sufficiently marked and distinctive to entitle it to separate consideration. First of all must the children's surgeon acquaint himself with the anatomy of the child. This is rarely done, as the ordinary adult dissections during a college course give little idea of the size and position of the individual elements as seen in the infant. In consequence of ignorance upon this practical point many grievous failures have occurred. After unusually large opportunities for the study of both normal and abnormal tissues in the diminutive frame, I am still frequently surprised to note the exceeding smallness of different organs and canals.

Another essential element in the surgeon is tact in the management of the little ones, especially when dealing with those

between the ages of two and ten. In hospital cases but little history is attainable, and much depends upon quick perception. Naturally fearful of pain, the patient's mind must be diverted and engaged, or great difficulties in diagnosis will often occur from the fright and struggling. The operator not in sympathy with children can never secure their confidence. Much will often be gained by quiet observation. It is not a month since my opinion, which at the first few moments of the consultation had been favorable to tracheotomy, was changed by five minutes' close watching, and the result proved the correctness of the procedure. To the person, however, who will carefully study individuality as well as disease, no department of medicine offers so pleasant a return for his labors. My personal experience with children has perhaps made me more hopeful in regard to the power of such individuals to endure pain, shock, and disease, than would be indicated by the expressions of other authors, but to me there is no domain of surgery so attractive and gratifying as the treatment of children below the age of puberty. Their natural condition is that of hopefulness, and, as soon as the depressing influence of shock, pain, or fear is removed, the normal resiliency of mind and body asserts itself with such rapidity that the results are often surprising.

Again, a child has only inherited taints of constitution to contend against; his viscera are ordinarily in a healthy condition; an adult has not only hereditary but all the acquired vices occasioned by misuse or abuse of any organ or sets of organs, a circumstance which often turns the scale in the struggle between life and death. Take, for example, the single instance of the outraging of tissues by either the moderate or the excessive use of alcohol, and every surgeon will testify that even slight wounds may, in such an individual, quickly develop a fatal attack of *mania a potu*. Tetanus is not more frequent in infants than in adults, notwithstanding the tendency of the former to nerve excitability.

In regard to anæsthetics, my experience is that great benefit is obtained by the use of ether when pain can thereby be prevented. In the first weeks of existence I admit that a feeble vitality would contra-indicate its use, although I have successfully administered it to an infant three days old. After the first or second month, I see no reason why we should needlessly inflict pain upon an infant simply because we can control it by brute force. In the examination of fractures great suffering is often inflicted by careless and frequent manipulation, and, unless the diagnosis is easy and positive, unconsciousness should be produced. No case of bone injury should ever be passed by undiagnosticated when ether will solve the question. In the opening of abscesses the "primary quieting influence" of ether is so readily obtained that it should be brought into use whenever practicable, as keenness of pain can thereby be avoided.

Fear plays an important part, and may depress the child's system even more than pain; hence great caution should be observed that all knowledge of any operative procedure should be guarded against. When the day for action arrives, let the surgeon quietly and gently state to the little one, if it has arrived at years of reason, just what it is proposed to do, at the same time assuring him that no pain will be experienced, and, if such words are followed by firm, speedy, and judicious management, much agitation and fear will be avoided. All preparations should be made out of sight and hearing of the patient, and instruments need never be seen by him, except when a strong impression is intended to be made upon the mind of a masturbating boy requiring circumcision, in which case ether may also be omitted.

One word in regard to the method of anæsthetization. It is but natural that a child should be distrustful of any attempt to deprive him of consciousness, a fear which is greatly increased by the injudicious and greatly-to-be-condemned habit of many parents, who systematically threaten their offspring with the expression, "The doctor will come and cut your head off." A few kind words will often quiet the agitation, and simple directions as to the method of breathing will save many minutes of struggling resistance. With very young children, the first smell of ether may be masked by permitting them to see cologne poured upon the towel, after which ether may be quietly added, and they will feel that it is a perfume that they are breathing. This device has frequently served me a good purpose. I always allow a good admixture of fresh air for the first moment, but, when the child actually begins to cry, then quick action answers best. The towel should now be well saturated and held firmly over nose and mouth until two or three strong screams and inhalations yield a full primary impression, which can be gradually followed up to complete anæsthesia with safety.

Should any symptoms of ether narcosis occur, it is so easy to depress the head of a child, or to perform artificial respiration by acting upon the ribs, that serious accidents are infrequent. Subsequent vomiting is very common but is not persistent, and is easily quieted by a small hypodermic of morphine, a procedure which ordinarily brings quiet sleep to the patient. If the child is feeble, I always allow milk up to within two or three hours of the operation, and then administer wine or whisky in water immediately before giving the anæsthetic. Milk with lime-water and whisky is usually retained within ten minutes after the first vomiting on rousing. In tedious excisions, not only should preliminary precautions be taken to secure against prostration by shock, but hot-water bags should be ready for use, which, with hypodermics of brandy, may succeed in tiding over a temporary depression which would otherwise end in death. When the loss of blood has been great, especially in acute surgery, important assistance may be gained by transfusion, either of blood or of a warm saline solution.

Under the head of arrest of hæmorrhage I would strongly advocate the use of animal ligatures, since the pain often incident upon the removal of threads greatly disturbs the needed quietude of wound and mind.

Thorough asepsis and antisepsis are especially valuable since we not only secure the admirable results that are attainable by their use, but are also enabled to disturb the child with far less frequency. I am now treating a girl with a railroad crush of the leg which would thoroughly have justified amputation, yet which, under corrosive-sublimate dressings, has been touched but six times in as many weeks, even though extensive sloughing has occurred. Save upon one occasion, at the height of the process of tissue-death, the applications have been taken away perfectly sweet, and the child has the promise of a reasonably good limb. In my *septic* days I certainly was never able to carry a patient through such a process and keep the temperature, as has been done in this case, below 99·5° F. all the time, and usually but slightly above 98°. With infrequent dressings, the irritation of the child is but slight, and, if pain is also absent, contentment is the rule, under proper nursing.

I can not too strongly emphasize the importance of this latter condition. A kind, quiet, gentle nurse is one of the most valuable assistants in the real progress of the case, especially during the first week following an operation. Such care can not be delegated to untrained and careless people, hence it is absolutely necessary that children should be in separate hospitals, or in separate wards, under the best of care-takers. Even in private practice the mother is rarely the best nurse for a child past two or three years of age, and a skilled attendant answers best. In hospital practice I have often been surprised

to see how contented and patient the majority of children of even three years of age will become if the mother maintains a judicious absence and the nurse is efficient and kind.

Another point which I wish most emphatically to emphasize to-night is the fact that congenital defects are most inexcusably and persistently neglected by even good practitioners, under the mistaken opinion either that nothing can be done, or that a later period will be early enough. The consequence is that many unfortunates become helpless and hopeless cripples by their physicians' advice, since, passing out of his sight and mind, the neglect engendered by his direction, "wait," is fostered by parents, ever ready to postpone a dreaded day.

Turning to some of the special surgical diseases of infants, I would say that it is my intention to simply touch upon a few points of treatment without regard to definite arrangement or order, since to consider almost any one of the conditions in full would require an entire evening's discussion.

In a new-born child the first most probable trouble requiring surgical relief will be *imperforate anus* or *rectum*. Such a condition is not improbable when we remember that the intestine is formed as a closed tube. If the malformation is simply one of occlusion of the anus by a membrane, it would seem to be the easiest of procedures for any practitioner to make an opening, yet I have seen children permitted to die with the entire ischio-rectal fossa and perinæum bulging with retained fæces, when a simple puncture through a membrane closing an otherwise normal anus would have given immediate relief. This timidity may perhaps be explained by the fact that occluded anus and imperforate anus are confounded with imperforate rectum and the case is given up as hopeless. In imperforate anus the operation is still a simple one, since a crucial incision, together with stitching of the mucous membrane to the skin and subsequent dilatation with the finger or probe, is all that is required.

When the anus is normal and patulous, but the rectum is occluded by a membrane, or is actually absent, a much more serious condition presents itself, the difficulty increasing in proportion to the extent of the deficiency. Should no meconium be passed within the first twenty-four hours, a careful search should be instituted. The little finger or a catheter passed into the anus will detect the obstruction, or, if the anus is absent, the vagina, if present, may be explored for abnormal fistulæ. As soon as the presence of fæces can be discovered in the fossa, a careful dissection should be made, keeping well backward, so as to avoid the vagina, or the urethra and bladder. A catheter should always mark the position of the urethra. There is but little danger, even in deep incisions, if the region of the coccyx and sacrum is followed. The gut found, it should be drawn down as far as possible and secured, a channel being maintained through the lower rectal region, if necessary, by the finger or by bougies, the latter of which should not, however, be retained constantly in position. There is much less danger from subsequent hæmorrhage if the external incision is free, and no fear need be entertained about the ultimate retention of fæces, as, if the child escapes peritonitis and other inflammations, good control of the bowel is always secured; in fact, the chief subsequent danger lies in the formation of stricture. When the length of the bowel will not permit it to reach to the site of the anus, the new opening may be made nearer to the sacrum. Should no trace of the rectum be found within two inches of the anus, it is unsafe to further explore a region where the peritonæum would be liable to injury; either left inguinal or left lumbar colotomy should be performed. The right groin is to be selected if there are evidences of absence of the sigmoid flexure. The left inguinal position gives a better subsequent opportunity of passing a bougie downward into the rectum and thus establishing a proper anus. If the colon is full, it will not be difficult to find. In cases of doubt, its distension by air or water through a hypodermic needle would determine its termination. Abnormal openings into the vagina, bladder, or urethra rarely require early operation, but, in non-retention of fæces at a later age, Rizzoli's plan of procedure is a good one.

Later in childhood, the surgeon is often compelled to treat another condition of the rectum, namely, prolapse. This, if excessive and non-yielding to replacement, astringent applications, hot water bathings, and general constitutional measures, must be cured by the production of linear eschars by nitric acid.

The genito-urinary organs may also require attention immediately after birth. A simple occluded urethra is easily relieved by the careful introduction of a sound or catheter. *Epispadias*, *hypospadias*, and *exstrophy of the bladder* should not be allowed to go on to adult life without relief. As soon as the child has passed its dentition period, a plastic operation should be attempted for relief, since the mental and moral effect of such a deformity has often a marked influence upon the lives of the unfortunates. *Adhesion of the vulva or nymphæ* should not be overlooked, since not only does the nervous system suffer, but the parts may be improperly developed. Separation can almost always be accomplished by the finger or by a probe. An absolutely *imperforate hymen* should never be allowed to exist if discovered, since, if permitted to impede the menstrual flow, at a later period, serious and even fatal results may follow its division, if the uterus and Fallopian tubes have become dilated by the imprisoned secretion. *Imperforate vagina* should receive at least careful diagnostic attention to detect the presence of a uterus, and, if this is not absent, fuller development will be secured if the passage can be opened during the first few years of life. With a catheter in the urethra and a finger in the rectum, a careful operator can explore safely. I have met with several cases in which the *penis* was preternaturally *short* and ill formed, the body of the organ, during flaccidity, being almost entirely concealed in the fatty tissues of the pubes. In such instances I have removed the prepuce during the first three months of life, and have cut away all restricting bands of skin and connective tissue, sometimes even drawing beneath the penis an extra flap of skin when the corpus spongiosum has been short and dwarfed. By such means the fullest amount of growth is encouraged.

Adherent and *contracted prepuce*, or *phimosis*, has been the subject of much discussion in regard to its causal influence upon certain nervous manifestations. My views upon this subject have been already published,* and, after two years of additional experience, during which time I have been brought daily in contact with this class of cases, I can reiterate what I then stated, namely, that, while more or less adhesion is an almost constant and normal condition, yet, when urinary, choreic, paretic, or any other nervous symptoms develop, a careful investigation should never be omitted, since a direct relation will in a certain number of cases be clearly evidenced, and removal of the cause will speedily cure the manifestation. The fact that even circumcision does not relieve the symptoms is undoubtedly true in many instances, and I have never maintained that preputial adhesion and narrowing was anything more than one of several factors which should be carefully scrutinized. I have only urged that its influence should not be overlooked, and, when so simple an operation as stripping the prepuce from the glans by the thumbs, or possibly by the use of a probe, is all-sufficient, there can certainly be no argument against removing this one factor. My opinion in regard to the feasibility of

* "Philadelphia Medical Times," June 30, 1883.

drawing back the prepuce in young children, even when the opening seems scarcely pin-hole in diameter, has been greatly strengthened, and circumcision is only necessary when the simpler method described fails to secure a prepuce freely movable over a normal glans. Dilatation even is but rarely required, a few minutes of continuous pressure soon revealing the mucous layer, adherent perhaps just about the meatus, which, when loosened, permits the head to pass through the opening, and the corona is freed with the thumbs. Should temporary paraphimosis occur, two probes or a hair-pin slipped beneath the constriction will easily permit replacement.

(*To be concluded.*)

Miscellany.

The American Medical Association and the International Medical Congress.—"The meeting of the American Medical Association, held at New Orleans during the past month," says the "Kansas City Medical Record," in its June issue, "did not prove to be as much of a success as was anticipated. We presume this may be accounted for on the ground of the location, the country in the vicinity of New Orleans being sparsely occupied by physicians, and the territory well occupied by the profession being at a great distance, rendering it a tedious journey at a great sacrifice of time. Hence the attendance from our large Eastern and Northern cities was very light.

"There were about five hundred physicians present, mostly from the South and West. The papers read, both in general session and sections, were quite practical as a rule, and full of interest, and received a pretty thorough discussion.

"Many of the leading representative men who usually attend the meetings being absent detracted from the general interest, and prevented the meeting reaching the average standard of American Medical Association meetings. . . .

"The second day of the meeting was ushered in by a somewhat verbose discussion regarding the action of the committee relative to the International Medical Congress. From our best information regarding the gentlemen who were instrumental in initiating this uncalled-for wind-storm, we fancy the trouble originated from disappointment. They are sore-heads of the 'rule or ruin' type. Some of these men have for years endeavored to supply the wind-power for the American Medical Association meetings.

"The International Medical Congress requires a more reliable power—a steadier power; hence these dress-parade sort of fellows were, of necessity to the welfare of the Congress, relegated to the rear.

"In order to conceal the true character of the charges, they hid behind the new-code prejudices charging that new-code men were put on the committees. However objectionable the new-code men may be, we hope they are governed by purer principles than men whom we know to be ostensibly sticklers for old-code theories, but are practically no-code practitioners, except such as will give them personal aggrandizement.

"We have carefully looked over the 'rules and preliminary organization,' and can see no reason to find fault with the action of the committee. We feel entirely satisfied that they have acted in the best interest of the American profession in general. Nearly all the States, the District of Columbia, and Canada have been represented by the appointment of prominent and distinguished physicians on the committees and sections. New York, having the largest number of widely known men, is justly entitled to a larger number of representatives, and therefore has 68 appointments; Pennsylvania, which might be expected to come next, has 48; Massachusetts, 32; Illinois, 18; Ohio, 15; District of Columbia, 18; Missouri, 8. A few States are left out, which can be the only tangible objection to the appointments.

"It must not be forgotten that the States so largely represented are those in which most of the medical teachers and authors reside, without whom, be they new- or old-code men, the American profession could not be represented in its best light, which, above everything of a technical nature, should be sought after."

The Use of Cocaine in Nervous Affections.—At the recent meeting of the American Neurological Association, Dr. J. K. Bauduy, of St. Louis, read a paper in which he recounted his experience with the use of cocaine in the treatment of certain forms of psychical disturbance. We expect to publish Dr. Bauduy's paper shortly. In the mean time, we would call attention to a letter which has been shown us, written by Dr. L. Bremer, of St. Louis, from which we make the following extracts: "Dr. Bauduy, of this city, has been using the cocaine in cases of melancholia with the happiest results. During a recent visit at St. Vincent's Hospital I was, by the kindness of the doctor, afforded an opportunity of witnessing the rapid and wonderful effect which the hypodermic injection of one grain of the drug produced in the affection named. W. H., aged seventeen, who was under my treatment before his admission to the hospital, for hebephrenia, and whose mental state I am thoroughly familiar with, was, on our visit, found in a condition of great depression. Although he knew me well, he refused to speak to or recognize me. The expression of his face was that of utter dejection, despair, and disgust. All efforts to elicit an answer to my questions failed; he remained wrapped up in a sullen silence. The injection of one grain of cocaine changed the scene as by magic. Four minutes after the introduction of the drug the patient began to talk; the spell was broken, and he conversed freely and intelligently on the nature of his trouble. The almost mathematical precision of the effect of the remedy could only be compared to that of morphine in certain nervous affections.

"The second case in which the cocaine was tried in my presence, and yielded a like brilliant result, was that of a young man suffering from a severe form of melancholia combined with a refusal to take nourishment. Five minutes after the administration of the drug he became quiet and partook readily of the nourishment offered to him. This patient would never eat except when under the influence of the drug; it was employed for the first time when he was approaching inanition, to avert which the feeding-tube was thought of as a last resort. . . . To my knowledge, Dr. Bauduy has been the first to try cocaine in melancholia."

Dr. Bauduy seems to have been the first also to suggest the use of cocaine for the morning sickness of pregnancy. An interesting account of Dr. Schenck's experience with the remedy for that distressing condition will be found in the report of the proceedings of the St. Louis Medico-Chirurgical Society, published in the "St. Louis Courier of Medicine" for May, where it is expressly stated that the cocaine was used at the suggestion of Dr. Bauduy.

The New York Polyclinic.—Dr. M. Allen Starr has been elected professor of diseases of the mind and nervous system in the New York Polyclinic.

The "International Journal of the Medical Sciences."—Beginning with the issue for January, 1886, according to the "British Medical Journal," this will be the title of the "American Journal of the Medical Sciences," Dr. Hays continuing as the American editor, and Mr. Malcolm Morris being the European editor.

The Health of the State of New York.—It appears, by the "Monthly Bulletin" issued by the State Board of Health for the month of May, that the total reported mortality was 6,542, the percentage of infant mortality being 32·23. In each thousand deaths there were 154·70 from zymotic diseases, including 26·83 from measles, 18·70 from scarlet fever, and 48·91 from croup and diphtheria.

The Health of Michigan.—From a statement issued by the secretary of the State Board of Health, Dr. Henry B. Baker, we find that, during the month of June, diphtheria was reported from forty-one places, scarlet fever from twenty-seven, measles from sixteen, and small-pox from two.

The Missouri State Board of Health was lately reorganized by the choice of Mr. William Gentry as president, Dr. George Homan as secretary, and Mr. J. B. Prather as treasurer.

THERAPEUTICAL NOTES.

A New Species of Agaric.—Grossi, says the "Gazzetta degli ospitali" (quoting from "Rif. med."), has recently made a study of a gigantic species of agaric, the *Polyporus senex*, found on the coast of Chile, the absorbent properties of which are remarkable. Although it is insoluble in ether, in chloroform, and in alcohol, it effervesces in the presence of bicarbonate of sodium, becomes smooth and unctuous, breaks up, and dissolves. Grossi has made use of it as a styptic, and regards it as a specific in cases of hæmorrhage from wounded arteries that are too small to tie, and too large to be controlled by other styptics; also in the hæmorrhagic diathesis. He has employed it for night-sweats also, after the following formula:

Polyporus senex	3¼ grains;
Bicarbonate of sodium	15 "
Distilled water	3 ounces;
Gum arabic	75 grains.

A tablespoonful to be taken at night.

A New Basis for Ointments and Suppositories.—In the same publications it is stated that the seeds of the *Hopea splendida* and the *Hopea aspera*, if not those of some other species, furnish a fatty matter, known in the Islands of Sunda as *myniak-tangkawank* or *myniak-sangkawank*, which is used in the industrial arts, and seems likely to answer in the preparation of ointments and suppositories.

The Treatment of Goitre with Iodoform Injections.—Thiroux (Thèse de Paris, 1884; "Rev. méd.") records several cases in which interstitial injections of iodoform were followed by considerable improvement and even cure. At the military hospital at Bordeaux these injections have been found to give so much pain, due probably to the ether in which the iodoform was dissolved, that their use has been given up.

Parthenine in the Treatment of Facial Neuralgia.—Tovar has experimented with this alkaloid in cases of facial neuralgia ("Gazz. med. Ital.-Lombard."). Giving a tenth of a grain every hour for four hours, and then decreasing the size and frequency of the dose, he cured rather a severe case in a week. Parthenine is obtained from *Parthenium hysterophorus*, an herb growing in Jamaica, where it is much used for cutaneous affections.

Anisic Acid as an Antipyretic.—This substance (*Ibid.*), obtained by the oxidation of oil of anise, takes the form of colorless prismatic crystals soluble in alcohol and in ether. It has antiseptic properties, also an antipyretic action analogous to that of salicylic acid. It should be used with caution, as large doses injected into the veins of various animals have caused epileptoid convulsions.

A Ready Method of stopping Hiccough.—A Brazilian physician, Dr. Ramos ("Bull. gén. de thérap."), states that refrigeration of the lobe of the ear will stop hiccough, whatever its cause may be. Very slight refrigeration will answer—the application of cold water or even of saliva being sufficient.

The Fruit of the Calabash Tree as a Purgative.—According to Peckolt ("Nouveaux remèdes"), both the pulp and the expressed juice of this South American tree, the *Crescentia cujete* [Linnæus], have long been used as laxatives in Brazil. The alcoholic extract, in doses of a grain and a half, is a laxative, and acts as a drastic in doses of seven or eight grains. The fresh pulp is also employed as an application in cases of erysipelas. It is boiled with water until it forms a black paste, then vinegar is added, and the mixture is boiled again. It is applied spread on linen.

Hydrofluorate of Quinine.—According to Weddel (*Ibid.*), this salt is soluble in water and in alcohol. He has used it in the treatment of hepatic engorgements of malarial origin, in which, he thinks, fluorine and the fluorides have a beneficial action. He has observed the same in rickets and other nutritive diseases of the bones.

Paraldehyde as a Hypnotic.—At a recent meeting of the North of Ireland Branch of the British Medical Association ("Brit. Med. Jour."), Mr. Hodgson, of Brighton, gave his experience with this drug in cases of insomnia unaccompanied by pain, especially in mania, hypochondriasis, delirium tremens, and [so the account states] migraine. As compared with chloral, it had the advantage of not being a cardiac depressant. For gout, both acute and chronic, he strongly recommended it, finding that sleep was obtained, while the solid constituents of the urine were increased rather than diminished. When either the throat or the stomach was inflamed, it was unsuitable, owing to its pungeney, and this quality rendered free dilution always necessary. As an anodyne, he considered it weak, but he had found that it heightened the effect of morphine.

Anagyrine.—This is the name given to an alkaloid extracted by Hardy and Gallois from *Anagyris fœtida* and *A. indica*. At a recent meeting of the *Société de biologie* ("Gaz. hebdom. de méd. et de chir."), M. Hardy reported that small doses had been found to act as a tonic, but that large doses, given to small animals, produced death by arresting the respiration.

Deelina Oil in the Treatment of Skin Diseases.—Dr. John Roberts, of Chester, England ("Practitioner"), gives brief notes of a number of cases of skin disease, chiefly of an eczematous character, in which he has used "oleum deelinæ" as a topical application. He considers it superior to all other fatty substances for the purpose. He never uses it during the acute stage. Before it is applied the parts are bathed with warm bran-water or oatmeal-water, and then carefully and gently dried. All that is said of the nature of the oil is that it is "another member of the hydro-carbon family," and that it is "manufactured on the banks of the Dee, by the Dee Oil Company, by a process of refining," etc. We find nothing in the article to indicate whether it is a fish-oil, a petroleum product, or of vegetable origin. It is said that it is clean and inodorous, does not become rancid, and leaves little or no greasiness after its application.

Iodoform in the Treatment of Syphilis.—Dr. H. Macnaughton Jones (*Ibid.*) states his experience of the value of iodoform administered internally in certain cases of syphilis in which the iodides appeared to have little effect. He does not generally give it in larger doses than a grain or a grain and a half, three times a day. He continues its use, unless it is contra-indicated by some sense of fullness in the head or headache. Especially when used in conjunction with the external application of iodide of starch, he has seen it prove of striking benefit in cases of ecthymatous ulceration. Like iodide of potassium, it is not borne in any quantity by some persons, while there are others who can safely persevere with it for a considerable time.

An Anæsthetic Mixture of Dimethylacetal and Chloroform, two volumes of the former to one of the latter, has been used at the Strassburg surgical clinic in a hundred and fifty cases. Fischer ("Dtsch. Ztschr. f. Chir."; "Ctrlbl. f. Chir.") says that its advantages are that psychical excitement and muscular agitation do not occur, but the patients pass gradually into a quiet sleep; that vomiting, and efforts at vomiting, are not observed during the anæsthesia, and occurred after consciousness was regained in only four cases (those of very anæmic patients who had been allowed to drink a good deal after the operation); and that the disappearance of the anæsthesia is very rapid, and leaves the patient feeling comfortable, without any headache. The mixture is recommended: 1. When gastric catarrh and vomiting are especially to be avoided. 2. For laparotomy. 3. In cases of heart disease. 4. In nephritis. 5. In diseases of the central nervous system, particularly infantile paralysis and epilepsy. 6. In cases in which untoward symptoms come on during chloroform anæsthesia and the operation can be completed only with the aid of an anæsthetic. The drawbacks are the slowness with which anæsthesia is induced in robust, muscular individuals, and the high price of dimethylacetal.

The External Use of Chloral for Night-Sweats.—Nicolai ("Wratsch"; "St. Petersb. med. Woch.") remarks that the usual remedies for night-sweats have the disadvantage that the system soon becomes accustomed to their action, and that, consequently, the dose has to be so increased that unpleasant collateral effects are produced. The external use of chloral, he says, is free from this objection. He uses a mixture of two drachms of chloral and two beerglassfuls of equal parts of brandy and water. With this mixture the patient is bathed at bedtime. If this is not enough, a clean night-shirt is put on which has been soaked in the solution and then dried. This treatment is said to be particularly successful with children when the trouble is not due to phthisis.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON,

BY AMBROSE L. RANNEY, M.D., NEW YORK.

(*Continued from page 32.*)

THE CARE OF A BATTERY.

THE best battery is liable to get out of order. It is an easy matter, as a rule, to correct the trouble if the construction of the apparatus is thoroughly understood. The following hints may aid the reader in obtaining a satisfactory current with a minimum expense:

1. *Keep your battery clean and bright in all its parts.* Close the case when the battery is not in use, and thus keep out dust, grease, and moisture. Emery-paper is useful to keep the metal connections free from rust. Remember that dirt, grease, or rust will often arrest the action of any battery.

2. When the battery fails to act properly, examine the cells first and see if *the fluid requires renewal.* The "red-acid fluid" is easily made by adding one part of commercial sulphuric acid to ten parts of cold water; when cooled, one part of finely pulverized bichromate of potassium should be added and mixed well. This is the fluid commonly employed in portable batteries with cells of the Grenet pattern.

3. If the fluid is found to be fresh, and if the zinc and carbon elements are in good order and the zinc well amalgamated, *examine carefully all the screws and other connections attached to the elements* and see if they have become oxidized. Sometimes they become rusted or so covered with accumulated dirt as to render the passage of the current impossible. Occasionally the carbons may be disconnected and baked in an oven to render a Grenet cell more active. Soaking the elements (*in situ*) in hot water which does not reach the connections will generally suffice to cleanse them.

4. If the *cell has become polarized* when in action (by bubbles of hydrogen which accumulate upon the carbon and of oxygen upon the zinc element), lifting the zinc out of the fluid and replacing it immediately will suffice to overcome this trouble if the cells are of the Grenet pattern. These bubbles of hydrogen and oxygen set up a counter-current in the cell which will weaken and may even neutralize the original current.

5. *Examine the interrupter*, the *buttons of the current-selector*, and *the commutator* for rust or dirt, and clean each thoroughly when the trouble appears not to be due to the elements or their immediate connections.

6. If a *drip-cup is furnished* with a faradaic or galvanic battery, be careful to place the zinc element in it when the battery is not in use.

7. In portable galvanic batteries, be sure to *place the rubber-covered diaphragm over the cells* before closing the case and to screw it down tightly. This prevents the fumes rising and oxidizing the connections of the elements when not in use. This does not apply to a red-acid battery when not being transported.

8. Be sure that the *rheophores are perfect* before they are used upon a patient. The wire used in their manufacture is liable to become broken or oxidized by use. This is especially true of the flexible, cotton-covered cords generally furnished with batteries. The electrodes may be tested by employing a galvanometer, if an imperfection is suspected and can not be found.

9. The *wires* that run from the cups to the buttons of the current-selector or the commutator may be seen on the bottom side of the key-board of a battery. They can be examined for imperfections when the other parts of the apparatus appear to be perfect.

10. *Do not short-circuit a battery.* By this we mean, do not allow a battery to run down, or, more technically, "polarize," by the poles being brought into contact without an interposed body (such as animal tissue) for any length of time. For example, galvanic cells which have a low internal resistance (as a Grenet cell) become polarized in a few hours when the poles are connected by a short wire which affords little if any resistance to the current.

11. *Keep your electrodes clean.* It is well to cover them with fresh canton-flannel for every patient. This is an act of precaution which will impress people with your regard for their feelings and for their safety from contact with infectious matter. Sponges are too expensive to be renewed so often. Absorbent cotton may often be placed between the electrode and its covering with advantage.

PART II.

THE PRINCIPLES OF ELECTRO-DIAGNOSIS.*

The various electric tests that are employed as aids in the diagnosis of nervous affections are too complex to be fully described and explained without entering somewhat into the domain of physics and physiology. Erb† has lately written an excellent work upon the subject, and most of the later treatises upon physiology will afford you general information respecting the reactions of healthy muscle to the faradaic and galvanic currents. The few practical hints which are given here are offered with an apology for their incompleteness, although it is hoped that they will assist you in your studies in this field.

Having first moistened the electrodes and connected them with the battery in action, it is customary to hold them both in one hand (close together, but not in contact), and apply them to the ball of the thumb of the opposite hand or the cheek to see if the current is passing properly. If the current to be employed is a *very weak one*, touch the electrodes to the tip of the tongue before it is used upon the patient.

Next, sponge the part of the patient's body to be tested with a *weak solution of table-salt in warm water*, in order to

* Portions of this lecture have already been published.

† "Handbook of Electro-Therapeutics," New York, 1883.

render the skin a good conductor of the electric currents. If the wire-brush is to be used, this step is omitted.

The "*polar method*" is the one commonly used. Apply one electrode of large size, either over the breast-bone of the patient (at about its center) or over the back of the neck. The breast-bone is the preferable point on account of the absence of muscles in the median line.* The other electrode (of small size) is placed over some special nerve-trunk or the muscle to be tested; in case muscle is to be tested, the electrode is placed usually at the point where the motor nerve enters its substance—the so-called "motor-point" of the muscle. In this way the action of the two poles can be readily distinguished.

In my work, "The Applied Anatomy of the Nervous System," I have reproduced von Ziemssen's cuts, illustrating the situation of the motor-points of the various muscles. In case the interrupted or faradaic current is to be employed, the "polar method" need not be strictly adhered to, as it is decidedly more painful than when the electrodes are less widely separated.

Use both the *continuous or galvanic current* and the *interrupted or faradaic current* in testing muscular reactions. The former is of the greatest value in diagnosis.

In *studying the muscular reactions to the different currents* employed, remember (1) that the negative pole is called the cathode (C),† and the positive pole the anode (A); (2) that muscular contractions occur both when the current is altered in strength and when the circuit is closed or opened; (3) that the faradaic current produces an apparently continuous muscular contraction, because its interruptions are so very rapid; (4) that very weak currents do not produce contractions; (5) that alterations in the strength of the current cause proportionate variations in the contractions; (6) that the contractions are short, sharp, and sudden in health; (7) that the effects of applying the electrode over the substance of the muscle and over its motor-point are identical in health, but not in some diseased conditions; (8) that the galvanic current will not usually produce muscular contractions while it is constant, but only when its strength is modified or when the circuit is closed or broken; (9) that the direction of the current can be changed, without altering the position of the electrodes, by a simple apparatus that changes the cathode into the anode, and *vice versa* (the *commutator*).

The current passes always from the anode to the cathode. Hence, when the positive pole is placed on the breast or neck, and the other on the muscle to be tested, we have a *descending current*. An *ascending current* exists if the anode is on the same distant or neutral point.

An "automatic interrupter" on an "interrupting electrode" is necessary in employing the galvanic current in testing muscular reactions.

The *descending current*, when closed and again broken, can thus give us:

1. The cathodal closure contraction:
   C. C. C. or Ka S. Z. of the Germans.
2. The cathodal opening contraction:
   C. O. C. or Ka O. Z. of the Germans.

The *ascending current*, when closed and again broken, can give us:

1. The anodal closure contraction:
   A. C. C. or An S. Z. of the Germans.
2. The anodal opening contraction:
   A. O. C. or An O. Z. of the Germans.

These four forms of contraction require currents of different strengths to produce them. They are, therefore, induced by *gradually increasing the number of cells* employed. The following order is the one commonly observed in healthy muscle:

1. . . . . C. C. C. = Ka S. Z.
2. . . . . A. C. C. = An S. Z.
3. . . . . A. O. C. = An O. Z.
4. . . . . C. O. C. = Ka O. Z.

It will be observed that the *cathodal contractions* appear first and last in health, while the *anodal contractions* follow each other; also, that the *closure contractions* precede the *opening contractions* of both the cathode and anode. When a nerve-trunk is stimulated by electric currents the formula of the normal muscular contractions is altered. This will be spoken of hereafter.

As the strength of the current is gradually increased, the contractions which have successively appeared *become intensified proportionately* (as is shown below), and *new reactions* are added:

First stage (*moderate current*), C. C. C.
Second stage (*stronger current*), C.′ C.′ C.′ and A. C. C.
Third stage (*still stronger current*), C.″ C.″ C.″ and A.′ C.′ C.′ and A. O. C.
Fourth stage (*very strong current*), C.‴ C.‴ C.‴ and A.″ C.″ C.″ and A.′ O.′ C.′ and C. O. C.
C.‴ C.‴ C.‴ is called "*cathodal tetanus*," because the contraction is very violent. Sometimes the anodal contractions both occur with the same intensity of current, thus merging the second and third stages into one. Again, A. O. C. may in some cases appear before A. C. C.

Disease of the nerve-centers or of the nerves themselves may cause modifications of the normal formula of muscular contractions. This constitutes the key-note to the value of electric currents in diagnosis. Mechanical devices may be employed to trace the muscular contractions, as the sphygmograph does the pulse. (Fig. 32.)

If the destructive process is within the brain or spinal cord, and *situated above the* "*trophic centers*" of the nerves supplying the paralyzed muscles, the electrical reactions of the paralyzed muscles will be normal in respect to the sequence and character of the muscular contractions. Sometimes, however, a *much stronger current* (galvanic or faradaic) is required to produce them than over the healthy

* This is known as the "indifferent point," when *polar effects* are being studied at the other electrode.

† German authors employ different symbols from those given. These are as follows: C. C. C. = Ka S. Z., C. O. C. = Ka O. Z., A. C. C. = An S. Z., A. O. C. = An O. Z. The symbols Ka = cathode, An = anode, S = closure (*Schliessung*), O = opening (*Oeffnung*), Z = contraction (*Zuckung*).

muscles. This fact is due to atrophic changes in the muscles. It may be of decided value in diagnosis.

When disease processes in the brain or spinal cord cause

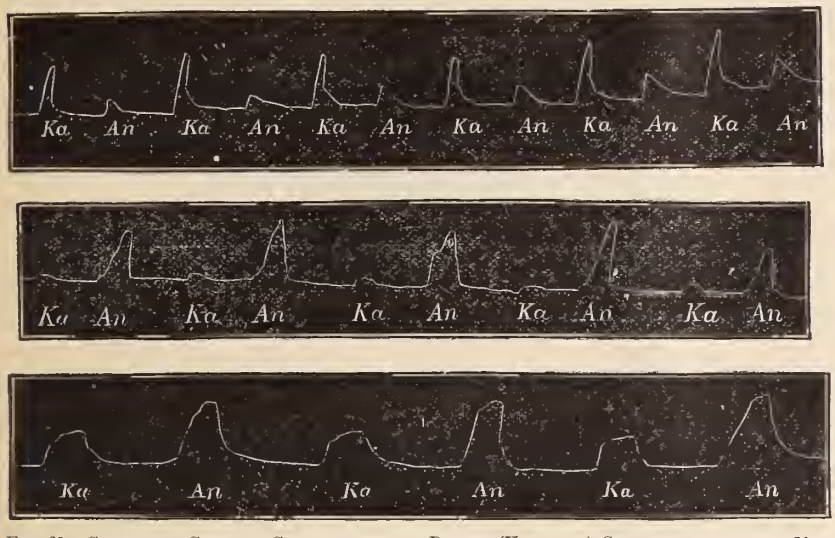


FIG. 32.—CURVES OF CLOSURE CONTRACTIONS IN DIRECT (UNIPOLAR) STIMULATION OF THE MUSCLES IN THE DISTRIBUTION OF THE PERONEAL NERVE IN THE LEG (Erb). Ka = C. C. C.; An = A. C. C. 1, Curve of health, thirty-three elements; C. C. C. is greater than A. C. C.; 2, case of chronic anterior poliomyelitis, showing reaction of degeneration with thirty-three elements; 3, same case, with forty elements. In 2 and 3, the excess of A. C. C. over C. C. C. is apparent; 3, in the slow character of the contractions is very marked.

destruction of the trophic centers of the nerves that supply the paralyzed muscles, or when the *cerebro-spinal nerves themselves are seriously injured*, we encounter what Erb has described as the "REACTION OF DEGENERATION." This will require some explanation.

1. *Every nerve degenerates when separated from its trophic center;* hence, the electric excitability of the nerve, both to the faradaic and galvanic currents, gradually diminishes and ceases entirely at the end of about two weeks.

2. The *faradaic current ceases to cause muscular contractions* when applied directly over the substance of the muscle. This is explained by the fact that the so-called "nerve-plates" within the substance of the muscle are degenerated, and currents of momentary duration fail to affect the muscular fibers.

3. The muscular contractions produced by the *galvanic current are diminished for about ten days.* Subsequently the excitability of the muscles *to slowly interrupted galvanic currents becomes increased*, so that very weak currents may excite contractions. This may disappear in five or six months.

4. The *polar reactions become altered in their sequence.* The anode contractions appear before those of the cathode, as shown below:

1.....	A. C. C.	instead of	C. C. C.	as in	health.
2.....	C. C. C.	"	A. C. C.	"	"
3.....	C. O. C.	"	A. O. C.	"	"
4.....	A. O. C.	"	C. O. C.	"	"

5. The *character of the muscular contractions becomes altered.* In health, they are sharp, short, and sudden. When degeneration occurs, they are slow to appear; they are prolonged and continue even during the passage of the current; and, finally, they assume the character of "tetanic" contractions, irrespective of the strength of the current employed.

Finally, in unilateral paralysis the electrical reactions of the muscles of the paralyzed side should be contrasted with those of homologous muscles of the unaffected side. When both sides are impaired, the standard of comparison should be that of a healthy subject of about the same size, weight, and muscular development.

Now let us suppose that we wish to test the reaction of some special nerve—the musculo-spiral, for example. We place the positive pole (An) of a galvanic battery over the breast-bone with a large flat electrode attached, and the negative pole (Ka) over the nerve (where it winds around the humerus below the deltoid muscle) with an "interrupting" small electrode attached to the negative rheophore. We then put into circuit a few cells at a time and press the button of the interrupting electrode at intervals till we get a contraction of muscles. When the current is sufficiently strong to excite the nerve-trunk, contraction of the extensor muscles of the forearm becomes apparent (the *cathodal closure contraction*). Thus we ascertain the number of cells required to produce C. C. C. (Ka S. Z. of the Germans). Now add a few more cells, and reverse the poles by means of the commutator. When the circuit is *broken*, by releasing the button of the interrupting electrode, we get the anodal opening contraction (A. O. C., or An O. Z.), and, with a few more cells, the anodal closure contraction (A. C. C., or An S. Z.). Again reverse the current, and add a few more cells. Now, on pressing the button of the interrupting electrode, we get a very intense cathodal closure contraction (C‴. C‴. C‴., or Ka S. Z‴.), and, on releasing it, the cathodal opening contraction (C. O. C., or Ka O. Z.) is developed, thus completing the chain of polar nerve-reactions.

You should bear in mind that the *polar nerve-reactions differ in their normal sequence from those of the muscles* when the electrode is placed over the "motor point" of the muscle tested.

NORMAL NERVE-REACTION.

C. C. C. > A. O. C. > A. C. C. > C. O. C.

NORMAL MUSCLE-REACTION.

C. C. C. > A. C. C. > A. O. C. > C. O. C.

The *final contraction* (C. O. C.) of each of these series is seldom seen, because the current required to produce it is too painful to be endured. *Fewer cells are required to cause muscular formulæ than those of a nerve-trunk.*

In recording the results of an electrical examination of nerve-trunks and muscles it is best to arrange the record-page so that the two sides of the body may be easily contrasted. The number of galvanic cells employed or the number of milliampères of current (as shown by a galvanometer) should also be specified, and the faradaic reaction of

homologous nerves or muscle should be stated for the purpose of comparison and for clinical deduction. We may follow with advantage some such plan as the following:

Name, ... Date, ... Age, ...

History of Case. See page .... of Case-Book.

Faradaic Tests.

	Right side.	Left side.	Extent of secondary coil employed. (In centimetres.)	Nerve tested. / Muscle tested.
Nerve-reactions.....				
Muscle-reactions				

Galvanic Tests.

	Right side.	Contraction produced.	Left side.	Nerve or muscle tested.
Nerve-reactions..	Cells.	C. C. C. A. O. C. A. C. C. C. O. C.	Cells or milliampères	nerve.
Muscle-reactions.		C. C. C. A. C. C. A. O. C. C. O. C.		muscle.

Slips of this character may be printed and kept on hand. They can be pasted into the case-book of the physician when filled out. The tests made at different dates can thus be compared with each other and the progress of each case determined.

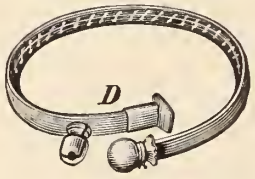


Fig. 33.—The Author's Spring Electrode.—*D*, the binding-post for attaching the rheophore which connects it with the battery, or with the diagnostic key-board when that instrument is employed. The motor point of the electrode is represented as enveloped in chamois-skin. It must be thoroughly dampened in salt-and-water before it is applied to the nerve or muscle to be tested The other end of the electrode is designed to prevent slipping of the instrument after its proper adjustment.

For the purpose of demonstrating the special action of individual muscles and nerves before classes of students, as well as the study of muscle- and nerve-reactions in disease, I have devised small electrodes which may be made stationary upon any desired part of the head, limbs, or trunk, by means of straps, strips of adhesive-plaster, or insulated springs. By means of these I have been enabled to make many points clear to a large audience which would be extremely difficult to show by any other method. Furthermore, it is often desirable to refer from time to time during an examination of a patient to the effects of currents of known intensity upon certain nerves and muscles for the sake of accurate comparison, etc. Small electrodes of the type described may be accurately placed upon a patient and allowed to remain upon the spot selected during the entire examination. To each of these a separate rheophore may be attached and, by a simple device of my own, each may be controlled by touching a key upon a board, without movement of the operator. I can thus observe simultaneously the reactions of corresponding muscles or nerves upon the

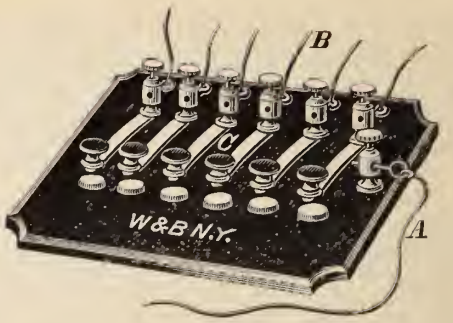


Fig. 34.—The Author's Diagnostic Key-board.—*A*, the rheophore which connects it with one of the binding-posts of a galvanic battery; *B*, rheophores connecting its binding-posts with spring electrodes previously placed upon the body of the patient so as to influence the nerves or muscles to be tested; *C*, buttons and springs which make a circuit to the body of the patient when the knob on the spring is pressed downward so as to impinge upon the button. The number of rheophores which may be employed depends upon the necessities of the case; the cut shows an instrument capable of six.

two sides, those of the leg and arm of the same side, and any other comparisons which may be required in diagnosis. The "motor-points" of the body are not always exactly where charts depict them; hence it is sometimes necessary to hunt for them within a radius of an inch or two of the normal point. When they are found with exactness, a small electrode may be fastened over the spot (with moistened absorbent cotton beneath it) and allowed to remain stationary during the entire sitting. Whenever it becomes necessary to refer to the reactions of that point, it can be called into action by touching the key connected with it by its individual rheophore. The cuts introduced show the arrangement of my device for this purpose. I have given a more complete description of the advantages of this method over others previously employed, in the "New York Medical Journal" of May 9, 1885.

Now, from such a table of record it is apparent that the *faradaic current should first be employed* upon the patient (the poles of the secondary coil being used). The extent of the overlap of this coil (in centimetres) necessary to produce muscular contractions when the nerve- and muscle-reactions are being separately tested should be recorded. In case no muscular contractions ensue, the extent of the overlap which produces an *unbearably painful current* should be ascertained and noted. This may be compared with that necessary to produce contractions upon the healthy side. The "polar method" should be employed in the tests thus made and recorded.

The next step in the examination consists in *changing the rheophores to the binding-posts of a galvanic battery.* We can now ascertain the number of cells or of milliampères (which is preferable) required to produce the different varieties of contractions (enumerated in the table designed for record) of muscles in homologous regions of the right and left sides. Each nerve which is impaired should be tested first; and the muscles supplied by it should be tested afterward. The strength of the current employed should be ascertained by throwing a galvanometer into the circuit

(when extreme accuracy is desired); by so doing, a comparison of the nerve- and muscle-reactions of the two sides can be based upon conditions which are exactly alike.

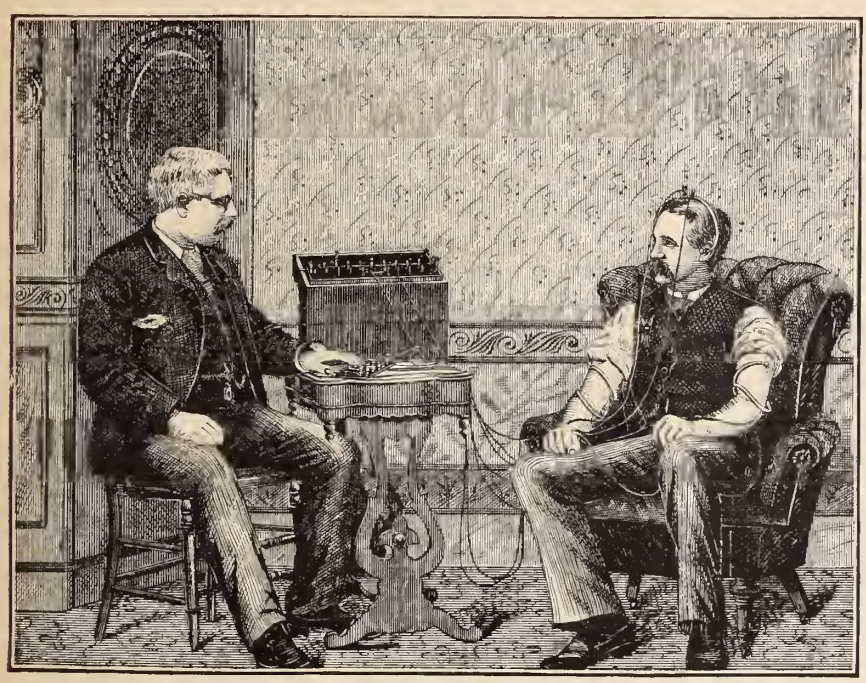


FIG. 35.—THE AUTHOR'S DIAGNOSTIC KEY-BOARD AS APPLIED IN ACTUAL USE. The spring electrodes are represented in the cut (for the purpose of illustration) as applied to the facial, ulnar, and musculo-spiral nerves of each side. If he chooses, the operator can have his case-book on a stand at his right, for recording his observations as they are made.

When we have completed the steps indicated by the chart prepared for the assistance of the beginner we are in possession of certain facts which may be of great practical value as regards both diagnosis and prognosis:

1. Suppose a case of localized paralysis is examined, and the faradaic and galvanic reactions of both a nerve and its muscles are normal and exactly alike on the two sides. We have reason then to believe that the exciting cause is either hysteria, a lesion of a higher spinal segment than that from which the nerve arises, or a lesion within the brain, provided the possibility of deception on the part of the patient respecting his paralytic condition can be excluded.

2. If the *nerve-reactions* of the affected side to both currents *are exaggerated* (i. e., if the contractions occur in their proper sequence, but under a weaker current than in health), the *probability of an existing central lesion is heightened*, although hysteria may possibly still exist as the exciting cause of the paralysis.

3. If the faradaic current applied through the nerve *fails to produce contractions* of the affected muscles as readily as upon the healthy side (i. e., if a stronger current is demanded to call any one of the paralyzed muscles into action indirectly through the nerve which supplies it), then we know that the *nerve filaments within the spinal cord* or the *trunk of the nerve itself* are affected by a lesion which *has impaired but not entirely destroyed their usefulness.*

4. If *no current* from a faradaic machine (which can be endured by the patient) *causes muscular contractions*, we know positively that the *motor cells of the anterior horns* of that spinal segment which controls the paralyzed muscles are destroyed, or that the *nerve itself has been severed* from its connection with the spinal cord.

5. When the MUSCLE-REACTIONS to the faradaic current have been tested, the previous deductions (based on the nerve-reactions) still hold good. The electrode should, however, be placed over the "motor point" of each muscle thus tested.

6. If the *formulæ obtained by the galvanic current are normal*, all questions regarding the existence of degenerative changes in the nerve- or the muscle-plates can be excluded. When the *normal order is altered*, degenerative changes in the nerve- or the motor-cells of the spinal cord are present.

7. The history of a case in which motility is impaired is never complete without a record of an electrical examination of the nerve- and muscle-reactions to both the faradaic and galvanic current. When doubt exists respecting the existence of a cerebral lesion or hysteria, the facts obtained by other methods of examination (fully described by me in the "Medical Record," March, April, and June, 1884) will clear up all doubts.

8. Patients afflicted with *paralysis from a cerebral lesion* generally exhibit normal electro-nerve and electro-muscular reactions in the paralyzed parts. In some instances the reactions may even be exaggerated.

9. *Hysterical patients* afflicted with paralysis may exhibit either normal or exaggerated electro-muscular reactions to faradism or galvanism. The sensitiveness of the muscles to faradism is generally decreased; in some cases it may be totally wanting (Duchenne).

10. In *rheumatic paralysis* the electro-muscular contractility is, as a rule, markedly increased; this may be shown by a comparison of the reactions of the two sides of the body. In exceptional cases this is not found to be so, as I have seen the reactions follow only the strongest currents.

11. In *peripheral paralysis* the faradaic and galvanic reactions are altered after ten days have elapsed. The muscular contractility to the faradaic current is lost early to a greater or less extent; and the formula of degenerative changes is developed later by the employment of the galvanic current.

12. A decreased musculo-excitability to the faradaic current in the musculo-spiral nerve and the extensor muscles of the forearm on both sides—the flexors being normal and the lower extremities being unaffected—tells us of the approach of *lead-poisoning* before the actual symptoms are well marked.

13. In *progressive muscular atrophy* a response to the faradaic current can be obtained as long as any fibers in the muscle tested remain free from fatty metamorphosis.

14. *No alterations* in the electro-contractility of muscles is observed in any of the diseases confined to the *posterior part of the spinal cord.*

DETECTION OF FEIGNED DISEASES.

In addition to the uses of electricity for the purpose of determining the presence or absence of nerve- and muscle-degeneration, and the discrimination between cerebral and spinal paralysis and the various types of peripheral palsies, some other useful purposes in diagnosis have been published from time to time.

The Detection of Death.—It is stated that muscular contractions produced by the faradaic current can not be maintained over four hours in a dead subject.

Malingerers are not uncommon among the applicants for charitable aid, and they are occasionally encountered among the higher walks of life. Epilepsy and paralysis are the most common diseases which are feigned.

Feigned epilepsy can be distinguished by the application of a strong faradaic current to the forehead or tibia by means of a wire-brush. The intense pain so produced will not be appreciated by a true epileptic, but will bring the fit to a sudden close, if assumed in order to create sympathy or aid.

Feigned motor paralysis is usually exhibited in some of the various forms of peripheral paralysis. Few malingerers know enough to simulate hemiplegia or paraplegia without detection. If two weeks have elapsed since the attack, the presence of normal electrical reactions of nerve and muscle in the affected limb is strong ground for suspicion, provided a history of some cerebral lesion or of hysteria can not be elicited. There are various other tests which a skilled anatomist can employ in each case that will help to clear up all doubts upon this subject.

Feigned anæsthesia may be told by the use of the faradaic current with the wire-brush attached to the negative rheophore. The opposed limbs will quickly show how much actual anæsthesia exists.

Detection of Bullets or Buried Metal.—An ingenious application of electricity to surgery has been made which has utility in diagnosis.

The so-called "*electric probe*" consists of two wires which are perfectly insulated from each other by rubber or ivory. These wires terminate in metal tips which project slightly beyond the insulating medium, and at the other end of the wires a galvanic cell and an electro-magnet acting upon a bell are attached. When the probe is pushed into the tract made by a metallic missile, and the tips are brought into contact with it, the circuit is completed and the bell rings. The animal tissues are not sufficiently good conductors of electricity to form a circuit; hence the bell will not ring until the metal is touched by the tips of the probe.

Electro-diagnosis of Aural Diseases.—We owe to Brenner, of St. Petersburg, the first suggestions of this use for electric currents in diagnosis. From a somewhat limited experience in its use, I am led to believe that its utility can not longer be called into question. Brenner's formula seems, furthermore, to be in accord with all that has been proved in respect to nerve-trunks in health, in all parts of the body. The formula is simply that of the galvanic reactions of the auditory nerve in health.

1. In place of the C. C. C. observed in muscle, we get, when a galvanic current is sent through the auditory nerve, a *ringing noise* when the *cathodal closure* occurs. (C. C. S.)

2. The *cathodal opening* produces no effect.

3. The *anodal opening produces a ringing noise* when a current of high intensity is employed.

4. After the cathodal closure (*cathodal duration*—C. D.), the ringing noise produced at the closure *gradually diminishes.*

The formula which is indicative of health when a pole is connected with each ear may be expressed in symbols, as follows:

	Right Ear (Anode).	Left Ear (Cathode).
C. (closure)....	.....	S. (loud)
O. (opening)....	S. (weak)	.....
D. (duration)...	.....	S. >

Now, it is maintained by Brenner that any deviation from the normal reactions of the auditory nerve (shown in the preceding formula) indicates disease of the acoustic mechanism. The variations produced by the different diseased conditions encountered can not be given here from want of space.

In applying galvanic currents to the ear, it is best to place a medium-sized electrode over the entire tragus or to fill the external auditory canal of the ear to be tested with tepid water containing a little salt, and then to introduce an electrode of metal inclosed in an aural speculum of hard rubber into the ear until the metal touches the water. If each ear is to be tested separately, the other electrode should be placed at an indifferent point, preferably the mastoid region of the same side or the middle of the sternum.

Regarding this test, it is well to state that repeated sittings are often necessary. The patient has to become accustomed to the disagreeable effects of the current. It is desirable that you begin with very weak currents and increase the strength very gradually. As the reaction of *cathodal closure* (C. C.) is the most important, it can be intensified by previously allowing cathodal duration (C. D.) to act, or by rapidly following C. C. by A. O.

Examination of the Eye, Nose, and Mouth by Electricity.—Special effects are produced upon the organs of sight, smell, and taste by electric currents. Sparks or vivid flashes of light follow electric stimulation of the eye; and subjective odors and tastes are also produced when the olfactory and gustatory nerves are excited by this agent. The "polar method" of examination is employed when any of the special senses are thus tested. I would caution each of you against employing too strong currents about any of the organs of special sense. The examination of the optic, olfactory, and gustatory nerves requires experience and should not be attempted by novices.

When examining the *reactions of the eye*, the small electrode is placed upon the closed eyelid, temple, or forehead. The large electrode is placed upon the back of the neck. The room should be darkened and the patient should keep both eyes closed.

When *testing the sense of taste*, the poles should be in contact with the cheeks, and the sensations of taste experienced upon both sides by the patient should be ascertained. A fine electrode can also be placed upon the tongue, the pharynx, or the inside of the cheek, in case localized polar reactions are to be determined. A double electrode, with two metal tips which are not in contact, may be employed for this purpose (Neumann).

Electrical Examination of the Sensibility of the Skin.—The electrode devised by Erb is to my mind the best for this purpose. It consists of four hundred varnished wires in a tube of hard rubber. The ends of these wires make a perfectly smooth surface. This electrode is connected with the secondary coil of a faradaic machine and is then pressed upon the area of the body to be tested—the other pole being at the sternum. The *minimum* of the overlap of the secondary coil which can be felt and the *maximum* which can be endured are both recorded. Homologous parts of each side should be compared with each other.

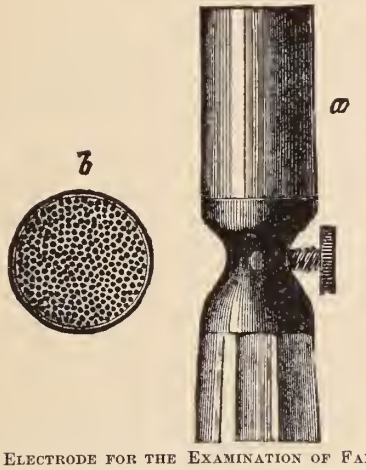


Fig. 36.—Erb's Electrode for the Examination of Farado-cutaneous Sensibility. *a*, a hard-rubber tube; *b*, the free surface of the electrode.

Regarding this test Erb wisely remarks: "The skin, regarded as a sensory organ, can not be tested with irritants other than those adequate to it—viz., touch, pressure, various temperatures, and the higher grades of those irritants which produce pain. It may be disputed whether electricity should be included among these 'adequate' irritants of the skin. The electric sensation is a specific, distinct quality of tegumentary sensibility, whose careful examination, however, is of value in many morbid conditions."

Original Communications.

ANTISEPTIC INHALATIONS.*

By BEVERLEY ROBINSON, M. D.

In a paper read before the Practitioners' Society of New York last winter, "On the Utility of Intra-pulmonary Injections in the Treatment of Pulmonary Phthisis," I said that I intended, at an early date to bring before my medical colleagues the subject of antiseptic inhalations. In the brief paper I now offer for your consideration I shall do this, but I shall not limit myself solely to the consideration of the advantages of these inhalations in pulmonary phthisis. Already I have made use of them in several affections of the respiratory tract—both acute and chronic. Although the cases treated by me in this manner are not yet numerous enough to afford a solid basis for final conclusions, they are at least sufficient to point distinctly to an extensive and beneficial trial of this method in a large class of respiratory diseases. The method is not new, it is old; but it is also a case of revival, with more precise data to establish its special indications and employment. To any one who has made frequent use of steam vapor inhalations, and hot or cold atomized fluids or sprays, the great advantages of the plan which forms the theme of this study, in the treatment of the affections referred to, is too real to be lightly considered or entirely ignored.

In its favor may be cited the following propositions:

1. The apparatus required costs but a trifle, and may be used, therefore, even by the poorest classes.

2. Medication thus applied may be employed under circumstances where the use of hot or cold sprays is impracticable.

3. There are no risks of future colds attendant upon its employment.

4. The relief afforded by dry vapor inhalations is, in my experience, frequently greater than that given by the other methods of inhalation.

5. This medication is well adapted to all forms of irritative disease of the respiratory passages.

I know of only one serious objection which can be properly urged against its very general adoption, and it is the statement that the vapors of volatile antiseptic substances, when they are employed in the ordinary oro-nasal inhaler, do not penetrate far enough to reach the pulmonary cells, and, therefore, can not possibly modify this structure in any sensible degree.

Upon experimental grounds, Arthur Hill Hassall ("Lancet," May 5, 1883) has endeavored to show that the agents most frequently employed hitherto—such as carbolic acid, creasote, thymol, etc.—are but feebly volatile at ordinary temperatures. He has also been unable, after prolonged inhalation, to recover any notable quantity of these substances in the sputa or secretions from the air-tract. In fact, he has not even remarked that the sputa, soon after they were expectorated, were penetrated with their odor. Indeed, after continuous inhalations of one or two hours' duration, he has succeeded in obtaining, by Chandelon's process, from the sponge or cotton in the inhaler, very nearly the whole quantity of the agent employed. A sufficient answer to these objections, it seems to me, may be found in the fact that the patients themselves, when questioned, after they have used the inhalations during a few days or weeks, as to their utility, almost invariably reply that their subjective symptoms have been notably relieved by them. Not only do they make this statement, but they add, further, that their sputa have di-

* Read before the American Climatological Association, May 27, 1885.

minished in quantity, and at times have notably changed in appearance. Moreover, while I am willing to admit that dry vapors do not enter the lungs so deeply as we might presume, or indeed as, theoretically, we might desire, yet they certainly do go further than the sprays for which they have been substituted. I am of the opinion, also, that the small loss of substance which has not been recovered, and which *possibly* does penetrate the pulmonary air-cells, is sufficient to modify notably, after several days or weeks of more or less continuous inhalation, the inspired air in such a manner that it is made comparatively aseptic, and thus we have an influence for good that we can properly estimate only by the evident effects produced. In regard to the areas of cough in the bronchial tubes, as in the lung itself, I believe something may be learned by reference, first, to my own experiments with intra-pulmonary injections, and, second, to the well-known facts recorded by Hack and J. N. Mackenzie in their investigations upon the nasal passages. In my experiments I was led to believe that *pulmonary cough* was largely due to irritation produced at the apices. And surely this conviction need not be a matter of surprise, since we all know that the sensitive area for cough in another organ (the nose), physiologically allied to the lungs, is not general, but limited almost to the posterior extremities of the turbinated bodies.

Again, is it not true that, in many cases where there is notable effusion into the air-cells at the pulmonary bases, as in œdema following chronic Bright's disease or organic heart disorders, there is usually little or no cough? Whenever, on the contrary, as in commencing bronchitis or phthisical infiltration, there are obvious morbid changes at the apices, what more obstinate and constant symptom can be observed than the ceaseless racking cough? Finally, I have on more than one occasion, I am confident, punctured the lung deeply in searching for pleuritic fluid, either posteriorly or in the axillary line, as was evident by the blood and air withdrawn into the cylinder of the hypodermic syringe, or into the pump of the aspirator, and cough has not followed invariably. This fact is, however, also true in regard to punctures at the pulmonary apices; but here the intra-pulmonary alterations have been very different from what existed at the bases at the time punctures were there made. In the former cases the lungs were already infiltrated with tubercles which blocked up the bronchi and surrounded their periphery; in the latter cases the bronchial tubes were inflamed or compressed, it is true, but were not, as a rule, completely impervious to air. Mucus and serum, blood-streaked or not, they usually contained, no doubt, but even then their condition was such as to render them *a priori* more sensitive than they should be under wholly normal circumstances.

I will now place before you some of the results of my trials with dry vapor inhalations up to the present time, and if, by their analysis, I can prove the utility of this method clinically, I shall hope to stimulate further inquiry, and persuade many of you to give it the opportunity which, I believe, it merits. It is understood, I assume, that I do not claim any originality for the treatment of my cases. These dry inhalations were reintroduced to the profession, as you are all aware, some years ago by Dr. W. Roberts, of Manchester, England, and since that time have been more or less extensively employed by H. Curschmann, of Hamburg, and by several other able practitioners at home and abroad. Among these I would cite particularly William Pepper, in the "Transactions of the American Medical Association" for 1880; J. H. Tyndale, New York "Medical Record," March 18, 1882; J. Burney Yeo, in his "Lectures on Consumption," London, 1882; S. S. Cohen, in Philadelphia "Medical News," October 11, 1884; J. Ward Cousins, "Lancet," July 19, 1884; and A. Hill Hassall, "Lancet," August 16, 1884, and "Inhalation Treatment," London, 1885.

The following summary shows the number and nature of the cases of which I have preserved notes, but does not represent one half the number of patients for whom I have ordered oro-nasal inhalers. I regret to add that, even in those cases of which I possess a record, several were not studied with much care, and, consequently, my remembrance of the results obtained is very imperfect. A sufficient number remain, fortunately, in which I have watched carefully the effects of dry inhalations, and about whose condition, before and after their use, I can speak with more assurance.

My tabular statement includes twenty-two cases of phthisis pulmonalis, catarrhal or tubercular, at its first stage, or when already there were evident and characteristic signs of tissue infiltration.

In four of these cases there were marked local pleuritic adhesions. In the remaining cases no statement is made other than the fact that pulmonary consolidation at the apex or apices was present.

Nineteen cases of pulmonary phthisis, catarrhal or tubercular, at its second stage, were treated partly by means of oro-nasal inhalers. Of these nineteen cases, in eleven the softening was limited to one apex; in two cases both apices were thus affected, while in the other cases no reference is made to the limitations of the disease. There were six cases of fibroid phthisis treated by inhalers; three cases of laryngeal phthisis, in one of which there was commencing carious ulceration of the vocal cords. There were two cases of acute laryngitis, seven cases of subacute laryngitis, three cases of chronic laryngitis, two cases of subacute bronchitis, three cases of chronic bronchitis, five cases of chronic nasal catarrh, four of which were of the hypertrophic form, the remaining one being distinctly atrophic catarrh, with which were connected a condition of pharyngitis sicca and a notable degree of fœtid odor of the breath (ozæna). I also treated in this manner one case of chronic pharyngitis, two cases of localized pleuritis, and one of paralysis of the tensors of the vocal cords—the total making *seventy-six* cases which form the basis of the remarks I shall make before you to-day.

First, in regard to pulmonary phthisis at its first stage. Of this disease I have the records of twenty-two cases in which I used dry vapors. The inhalations consisted of, 1, creasote and alcohol equal parts; 2, creasote one part, ol. pini sylvestris two parts, and compound tincture of benzoin eight parts; 3, compound tincture of benzoin; 4, fir-wood oil; 5, fir-wood oil sixteen parts, creasote one part; 6, fir-wood oil six parts, chloroform two parts; 7, creasote one

part, fir-wood oil sixteen parts; 8, compound tincture of benzoin and fir-wood oil, equal parts; 9, spirits of turpentine; 10, volatile oil of eucalyptus; 11, carbolic acid and tincture of iodine, of each one part, compound tincture of benzoin eight parts; 12, fir-wood oil one part, succus conii and compound tincture of benzoin, of each two parts, carbonate of magnesium, q. s., water eight parts; 13, pine-needle oil; 14, terebene four parts, spirits of chloroform one part.

It will be remarked that I varied considerably the nature and composition of the substances employed for inhalations—and this is specially notable if the limited number of my cases be considered. I made these trials advisedly, as I was very desirous to find out not only if vapor inhalations were useful, but, indeed, if certain combinations were more effective than others under similar conditions.

The results of my observations would seem to show that the most generally useful inhalation in the beginning of pulmonary phthisis is creasote and alcohol, equal parts. Creasote by itself is a little too irritant, and is not so readily manipulated. Whether or not the mixture of alcohol increases its volatility I am not positive, although I believe it does, regard being paid to the statements of patients. The amount of inhaling fluid employed with best results varied from ten to twenty drops. It was also renewed most advantageously two or three times in twenty-four hours. The inhalations were employed at first about ten minutes every two, three, or four hours. After a week or two they could be continued, without unpleasant effects, one half or one hour at a time, and repeated three or four times in twenty-four hours. If a larger quantity of the inhaling fluid was used at first on the sponge of the inhaler, or if at first the time for each inhalation was extended beyond fifteen minutes, the patient suffered from irritation of the throat and increased painful cough on several occasions. The form of inhaler employed by me was usually one not dissimilar in outward conformation to that employed by Burney Yeo, of London, and S. S. Cohen, of Philadelphia. It may be of interest in this connection to give a short account of the different oro-nasal inhalers in use at the present time. Some of these are shaped so as to cover the mouth alone, some are adapted simply to inhalation through the nose, and some encircle both nose and mouth. They are made of metal, hard rubber, or celluloid, and are usually constructed from a single sheet of the material employed, their particular shape being made to suit the requirements of the majority of individuals. In Blake's and Tyndale's inhalers, which cover both nose and mouth, there is a circular valvular opening on either side, about one third of an inch in diameter, which closes by means of a soft rubber flap that rises or falls with each inspiration or expiration, and is intended to promote the facility of expiration and to avoid the passage of respired air through the sponge charged with the inhaling fluid. In Hassall's oro-nasal globe inhaler similar valvular openings on the sides have been provided, and this inhaler has the additional advantage, as stated by its inventor, of supplying a larger amount of medicated vapor to the patient for purposes of inhalation. This result is effected by reason of the considerable capacity of the globe itself for containing bits of lint moistened with a suitable amount of inhaling fluid, and owing to the wider orifice of communication between the globe and the oro-nasal piece, or shield, which allows plenty of medicated vapor to pass through and be inhaled with each inspiration. When an inhaler is fitted to the nose alone, it is better, as a rule, for the patient to expire through the mouth than through the nose, as in this way a more complete circuit of the nasal passages by the vapor is accomplished than if expiration took place through the nose. None of the inhalers described, although somewhat more elaborate and expensive, seem to me so useful as the cheap and simple one here shown. This one, as you perceive, is made of a thin sheet of perforated zinc; it is extremely light, and may be worn, therefore, a long time without causing the fatigue to the patient which the other inhalers often do. It also permits the air to pass freely in and out, and thus obviates almost entirely the sensation of oppression and stifling, which is apt to make the prolonged use of the other oro-nasal inhalers almost impossible.

One of the objections urged against the efficacy of most oro-nasal inhalers is the fact that too small a supply of vapor is given off from the small bit of sponge, cotton, or tow which comes with them to be of any benefit to the patient. In the globe inhaler Dr. Hassall has remedied this supposed defect. For my part, I have not usually found it a defect, and I have rarely found the slightest difficulty in supplying my patients, by means of the perforated zinc inhaler, with all the medicated vapor they could comfortably endure. Indeed, I have observed several times, as other observers have done before me, that the quantity of antiseptic liquid added to the sponge of the inhaler must be limited to a few drops (10 to 20) if the inhaler is worn more than a short time. If a relatively large quantity of antiseptic fluid be added to the sponge, the vapors proceeding from it are too concentrated and shortly become very irritating to the air-passages, and the inhaler must be abandoned. Instead of doing good, therefore, by adopting the latter manner of medicating the sponge of the inhaler, we actually do harm and render a very serviceable agent a decidedly objectionable one. I am therefore not of the opinion of Dr. Hassall as regards this point in inhalation—viz., that with the ordinary forms of oro-nasal inhalers we do not volatilize a sufficient quantity of antiseptic fluid to be of service as an inhalant; and even when we volatilize enough fluid not enough antiseptic vapor is inhaled to modify the air-cells to any notable degree.

(To be concluded.)

TWO VALUABLE AIDS TO ELECTRO-THERAPEUTICS.

By LANDON CARTER GRAY, M. D.,

PROFESSOR OF NERVOUS AND MENTAL DISEASE, NEW YORK POLYCLINIC; ATTENDING PHYSICIAN TO ST. MARY'S HOSPITAL; ATTENDING PHYSICIAN TO THE HOSPITAL FOR NERVOUS AND MENTAL DISEASE.

One of the greatest of the difficulties that have been encountered by the electro-therapeutist has been the lack of a suitable galvanic battery. Of good faradaic machines there has been no dearth, especially since the invention of the cheap and portable apparatus made by Gaiffe, of Paris.

But the galvanic batteries for general use have been unpleasantly heavy, and the Grenet cell, or some modification of it, which has been mostly employed in them, is a constant source of annoyance from the necessity of frequent renewal of the plates and still more frequent renewal of the fluid. I have therefore, for years, been on the search for some combination of elements that would be portable and durable in a far greater degree than the Grenet cell. My attention was called to the fact that Gaiffe was constructing a battery with the chloride-of-silver elements that seemed to answer the requirements; but the importation was costly and troublesome, and the cells had to be sent to Paris for renewal. Dr. De Watteville, of London, very kindly put me in communication with Mr. Schoth, an instrument-maker of London, who had been experimenting with the same cells at Dr. De Watteville's instance; but Mr. Schoth had not yet constructed a battery with them. Finally I ascertained that Mr. John A. Barrett, a New York electrician, was making a battery with these cells. This instrument I have now been using daily for some five months, and I am prepared to say that its general employment will mark a new era in galvano-therapy. The cut (Fig. 1) gives

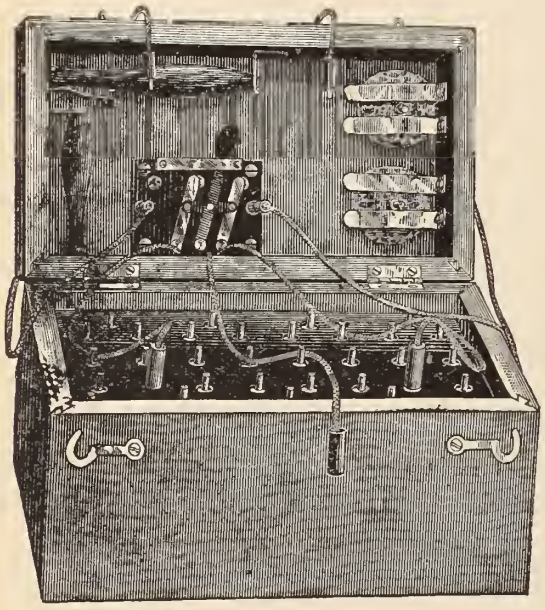


Fig. 1.

some idea of the size of the battery, but a better one can be obtained from the statement that an instrument containing thirty-two cells will only measure ten inches in length and weigh only nine pounds, while a fifty-cell one will measure twelve and a half inches and weigh twelve pounds. As will be perceived by electro-therapeutists, such a battery is by all odds the lightest that has yet been constructed. As to its durability, it is calculated that each cell will stand two hours' steady work daily for nine months, or a proportionate length of time otherwise arranged, before the elements will need renewal. Practically, therefore, such a cell will last the general practitioner a year or more, and the cost of renewal will be about eight dollars.

The details of construction are as follows: The cells consist of cylindrical bottles of black rubber. These bottles are fitted with screw stoppers or caps of the same material, which are fastened permanently to the underside of a black rubber plate. The elements, zinc and chloride of silver, are fastened to silver wires which pass in pairs up through suitable perforations in the caps and plate, and are attached on the

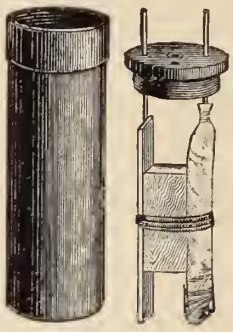


Fig. 2.

upper surface of the plate to fixed studs or pins so arranged that the zinc and silver poles of the successive cells are connected together through the entire battery. The bottles

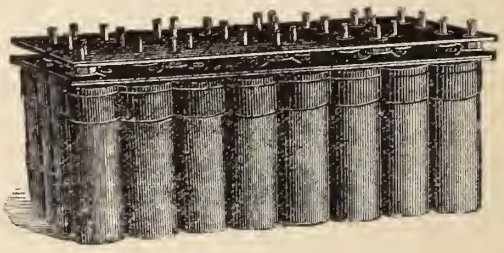


Fig. 3.

are partly filled with solution and are screwed from underneath to the caps, each bottle inclosing a pair of elements. The bottom of each bottle is provided with a slot, so that by a key the bottles may be screwed tightly to their caps. By this means the entire set of bottles is rigidly attached in an upright position to the plate, and at the same time any bottle may be removed independently of the others and its pair of elements examined, or removed and replaced, without inconvenience. Besides this, all the connections, being on the upper side of the plate, are easy of access and out of the reach of corrosion. The battery, thus prepared, is placed in a box, and a top-plate, perforated to fit the connecting studs, is laid over it. This top-plate is numbered for convenience in making connections. It is easily removable, and the whole battery may be readily lifted out of the box. In the lid of the box is placed a commutator or pole-changer, to which are attached short flexible cords terminating in hollow plugs. By these plugs any number of cells may be selected from any part of the battery. The pole-changer is also provided with two binding-posts, to which the conducting cords are to be attached. In the lid of the box are also springs for holding a pair of electrodes and handles. The strength of the battery is very nearly equal — within $\frac{1}{200}$ — to the same number of Daniell or blue-vitriol cells, and is maintained undiminished until the material is exhausted.

The instrument which, as I have already said, I have had in daily use for some five months, and which has many days been jolted about in my carriage over rough city streets

for five or six hours at a time, has maintained its current unimpaired in quantity or quality.

Another great need of the electro-therapeutist has been some means of measuring the quantity of electricity—something that will answer to the balance of the apothecary. It is quite usual to hear those using electricity speak of giving the patient so many cells for such a contingency and so many cells for another, which is just about as sensible as it would be to advise a man to wear so many coats in the Arctic zone and so many in the Antaretic, without specifying the texture that shall make up each individual coat. The sine and tangent galvanometers, which are used by those employing electricity in the arts, are too cumbrous and expensive for medical needs. Gaiffe, Böttcher, Stöhrer, Edelmann, and Hirschmann have each devised an absolute galvanometer. Of these, the ones constructed by Gaiffe and Hirschmann have been the best. Dr. De Watteville enthusiastically indorses the former, while others allege that it is faulty. Hirschmann's instrument has been well described by Dr. B. Sachs.* I have had no experience with it, but it appears to me to be complicated, and Dr. Sachs, after a year's use of it, states that "it does not bear transportation well, and the return of the needle to the zero point is slightly impeded by the action of friction." It seems, however, barring these disadvantages, to be a good instrument. The cost seems to me to be the main drawback to it. There has lately been constructed in this city an absolute galvanometer which is superior, in my opinion, to any other for the purposes of the electro-therapeutist. A cut is

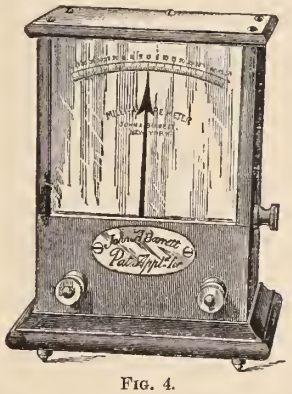


Fig. 4.

herewith appended. The unit of measurement is the milliampère—a unit which has lately come into use for medical purposes. It was first suggested in 1878 by Dr. De Watteville, and was adopted by the special committee of the International Congress of Electricians. It represents the current given by three Daniell's cells through the average resistance of the human body, and medical currents range in strength from one to fifty of these units.

The scale is graduated from one to fifty of these new units. The working parts of the meter are inclosed in a case about four inches square at the base and six inches high, having a glass face, showing the pointer and scale. The pointer is attached to the movable magnetic needle, which is a steel disc suspended within a surrounding coil of wire on two knife-edges, so as to oscillate freely in a vertical plane. The movements of the magnet are indicated by the pointer on the scale. The magnet is counterbalanced and held in equilibrium, so that the pointer rests at zero, by means of a small weight fixed to it below the center of gravity. These are so arranged that the position of the instrument relatively to the earth's magnetic poles is of no account. The magnet, being so poised on frictionless knife-edges, would be subject to prolonged and troublesome oscillations; but a dampening device is provided which consists of a vane or fan of thin mica, extended upward from the magnet in the back part of the case by means of a light, rigid stem of aluminium. This vane moves broadside against the confined air and brings the needle quickly to rest in any position, without, in the smallest degree, interfering with its sensitiveness. A locking arrangement also forms a part of the instrument, by which the magnet may be lifted from its bearings and fixed in an immovable position. By this means the knife-edges and movable parts are protected from damage during transportation and when not in use. A leveling screw is placed on one side below, so that the instrument may readily be adjusted to a proper position.

In use, the meter is placed in the circuit with the body of the patient, so that all the current which flows through the body flows also through the meter. In this situation the pointer of the instrument gives a deflection which measures in absolute units the current actually passing and doing work in the body.

The luxury of such an instrument can hardly be overestimated by any one making daily applications of electricity and desiring to work rapidly and precisely. For example, a patient comes to you to-day, and you find that you can employ twelve cells of your battery with no unpleasant effect. To-morrow he comes to you again, and, to your surprise, you find that you need twenty-four cells to obtain the same effect. The third day he comes still again, and squirms with pain when you turn on more than six cells. Your milliampère-meter solves the mystery. It tells you that all the time your patient has borne about ten or fifteen milliampères of electricity, and that the daily differences have been due to variations in the conductivity of the skin, moisture in your sponges, heat of the moisture, etc.

* "Jour. of Nerv. and Ment. Dis.," vol. xii, No. 1, Jan., 1885.

IMMUNITY IN DISEASE.

By ROMAINE J. CURTISS, M. D., Joliet, Ill.,
PROFESSOR OF HYGIENE IN THE COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO.

(*Concluded from page 42.*)

One of the more important correlatives of the immunity from disease given by natural selection is the history of the great epidemics of plague, black-death, typhus, etc. These epidemics, during the dark ages, killed millions of people, and were prevalent more or less continually. These diseases were not conquered by sanitation. An epidemic nowadays makes just as violent a warfare in Europe as epidemics ever did, provided there is no acquired physical resistance of tissue-cells to the poison of the germ. But the old epidemics lost their power and declined, and finally became

practically extinct. Efforts have been made to attribute this extinction to sanitation. The London fire has been given the credit of conquering the sweating-sickness, and the suppression of typhus and scurvy as epidemics has been ascribed to the efforts of John Howard and Captain Cook; but if cleanliness, or alleged cleanliness, or prevention of putrefaction, has cleaned out leprosy, black-death, jail-fever, etc., why are not cholera, typhoid, diphtheria, scarlatina, and other zymotics also subdued by the same alleged cleanliness? I think the only method of explaining the cessation of the old epidemics is the method of natural selection. When the epidemics prevailed, the germs, by combat with tissue-cells, caused a variation in the cells. The persons who acquired and maintained this variation transmitted it to their children. In time there was built up a community of people who had the power of resisting the germs of these epidemics, and the epidemics died out.

I think we may apply this action of natural selection in the community, as it is seen to subdue epidemics, to the person, in order to explain the self-limitation of disease, both limitation in duration of time and the limitation of disease of different kinds to corresponding organs or tissues. Syphilis appears not to be limited to any definite time, nor to any particular tissue or organ. Probably, next to syphilis, tuberculosis meets with less resistance among cells, and has less evidence of being self-limited in time. There is evidence, however, that both of these diseases are subject to the general law of limitation in both time and successful antagonism from certain tissues. Syphilis is certainly less violent than formerly. Modern authors speak freely on this subject. This is not because treatment has improved, for the treatment is the same now as when syphilis was almost certain death. It is because the whole of Christendom is syphilized, and natural selection is bringing the races of men out of the bonds of this disease. The various tissues of the body are acquiring a power of resistance to the syphilis germ and its poison, and transmitting this power of resistance by heredity. If one tissue after another of the body aequires a resistance to the poison, it is a *sequitur* that in time the tissue which is the last to acquire the resistance will show the only signs and symptoms of the disease. Syphilis will then be more limited in point of diffusion throughout the body, and must necessarily be of shorter duration. It will then present, in this respect, the characters of those diseases which are limited to certain tissues, and to a more definite period of time, notably typhoid, scarlatina, measles, small-pox, etc.

But another feature of the question is that the development of organisms is a resultant of actions and interactions between them, so far as they are related to each other. When the struggle for life is limited to a struggle between organisms, the variation is not limited to one of the combatants alone. Each gets a share of the variation. If the animal attacked by a micro-organism acquires a variation giving it greater resistance, it is likely that the attacking organism by this means acquires greater virulence. The "survival" in such a case bears direct relation to the organism which has the greater resources. That the human species exists to-day is proof enough that humanity at large is able to survive in spite of the enemies which cause disease; and that the species survives by reason of natural selection would appear to be clear enough. The defense appears to be a variation of the cells in their power to resist a poison, while the variation in the disease organism is an increase in its virulence. The variation of the species of micro-organisms by natural selection is a verified fact, and upon it depend all the benefits derived from inoculation. If the pathogenic organism of hydrophobia is bred in the bodies of certain lower animals, it loses virulence. There can be no method of accounting for this fact except that the tissue-cells of the animal have less resistance than those of the other animals which have given the organism its greater virulence. The *Bacillus anthracis* is modified in the same manner by artificial cultivation. On the other hand, reliable experimenters have determined that *B. subtilis* (hay bacillus) can, by cultivation and inoculation, be changed to *B. anthracis*. This variation of the species produces corresponding varieties in disease, and is the fact that underlies the immunity to disease which is brought about by vaccination or inoculation. There are several methods of producing these varieties, such as cultivation, dilution, attenuation, washing, etc. If natural selection can not explain these various methods, I do not know what will or can. The organism, varied from the type of its species in this way, as a general thing, is unable to cause disease by entrance into the body in the usual way, but depends upon accident. The accident must include an injury to the tissues or cells such as obtains in inoculation. When a wound is made the cells are destroyed. Most organisms are proof against septic bacteria unless there is a wound. Human beings have outgrown, or rather out-developed, septic bacteria, unless their invasion is preceded by an accident which causes a wound. Wounded cells and tissues have lost their power of physical resistance.

Another feature of inoculation is that the artificial method of gaining a foothold inside the resistance of the organism subject to disease, by means of inoculation, has the effect of shortening the period of incubation. This is true of inoculations of all varieties of pathogenic organisms. It is, therefore, an inference and a verified truth that vaccination may prevent small-pox, even after exposure to the latter. To deny the proposition is to deny that the period of incubation is shorter in vaccination than in small-pox, and the denial is also, by antithesis, an assertion that kine-pox will not prevent small-pox.

Dr. Eccles's inference from his own data, as well as from the facts here expressed, that the treatment of small-pox by vaccination, or vaccination after exposure to small-pox, is like treating strychnine poisoning by another dose of strychnine, is one of the most stupendous instances of logical *non sequitur* to be found in medical literature. In order to draw a like inference from different propositions, the terms of the propositions must have some relations of likeness. In Dr. Eccles's inference and statements there is no shadow of likeness. He must first prove that the incubation of small-pox from exposure is equal in time to that of vaccination, and also that vaccination will not prevent small-pox. If he had said that infecting the blood of

a small-pox patient with more small-pox poison was like treating strychnine poisoning with more strychnine, the terms of his proposition would have had more analogy. Testimony shows that vaccination is good medical treatment for small-pox, and, while the fact remains that kine-pox can prevent small-pox, the inference will be unavoidable that the germs of each, in relation to the host and the disease, are antagonistic physiologically—as much so as atropine and morphine. Their antagonism may depend upon the priority of their invasion of tissues. Their difference is the degree of virulence of each, but in relation to the tissues either is the antagonist of the other.

But Dr. Eccles's hypothesis, or absurdity, can be used to good purpose. Suppose that on a future given day a person is condemned to swallow a given poisonous dose of strychnine, or arsenic, or morphine, and wishes to prepare for it. In such a case the best method for the person will be to accustom himself to the use of the poison. If Socrates had known the relations of natural selection to the action of poisons, he might have drank his hemlock with no less grandeur and have saved his life. Dr. Eccles simply inverts the terms of natural selection in relation to poisons. His proposition looks formidable and strange. It reminds one of the man who tried to frighten a bull by standing on his head with his feet in the air. The man's appearance was unique, if not frightful, but was no protection against penetrating horns, backed by the fury of the Durham.

I think the hypothesis that immunity from disease is acquired by the interactions of tissue-cells and the pathogenic organisms of disease is one that can explain all phenomena of disease in this relation. Natural selection is one of the *verœ causœ* in nature. To further establish this hypothesis, it is, of course, necessary to examine other hypotheses to find if they will stand the test.

The hypothesis that a chemical compound is formed by the micro-organisms, and left in the tissues, which prevents their further action—as alcohol kills yeast, or acetic acid kills *Mycoderma aceti*, and as the excremental products of all bacteria destroy the organisms which produce them—is certainly unable to explain anything. If it were true, nothing could be easier to find in the tissues, and no such thing has been found. That destruction of certain tissues for which the parasite has an affinity gives the immunity is destroyed as an hypothesis for the reason that such tissues are repaired by the recovery of the patient, in all cases.

The oxygen theory of Dr. Salmon is too narrow a conception for the occasion, and there are no verifications to sustain it. Who can imagine that tubercle bacilli in the lungs can consume the oxygen inhaled so rapidly that there is not a sufficient supply for the lungs? The inhalation of oxygen is found to do harm in consumption as well as many other diseases. If Dr. Salmon's hypothesis is true, the inhalation of oxygen ought to not only cure, but prevent all diseases of zymotic origin. Let us transfer the terms of Dr. Salmon's proposition to another case. The terms are these as quoted from Dr. Eccles's paper: "The poison of the microbes intoxicates the cells. Retarded function [of the cells] allows oxygen to increase in the circulation, thus facilitating their gaining a foothold. Recovery is due to the ability of the cells to resist the poison [this is true, and all there is of it in relation to recovery and also to immunity], use up their own oxygen, and so asphyxiate the microbes." Dr. Salmon has not made an estimate relating to the ventilation of the human body with oxygen and the relative amount consumed by microbes and cells, which is necessary as a factor of this problem. It is quite likely that oxygen cuts no figure in the problem except as a necessary antecedent to all phenomena of life—microbic and human. I will transfer the terms of this problem to another case like it. Suppose a man and dog are confined in a well-ventilated room, and the dog, being hungry, attempts to kill the man to eat him. It is necessary to kill him first. The dog attacks the man, and, getting him by the throat, chokes him. Now the retarded function [of the man] allows the oxygen in the room to accumulate or increase in the room, thus allowing the dog to maintain his position. Now, if the man recovers, it is due to his ability to overcome the dog's hold on his throat, and then to use up his own oxygen, and by so doing asphyxiate the dog—by using all the oxygen himself. Dr. Salmon admits the solution of the question by natural selection when he says the "recovery is due to the ability of the cells to resist the poison." Immunity is also due to the same fact. The oxygen theory is therefore only a rider to the true solution; very much such a rider, too, as Mazeppa was, in so far as ability to guide the horse is concerned. Dr. Salmon's theory assumes that the microbes are in the body by accident, and destroy the cells, not to consume them, but in order to rob them of oxygen. The position of the microbe is that of offense rather than of defense.

It is evident that we can substitute nitrogen or bile in place of the oxygen in this problem and do no violence to the sense or the results. What prompts the dog in the assault is the necessity for food. The same is true with the microbes. The dog does not poison his prey, because he kills it mechanically; but this does not change matters any. The man may have some knowledge of dog-combat, gained from former experience, or may not; but, if he saves his life, it is not because he uses the oxygen in a well-ventilated room himself at the expense of the dog, but because he knows or learns a method of successful physical resistance to the dog. If he learns a specific method of resistance to the dog from actual combat, as punching the dog's eyes, or choking him, in time, doubtless, he will tell his children the method, and so transmit the gift by heredity to them, and the dogs will all be obliged to take up with Mother Hubbard, who, by this time, should have a bone or two in her cupboard.

The cell and microbe and man and dog present problems of warfare the terms of which are parallel and alike. The combat in each case is due to that great biological law which underlies all the sin of this world, which is that living things are adapted to each other as a food-supply, and the fittest will swallow the other. When Eve ate the apple, the probable extent of the sin was in the consumption of other living material. This would have been a guileless world if all living things had been created to take their diet from the inorganic world, and men "at meat" could sit

down to a table spread with samples from the inorganic world—nitrogen, ammonia, carbonic acid, salines, and water, instead of quail on toast, oysters, eggs, milk, lamb, chicken, etc.

In both these cases of man and dog, cell and microbe, we find corresponding and like general principles which explain all such cases. These combats result in variation of all organisms concerned. No case can be mentioned which can not be explained by this generalization. The variation consists in an organic change with corresponding functions in all organisms concerned. If the cells gain an immunity from further attacks of microbes, it is because variation, acquired by actual combat, has given them a power of physico-vital resistance to poison, which they maintain until the forces of atavism have taken this power away. The phenomena of immunity, in point of duration, correspond directly with the forces of variation and atavism. That we are unable to know the character of the variation and atavism which gives a cell the power to resist a poison, or makes it susceptible to poison, proves nothing against the hypothesis, but only proves that, for physical reasons, the verification is difficult.

But, while on the subject of immunity from disease, it is well to take a look at it from the standpoint of hygiene. The study of physically acquired immunity from disease is interesting only as a means or end of scientific accomplishment, and is of no great practical value. The science which can give a man immunity from disease only by subjecting him to an actual combat for life with his personal enemies is a science which is not worthy of being called hygienic. Why not destroy the microbe before it attacks the man, and gain the immunity by this means? Immunity gained through actual disease reminds one of the subject who went to his king and complained that his enemy had threatened to kill him. The King said: "Don't worry, my man; if he kills you I will have him beheaded within an hour." The man tried to appear comforted, but finally ventured to suggest that the best preventive would be to behead the enemy an hour before he made the threatened assault.

Immunity from disease, gained by costly combat with poisonous microbes, is the method of nature without intelligence. The method is not worth imitation except provisionally. The study of the microbe in this relation is useful only as it will give the knowledge of the methods which can compass its destruction while it is yet outside the body and before disease is produced.

Book Notices.

An Introduction to Pathology and Morbid Anatomy. By T. Henry Green, M. D. Lond., etc. Fifth American from the sixth revised and enlarged English edition. With one hundred and fifty engravings. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. xx–17 to 481, inclusive.

An extended review of such a well-known book is unnecessary. We had already regarded the work as a model of its kind, and the author's assurance that he believes the present edition to be fully up to date will be received as sufficient proof that nothing of importance has been omitted. The reader will find several additions to the last edition. The introductory chapter has been remodeled, a new chapter on tumors appears, and the subjects of septicæmia and pyæmia are presented in an unusually clear and compact form. For these improvements the author expresses his obligations to his surgical colleague, Mr. Stanley Boyd. The closing chapter, upon "The Vegetable Parasites," appears beneath that gentleman's name, and is a thorough and exhaustive *résumé* of the subject. Appended to this section is a brief description of the different methods of cultivating and staining micro-organisms. In stating that the book is up to the time, we need not add that the bacilli of tuberculosis, cholera, and leprosy, and the micrococci found in erysipelas, pneumonia, scarlatina, typhus, and gonorrhœa, all receive due notice. The book has been most carefully revised, and bears upon every page the marks of that care and accuracy which have won for it an international reputation.

BOOKS AND PAMPHLETS RECEIVED.

A Text-Book of Medical Physics. For the Use of Students and Practitioners of Medicine. By John C. Draper, M. D., LL. D., Professor of Chemistry and Physics in the Medical Department of the University of New York, etc. With Three Hundred and Seventy-seven Illustrations. Philadelphia: Lea Brothers & Co., 1885. Pp. 733.

A Manual of Human Physiology, including Histology and Microscopical Anatomy; with Special Reference to the Requirements of Practical Medicine. By Dr. L. Landois, Professor of Physiology and Director of the Physiological Institute, University of Greifswald. Translated from the Fourth German Edition, with Additions, by William Stirling, M. D., Sc. D., Regius Professor of the Institutes of Medicine, or Physiology, in the University of Aberdeen. With 318 Illustrations. Vol. II. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xvi–515 to 1184, inclusive. [Price, $5.50.]

Berlin as a Medical Centre. A Guide for American Practitioners and Students. By Horatio R. Bigelow, M. D., Member of the American Medical Association, etc. [Reprinted from the "New England Medical Monthly."]

On the Severe or so-called "Uncontrollable" Vomiting of Pregnancy. By Graily Hewitt, M. D., F. R. C. P., etc. [Reprinted from the "Transactions of the Obstetrical Society of London."]

Report of the Board of Managers of the Pennsylvania Hospital, 1885.

Correspondence.

LETTER FROM ST. LOUIS.

Railway Sanitation.—The Inspection of Meat.—The Closure of Wells.

St. Louis, *June 30, 1885.*

Among the matters of importance to the public in regard to general sanitation and of special interest to our profession as custodians of the public health are the questions, What can be done by our railroad companies, not only for the health of their employees, but to secure that their buildings and rolling-stock shall be kept in a thoroughly sanitary condition? and then, What are they doing?

For some time past the Missouri Pacific Railway System has made provision for the efficient and skillful treatment of em-

ployees, who are injured or become sick in its service, by the establishment and maintenance of a large hospital well situated and with abundant room, and with the greatest facilities for giving those who are entitled to it the very best care that is possible.

Similar arrangements have been made by the Wabash System, although that organization has not established a large hospital here. The surgeons of that company have formed a medical society and hold regular meetings, at which papers are read and discussed on such topics as are of special interest to them.

Another step has just been taken by the Missouri Pacific System. A circular has just been issued by Vice-President Hoxie in which is expressed the desire of the managers to place the property of the companies comprised in this system in good sanitary condition, and attention is called at the same time to the importance of such measures to the welfare and prosperity of the employees. The managers express their intention of hearty co-operation with all State and local boards of health with which they may come in contact, and enjoin similar hearty co-operation upon all concerned.

Dr. W. B. Outten, chief surgeon, is placed in charge of all matters pertaining to the sanitary interests of the roads, and all officers and employees are instructed to carry out any rules and directions that may be issued by him. Sanitarians in the East and West will await with interest the publication of Dr. Outten's rules and directions, as the subject of railway sanitation is almost a new one, and the chief surgeon of a system that operates over six thousand miles of track through such a country as that in which these roads lie has an opportunity and a responsibility such as fall to but few men.

Another matter of considerable local sanitary interest is attracting more or less attention in the papers now. For some years the citizens of all other leading cities of our country have been more or less effectively protected from the dangers attendant upon the use of diseased or tainted meats by systems of meat inspection which, in so far as they were faithfully administered, rendered it impracticable, or at least financially dangerous, to offer spoiled meats for sale for human food. Strange as it may seem, the city of St. Louis has had no such system of inspection, and, as a result, it has come to be the fact, as one of the daily papers said, that "St. Louis is the great dumping-ground for all the diseased and damaged meat raised in the West." Last winter an ordinance was passed and an appropriation was made by which a very rigid inspection was established and enforced to the great advantage of the citizens and to that of honest dealers as well, but to the cost and extreme discomfiture of those who had been wont to make money from the poor by selling them diseased or tainted meats. The provision for this, however, was only limited, and when the time came for making a new appropriation so that the same protection might be continued, to their shame be it said, a sufficient number of the House of Delegates were found to cast their votes against the appropriation to defeat it, and, consequently, during the summer weather we are without the needed protection, and unscrupulous butchers and dealers know that our city makes no provision for the protection of its citizens in this regard.

Of course, this danger is one to which the poor are in a peculiar degree exposed. The wealthier citizens purchase costlier meats from dealers who can not afford to risk their reputation by selling bad meat, while the poorer classes buy from those who have little or nothing at stake, and who too often care for naught except to make what gain they may, even at the peril of health or life to the unsuspecting victim. A bill has now passed the Council, and will come before the House of Delegates this week, which makes provision for the renewal of efficient meat inspection.

A good deal of time has been taken up at the meetings of the city Board of Health for some weeks past in considering the subject of closing wells. An ordinance was approved March 25th last, to which I have referred in a former letter, which made provision for the closing of wells that should be found on examination to contain more than six grains of chlorine to the gallon of water. The wells of the city are divided into two classes, viz., those which are in the public streets or sidewalks, and those on private premises. The first class, as a rule, are situated at street corners, and have been sunk by the owners or lessees of saloons or groceries where beer and liquors are sold, for the purpose of attracting custom from teamsters and others who, while securing a free drink for their horses, will step inside and spend five or ten cents for a drink of what may be a little more dangerous in its effects than the polluted water of the wells. Many of these wells were resorted to by neighboring families because the water was clear and cool.

By the ordinance referred to, all wells located in the public streets which should be found to contain six or more grains of chlorine to the gallon were abolished, and, on a certificate to that effect from the Board of Health, it was made the duty of the Street Commissioner to cause them to be filled at the public expense. At a meeting of the Disbursing Committee of the Sanitary Aid Association this week it was reported that, of one hundred and sixty-one wells on public streets which had been condemned, one hundred and fifty-two had been filled. There was a good deal of opposition to the enforcement of this section of the ordinance on the part of the saloon-men, who felt that the closing of their pumps would seriously interfere with their business. Besides, it was argued that it would cause much suffering to animals. One man was very anxious to be allowed to retain his well, with the stipulation that the handle should be removed from the pump and be kept within the saloon, and only be taken out to pump water for horses and stock; in no case to pump water for cooking or drinking by human beings. The Board of Health could see no way to insure its really being used only for cattle, and declined to make any such modification of the order. A case was made and carried to the Supreme Court, which last week rendered a decision sustaining the ordinance and the action of the Board of Health in enforcing it.

The action in regard to the wells on private property is by no means so simple as that in regard to those on the public streets. There are several complications which do not arise in dealing with the water question in Eastern cities. I shall speak of these directly. The ordinance declares all wells located on lots of land fronting on streets, avenues, or alleys, in which the public water-pipe is laid, to be nuisances, *except those which are used exclusively for manufacturing or stable purposes or for watering stock*, or which may be proved, to the satisfaction of the Board of Health, to contain pure water. [Italics mine.] "Any water in wells which shall contain six grains or more of chlorine to a gallon of water shall be deemed to be impure."

One of the first cases which came up before the Board of Health under the section relating to wells on private property was that of a woman who used the water for washing and rinsing clothes. The question at once arose whether such a well was to be excepted from condemnation under the plea that this was to be considered as using the water for manufacturing purposes.

After some discussion, inasmuch as the board were informed that a case had been made up so as to secure a ruling of the Supreme Court as to the whole scope of the law, it was resolved to hear the statements of the various well-owners as to

the use made of the water, and to delay making any final order until the decision of the Supreme Court should be rendered. It seems now that a good deal of time has been lost, as the case that was carried up and the decision of the Court consider only the wells in public streets.

Of course, in dealing with these cases, the Board of Health has encountered the usual prejudice against innovation which is always met with. There has been the usual number of old residents who "have drunk the water from that well for thirty years, and there has never been a case of sickness in the house the whole time." There have been parents whose sick children have been refreshed when fevered by the cool water from that well, and have got well, and who, therefore, can not be convinced that the water is unwholesome for well people.

There have been people who have lived in the same locality, and have drunk water from the same well during two cholera seasons, and who therefore refuse to take alarm at the statement that the water contains from twelve to twenty grains of chlorine to the gallon. All these cases are only repetitions of the experiences which occur wherever well-filling is taken up as a sanitary precaution.

But two difficulties exist here which, I think, are somewhat peculiar. First, as everybody knows who has ever visited St. Louis, our water is by no means clear. At its best it holds in suspension a sufficient quantity of fine impalpable matter, of a sort of yellow-ochre color, which characterizes the water of the Missouri River, from the point where the Yellowstone River empties into it, to give it the appearance of lemonade; at other times it contains enough earth to give it the color of *café au lait*. On allowing it to stand for some hours, all, or nearly all, of this solid matter will settle, and clear water can be obtained for washing and rinsing clothes. (For drinking purposes most people prefer it "in its rich natural state.") As a matter of fact, however, most of those who take in washing, and are dependent upon their laundry-work for their livelihood, have no facilities for settling the river water, though a good many of them have wells from which they have drawn water for rinsing. It certainly would be a hardship to deprive such people of the opportunity so to use the water, and yet in nine cases out of ten where they use the water for this they will also use it for drinking, as it is so much cooler than the hydrant water.

Another difficulty that has been encountered is the fact that, especially in German neighborhoods, there is a prevalent opinion that salting a well will purify the water and make it wholesome, as well as keep it free from various bugs. Therefore, in a good many cases, it has proved that wells which contained a very large amount of chlorine, and, consequently, were supposed to be badly polluted by sewage, really owed the chlorine to salt that had been thrown in by the owners for the purpose of preserving the water from contamination.

LETTER FROM WASHINGTON.

The District Medical Society.—The City's Water-Supply.—The International Medical Congress.—The Hospitals.—Political Appointments.

Washington, *July 12, 1885.*

There has been very little of general interest here since the adjournment of Congress, so far as medical matters are concerned.

The District Medical Society adjourned for the summer last Wednesday. The meetings have been well attended through the year, and interest has been maintained far into the hot term by the discussions on Asiatic cholera and the water-supply of the city. The water-supply question is not yet settled, and there has seemed to be a disposition to make it rather a political than a scientific matter, owing to the apparent criticism of the authorities involved in the discussion. Some points were settled: First, that there was a waste from the canal into the source of the conduit at the river, and, second, that the drainage-basin into the reservoir had included farmers' outhouses, privies, and pig-pen refuse. All this has been corrected, and there is now a sentiment of relief. As usual, those responsible for this not very cheerful state of affairs at first denied the existence of the evils as alleged, and later on abused those engaged in the discussion of them. The water-supply is still inadequate, and a new conduit and an additional reservoir are being constructed. This will furnish an abundance of water for a great many years to come. It is stated that a sewer-pipe from the hospital on the Soldiers' Home reservation passes directly under the new reservoir, and much apprehension is felt by those who know how easy it is for a sewer-pipe to become loose at its connections from the escape of gases and fluid through the cement. This prospective evil admits of a practical remedy by changing the direction of the sewer.

Before adjournment the society re-elected its former officers, Dr. W. W. Johnston, president, and Dr. Thomas McArdle, secretary. Those gentlemen who were originally appointed on the International Medical Congress, and retained by the new committee, have resigned. There was no local grievance.

Dr. J. F. Hartigan, of this city, now in London, is expected to return on the Germanic, which will sail about the 27th of August. The doctor has been hard at work, and has an appointment every day at the Soho Square Hospital and at the East London Children's Hospital.

The rage for incrimination and investigation reached Washington some time since, but seems to have about expended itself. The Children's Hospital imbroglio, that at the Columbia Hospital, and the Wales Court-Martial are the principal topics of medical gossip. In the former case one gentleman, long connected with the hospital, has resigned; at the Columbia Hospital, Dr. Murphy, the physician in charge, has been exonerated.

Dr. R. S. L. Walsh has resigned from the consulting board of the Providence Hospital, and has accepted a position as one of the attending physicians to the Garfield Hospital.

The scramble that took place between the hospitals last year for the appropriation of fifteen thousand dollars, set apart by Congress for hospital purposes, has been happily avoided this year by the appropriation of a specific sum for each.

Dr. T. I. Chew has been appointed physician to the almshouse hospital, vice Dr. T. P. C. Hazen, resigned.

With the coming in of the new administration a race began for the position of health officer of the district, now held by Dr. Smith Townshend. As the present commissioners were decidedly friendly to Dr. Townshend, and as he has had the support of his brother, a member of Congress from Illinois, the various applicants have not up to this time received much encouragement. With the forthcoming change in commissioners it is said a change will be made.

The Board of Pension Examiners has been reorganized to correspond to the views of the politicians by removing Dr. Robert Reyburn. The dissatisfaction at the new arrangement has been so great that two boards have been formed. It is sincerely to be hoped that America may be enlightened and patriotic enough some day to allow honest and efficient medical officers to remain without reference to changes of the administration. If the incumbent is unfitted or unworthy, that would be abundant reason for making a change. Such a reason would not be a political one, but the spoils system, with its outrageous abuses, seems now, as in the past, to be the most tenderly cherished tenet of political faith.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co. Edited by FRANK P. FOSTER, M. D.
NEW YORK, SATURDAY, JULY 18, 1885.

THE INTERNATIONAL MEDICAL CONGRESS.

IT was with expressions of anything but hopefulness that we wrote last week of the prospects of the Congress, and we were particularly emphatic in the view that we had insisted upon from the outset, that the entire responsibility for the threatened disaster rested upon the American Medical Association, and not upon its new committee. For a time it seemed as if we were almost alone in the advocacy of this view, but since our last issue was published several things have happened which we interpret as going to show that the responsibility of the American Medical Association is getting to be more and more recognized.

The comments of some of our contemporaries are indicative that they at least are beginning to recognize it, and it is specially noteworthy that the "Medical Bulletin," edited by Dr. Shoemaker, takes considerable pains to show that the committee acted under such instructions that it could not do otherwise than as it did. A most telling piece of testimony in the same direction comes to us in the shape of a letter from Dr. Howard, of Baltimore, which we publish elsewhere in this issue. Explaining why he declined to sign the Baltimore resolution, Dr. Howard puts himself squarely in accord with its signers on the real issue, and explicitly states that he concurs with the Boston resolution, which expressly fixes the responsibility upon the association. It is quite possible that there are others who are perfectly willing to express themselves to this effect, but hesitate to attach their names to anything which may seem like a reflection upon the members of the committee as individuals.

If the association can be made to feel that its action in this matter meets with very general condemnation, there is some hope of its being rescinded in St. Louis next year. If the *status quo* should then be restored, there would still be more than a year in which to prepare for the Congress, and the gentlemen whose further services in its organization have been lost for the time being, in consequence of their having resigned from the committee in disgust, might perhaps be induced to reconsider their determination. It seems now, therefore, that a break may be made in the impenetrable hopelessness of a week ago. But the only way to bring the American Medical Association to its senses is for those of the committee's nominees who have the success of the Congress more at heart than their own tenure of office to continue the good work which has been begun in Philadelphia, Boston, Baltimore, and Washington. These cities happen to be situated in the East, but it is assuredly by no sectional feeling that they have been led, and we think our friends in other quarters of the country make a great mistake if they so interpret the action taken. It has unquestionably become the duty of every well-wisher of the Congress, no matter where he may live, to decline any participation in the emasculated affair which its present organization must necessarily lead to. The impression thus made upon the American Medical Association, together with the unusual care which we hope to see taken in the choice of delegates to its next meeting, may result in the regeneration of that body. This is a matter of even greater importance than the success of the International Medical Congress.

BROOKLYN AND THE INTERNATIONAL MEDICAL CONGRESS.

WE have heretofore given the new committee on the International Medical Congress the credit of having done as good work as seemed to be possible under the stringent restrictions imposed upon it by the New Orleans meeting. Our attention has lately been called to the fact of the very few appointments that fell to the city of Brooklyn—only three in number, while Philadelphia has forty-seven, Boston thirty, Baltimore twenty, and Washington (exclusive of army and navy surgeons) fourteen. In view of the stress that the New Orleans meeting laid on the principle of geographical representation, and bearing in mind that Brooklyn has a population of nearly three quarters of a million—larger, therefore, than that of either of the other cities mentioned, except Philadelphia—it is difficult to avoid the thought that the committee lost sight of the geographical principle in this particular instance. The principle is one which we consider it absurd to proceed upon in such a matter, and we should favor the best possible list of officers, even if every one of them lived in an obscure village; but, if it was to be carried out, it should have been done equably. Especially should such a glaring exception not have been made with regard to a city where so much is done to advance medicine as in Brooklyn. To be sure, the three appointees from that city, Dr. Hutchison, Dr. Squibb, and Dr. Raymond, are quite capable of making an excellent showing for Brooklyn, in case they attend the Congress, but they might appropriately have been reenforced by such men as Armor, Bell, Butler, Byrne, Fowler, French, Gray, Hutchins, Jewett, Mathewson, Pilcher, Rockwell, Segur, Sherwell, Skene, Speir, Thayer, Westbrook, and Wight—men whose names are known wherever current medical literature is read, and who are recognized leaders in the several branches of medicine to which they have devoted themselves.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 14, 1885:

DISEASES.	Week ending July 7.		Week ending July 14.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	0	1	0
Typhoid fever	13	4	9	2
Scarlet fever	35	5	31	9
Cerebro-spinal meningitis	4	4	4	3
Measles	56	12	55	10
Diphtheria	41	21	55	24
Small-pox	3	0	2	1

Small-pox.—A ship which arrived at this port last week from Liverpool had lost two of her crew with small-pox during the voyage. The vessel was quarantined and fumigated. Press dispatches allude to an epidemic near Creston in Iowa. It is stated that during the three weeks ending on Monday, the 13th inst., thirty-two deaths occurred from the disease in Montreal, fifteen of which took place during the last week of the three, and that six new cases were reported on the 13th. As will be seen by the report of infectious diseases, five cases were discovered in New York during the fortnight ending on Tuesday, one of which proved fatal.

New York State Medical Association, Fifth District Branch.—The first *annual* meeting of the Fifth District Branch will be held in Brooklyn, on Tuesday, October 13, 1885. There will be a morning and afternoon session. All fellows desiring to contribute to the meeting, either by reading papers, notes, or communications, or by exhibiting specimens, are respectfully invited to notify the secretary to that effect at their earliest convenience.

J. C. Hutchison, M. D., *President.*
E. H. Squibb, M. D., *Secretary*, 36 Doughty Street, Brooklyn.

The International Medical Congress and the Medical Profession of Washington.—At a meeting of medical gentlemen held in Washington, D. C., July 11, 1885, the following preamble and resolution were adopted:

Whereas, Certain changes have been made in the constitution and organization of the Ninth International Medical Congress which seem to us unwise, injurious, calculated to bring the profession into disrepute, and to endanger the success of the Congress, therefore

Resolved, That we, the undersigned, decline to hold any position under the said Congress as now organized.

Joseph Taber Johnson, M. D.	S. C. Busey, M. D.
W. W. Johnston, M. D.	H. C. Yarrow, M. D.
Swan M. Burnett, M. D.	A. F. A. King, M. D.
B. F. Pope, M. D., U. S. Army.	Frank Baker, M. D.
E. Carroll Morgan, M. D.	D. Webster Prentiss, M. D.
J. Ford Thompson, M. D.	S. O. Richey, M. D.

D. L. Huntington, M. D., U. S. Army.

The International Medical Congress and the Council of the New York State Medical Association.—The following resolution, recently adopted, reached us too late for insertion in last week's issue:

Resolved, That the Council of the New York State Medical Association respectfully recommend to the Committee of Arrangements for the International Medical Congress the following modification of the rule by which the American membership of the Congress is to be constituted, to wit: That the American membership of the Congress be constituted of delegates who shall be entitled to participate in the business and scientific proceedings, and of members who shall be entitled to participate only in the scientific proceedings of the Congress; that the delegates may be appointed by the American Medical Association and by State and local organizations in affiliation therewith in the proportion of one delegate for every ten or fraction of ten members of the organizations thus represented; that members of the regular medical profession of the United States may become members of the Congress by registering their names as such and by taking out tickets of admission.

The University of Vermont.—It gives us pleasure to insert the following deserved tribute to Dr. Wright:

"The Medical Faculty of the University of Vermont, having been unable to retain permanently the services of Professor J. W. Wright, of New York, as professor of clinical surgery, beg leave, in accepting his declination of the position, to extend to him, both personally and officially, their grateful appreciation of the eminent service he has already rendered the University of Vermont by his course of Lectures on Surgery, just concluded.

"As a skillful operator and a scholarly lecturer, both didactic and clinical, Professor Wright has given universal satisfaction. In leaving the Medical Department of the University of Vermont, Dr. Wright carries with him the best wishes of the Medical Faculty and of the corporate authorities of the University."

M. H. Buckham, *President, University of Vermont.*

[Signed.] A. F. A. King, A. P. Grinnell, R. A. Witthaus, J. Henry Jackson, Henry D. Holton, } *Medical Faculty.*

A New Hospital, endowed by the late Mr. Robert A. Packer and named after him, was opened at Sayre, Pa., on Monday of this week. The building was formerly Mr. Packer's residence.

The late M. Gueneau de Mussy.—According to the "Union médicale," a subscription has been started to obtain funds for a bust of the late M. Noël Guéneau de Mussy, to be placed in the Hôtel-Dieu.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 4, 1885, to July 11, 1885:*

Havard, Valery, Captain and Assistant Surgeon. Assigned to duty at Fort Wadsworth, New York Harbor. S. O. 140, Department of the East, July 2, 1885.

Wyeth, M. C., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort Wayne, Michigan. S. O. 140, Department of the East, July 2, 1885.

Powell, Junius L., Captain and Assistant Surgeon. Ordered from Department of the East to Department of the Missouri. S. O. 155, A. G. O., July 9, 1885.

Birmingham, Henry P., First Lieutenant and Assistant Surgeon. Ordered from Department of the Missouri to Department of the East. S. O. 155, A. G. O., July 9, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the week ending July 11, 1885.*

Byrnes, J. C., Passed Assistant Surgeon. Detached from the Powhatan for duty at Navy-Yard, Norfolk, Va.

Cordeiro, F. J. B., Assistant Surgeon. To the Powhatan as relief of Passed Assistant Surgeon Byrnes.

Curtis, L. W., Assistant Surgeon. To Philadelphia for examination preliminary to promotion.

Drennan, M. C., Surgeon. Placed on waiting orders.

Fitzsimmons, P., Surgeon. Duty on Receiving Ship Franklin, Norfolk Navy-Yard, continued until July 1, 1886.

Society Meetings for the Coming Week:

Monday, *July 20th:* Chicago Medical Society; Hartford, Conn., City Medical Association.

Tuesday, *July 21st:* New York Academy of Medicine (Section in Theory and Practice of Medicine); Medical Societies of the Counties of Kings and Otsego (Cooperstown), N. Y.; Ogdensburg, N. Y., Medical Association.

Thursday, *July 23d:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society.

Letters to the Editor.

THE RESPONSIBILITY FOR THE INTERNATIONAL MEDICAL CONGRESS MUDDLE.

BALTIMORE, *July 13, 1885.*

To the Editor of the New York Medical Journal:

SIR: I ask leave to say that I declined signing the resolutions in regard to the International Medical Congress that were forwarded from this city, and published in your journal of the 11th nst. (page 45), because they place the blame for the lamentable state of affairs entirely on the action of the new committee at Chicago, while, as it seems to me, that committee acted simply in accordance with the stringent restrictions imposed upon it by the unwise and revolutionary conduct of the American Medical Association at New Orleans in nullifying the action of the first committee, and thus opening the Pandora's box of the countless evils now agitating the American medical profession.

The resolutions passed at the meeting of the medical men of *Boston*, and published on the same page of your journal, meet with my cordial concurrence.

With great respect,

W. T. HOWARD.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of June 4, 1885.

The President, Dr. A. JACOBI, in the Chair.

Contagious Ophthalmia in some of the Orphan Asylums and Residential Schools of New York City.—Dr. RICHARD H. DERBY, the author of the paper, said it appealed to the hearer on the threefold ground of philanthropy, medicine, and social science. He referred to the report made to the County Medical Society in 1884 concerning the condition of the eyes of the inmates of three institutions in this city, and stated that since then twenty-four other institutions had been visited, containing in all 7,440 inmates. After describing the appearances of the eyes of one suffering from contagious ophthalmia, Dr. Derby said that in the first institution visited 24·5 per cent. of all the inmates had contagious conjunctivitis; in the second, 488 out of 1,586; in the third, 111 out of 782; in the fourth, 93 out of 188. The number of cases in this institution had decreased since his first visit, after which each of the inmates had been given his own towel and brush, etc., and the general hygienic state had been improved. The proportion of cases in several other institutions was then mentioned.

It was not the object of the paper to consider in detail the various conditions which led to the development of contagious eye diseases in the asylums visited. The part played by imperfect quarantine, bad lavatories, overcrowding, bad hygiene—all these had been discussed elsewhere. His purpose would have been attained if he drew attention to the fact that in the asylums of our cities, where children in large numbers were housed, being taken from unhealthy homes, there existed to an alarming extent a disease fraught with danger to the eyes of all assembled there. It would be noticed that in the institutions visited the larger number of cases of contagious ophthalmia existed where the inmates used the towels indiscriminately, washed in the same basin or trough, and slept together, and also where there was general bad hygiene. The disease might be present without attracting the attention of the attendants. In too many instances it went on insidiously, undermining the health of the eyes, until finally an acute attack took place, and gave rise to an epidemic of contagious ophthalmia. We had just seen that of the 7,440 inmates of institutions visited, 1,428, or 19·19 per cent., had contagious conjunctivitis, or nearly one in every five. Besides, in several of the institutions it was the custom to send the worst patients to their homes, where they might seek treatment outside, thus rendering probable the further spread of the disease among the neighbors. The parents of such children were not properly situated for carrying out effectual treatment, and were unable to care for them in a suitable manner. In many cases it was to the advantage of the institution to receive as many inmates as possible, and thus overcrowding was encouraged.

The Board of Health should be notified of every case of contagious ophthalmia in any of the institutions, and accommodations should be provided for isolating the patient until he was no longer capable of communicating the disease. There were enough cases of contagious ophthalmia in the institutions at present to fill a hospital devoted to their isolation and treatment. It behooved the members of the Academy of Medicine to make emphatic protest against the continuance of the present state of things.

Dr. H. KNAPP said the statements of the speaker ought in no way be underrated. He had been connected with a number of institutions as ophthalmic surgeon, and knew that in a number of them, and perhaps at certain periods in all of them, contagious ophthalmia existed. Sometimes the spread of the disease had been so great that the authorities of the institutions were forced to close them and to farm the inmates out. But he could, on the other hand, state that in many of the institutions the greatest care was taken to stamp out the disease. He mentioned the Catholic Protectory in particular, where, when an epidemic broke out, they called physicians and sought in every way possible to stamp out the disease, and the spread of the blennorrhœa was largely controlled. But, where an institution was once invaded, a number of cases were liable to continue for a long time. Two institutions never admitted a patient with eye disease until they had received a certificate from him that the disease was not contagious; the patients were sent to an ophthalmic institution until they were cured of the contagious affection. These institutions were remarkably free from eye diseases. He thought the suggestion of the author of the paper regarding competent inspection of all cases of eye disease in these institutions a good one, and believed that, if a physician were engaged to make a monthly report of the condition of the eyes of the inmates, at least large epidemics would be avoided. In this seemed to be the nucleus of the paper, and he knew of nothing more philanthropic which could engage attention.

Dr. D. B. ST. JOHN ROOSA said that that afternoon, at the request of the physician of an asylum, he had examined the eyes of 242 inmates and found 67 cases of conjunctivitis. These children were under as good care as they could have, thanks to the labors of the author of the paper, except that there was not isolation. But the authorities of the institutions were not altogether to be blamed for the existing condition of things. If there was any power in the Board of Health to correct such matters, it was its urgent duty to do so. Children suffering from eye disease were often forced upon the managers of asylums in a manner that they could scarcely resist. The writer had observed with great propriety how very wrong it was to send these children back to their already overworked parents or

guardians with the hope that they might remedy the matter. The remedy was easy. The tax-payers should pay for a hospital where patients suffering from contagious ophthalmia could be sent and retained until cured and then be returned to the institution without danger of spreading the disease. The subject was one deserving the consideration of political philanthropists, and the Board of Health should insist upon the erection of a suitable hospital, and it would be found, as it had always been found in like cases, that the people of New York were ready to give their money for deserving charities.

Dr. Oakman, of Nyack, said that during the winter the authorities of the institution at that place, where about one hundred inmates were admitted, failed to isolate certain cases of eye trouble which he advised should be done, they maintaining that the disease was the result of cold. In order to keep the inmates warm they were huddled together in an ill-ventilated room, and the result was that in the spring there were forty-four cases of catarrhal trouble of the eyes, seven of acute granular trachoma, and one of purulent ophthalmia.

Dr. C. R. Agnew said his interest in this matter had begun nearly thirty years before, when he saw a great many cases of contagious conjunctivitis during a famine in Ireland, and to this day that disease was quite common there, having started from overcrowding in poor-houses and other public institutions. He referred to a school in this city where contagious ophthalmia was communicated to eight tenths of the inmates, probably largely by the habit of washing together in one trough. They were also insufficiently fed, and several slept in the same bed. A remarkable change for the better had taken place when they were placed in tents and given four hundred quarts of milk a day instead of fifteen quarts. Dr. Agnew had great faith in the effect of agitation in bringing about a reform of abuses. It was not always wise to seek legislation, but in this case he thought something should be done by way of legislation. It should be required of those who were about to found an institution to lodge a certificate showing that they had made proper provision for air-space, shelter, food, and medical attendance for a certain number of inmates, and it should be made impossible for such institutions to receive more persons than the number for which they had the lawful accommodations. This was quite as possible as to regulate the number of passengers which a ship of given measurements should carry. The large majority of children in these institutions having chronic conjunctivitis never recovered, and they went to make up that large body of drifting, despairing creatures who infested our towns and cities.

Mr. Gerry, of the Society for the Prevention of Cruelty to Children, explained the manner in which commitments were made to these institutions, and said that, with certain exceptions, many of the institutions where the children were sent were entirely under the control of persons who had no knowledge of medicine, or even of nursing, and there was no provision in the law which required them even to seek the advice of a physician. Unless they were required to submit to the judgment either of a medical board or of some competent medical man, they would always have in their institutions cases of contagious ophthalmia. He was entirely in accord with the views expressed by Dr. Agnew, and thought that something should be done by law to provide for an oversight of these institutions by medical authorities. He thought, so far as an ophthalmic hospital was concerned, that the remedy was simple. Let the State pay liberally for the care of such cases, and they would find proper isolation and treatment. The difficulty with regard to the Board of Health was that it was a quasi-political body; it already had its hands too full of work, it had not the means, and, when money was asked for, it was put off with the reply that it was always calling for money. One objection to an ophthalmic hospital was that the people would feel that as soon as a child was sent there its condition was hopeless.

Mr. Milhau, of the State Board of Charities, explained the duties of that board with regard to recommending the establishment of institutions organized by private individuals, and said that, while such institutions usually started under favorable conditions, it was only a short time before they began to receive children faster than they were able to provide accommodations for them. Then there were institutions which were considered absolutely safe, being under the highest medical supervision, and yet ophthalmia would break out.

The President said it was apparent, from the remarks which had been made, that it was almost impossible to keep contagious ophthalmia out of institutions. The same was true of every other contagious disease; they all made their appearance at times in institutions crowded with inmates. All of these institutions were meant to do good, and all did at the same time a great deal of harm. Where there were many children there were many opportunities for danger. Measles usually was a very mild disease, but when it broke out in public institutions it became very dangerous, and the same was true of all contagious diseases; they were more fatal when present among the inmates of crowded institutions. In an eye hospital a mild case of ophthalmia would become a very severe one, and he was not sure that much good would come from a hospital devoted specially to those cases. The question would finally arise, whether public institutions where large numbers of persons were congregated should be allowed to exist at all. If the children gathered in those which at present existed were farmed out it would be much better for them; there would be fewer cases of ophthalmia and of blindness.

Dr. W. F. Mittendorf said it was difficult to make the public understand two points with regard to contagious ophthalmia: first, its great danger to the eyes, and, second, the length of time it required to cure it. He had had much to do with asylums, and he thought, with the president, that the crowding of children together in institutions was a great source of danger. In certain institutions where the inmates lived in cottages he had seen little of eye disease. Another point which was too often overlooked was the extreme contagiousness of the affection. It was because of its great liability to spread that the eye institutions in the city did not like to accept cases of contagious ophthalmia. The suggestion of the president was, it seemed to him, the best that could be adopted—namely, to put as few inmates into one building as possible.

Dr. Agnew offered the following resolutions, which were unanimously adopted:

Resolved, That it is necessary and expedient that steps be taken to prevent the occurrence of communicable eye diseases in the schools and asylums of New York and vicinity.

Resolved, That the Council of the Academy be requested to take the matter of the paper into its immediate consideration, to obtain the co-operation of the writer of the paper, of the Society for the Prevention of Cruelty to Children, of the State Board of Charities, of the State Charities Aid Association, and others interested in the subject, for the purpose of lessening the prevalence of communicable eye disease.

Dr. Roosa wished to say one word more in favor of an ophthalmic hospital. It had been shown in the discussion that contagious ophthalmia, although easily spread, was also amenable to treatment, and, so long as institutions existed where it was liable to occur, there should be a hospital where patients could be sent for isolation and treatment. Of course, this would not be necessary when things were in New York as they were in Utopia, and children were all farmed out instead of being put into institutions.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of June 4, 1885.

(*Concluded from page 55.*)

The Surgical Treatment of Infants.—Dr. WILLARD's paper was concluded as follows:

Congenital hydrocele rarely requires much surgical interference beyond an evaporating lotion of chloride of ammonium or alcohol, as a few weeks will often close the canal, if hernia does not co-exist—a fact which can be determined by non-translucency and capability of reduction. Should the connection with the peritonæum fail to close, puncture, with the application of a truss, will usually complete the cure. A hydrocele with closed canal is better treated by tapping and injection than by seton. The diagnosis between *encysted hydrocele* of the cord, *hernia*, and *undescended testicle* is sometimes difficult, but, if the surgeon remembers that the former is simply a cyst in some unobliterated portion of the peritoneal coat of the cord, that its rounded shape can be detected if it is pulled well down into the scrotum, that it is usually translucent, that the impulse is not so decided as in the case of hernia, that it returns to the abdomen only by being pressed upward and not with a slip and gurgle, he will rarely be led astray. A hernia may co-exist with either of the above-mentioned conditions, but, if non-adherent, careful isolation will settle the diagnosis. Should the hernia become strangulated or the non-descended testicle become inflamed and infiltrated, the most careful examination will be necessary. In retained testicle, its absence from the scrotum will be the first point in arriving at a decision, but even in such a condition the organ might be within the abdomen and an encysted hydrocele present, or the testis might, as has recently fallen under my notice, slip into the tissues of the perinæum and be exceedingly difficult to discover. In the case just mentioned it sometimes requires numerous manipulations to cause the missing organ to return to its place in the pouch. Should hernia and retained testicle both exist, a double purpose can be gained by drawing the latter down, and pushing the former up and then applying a truss. The successful retention of the organ within the scrotum is a matter of great difficulty, and removal is scarcely justifiable in young persons unless pain or inflammation ensues. Extirpation, if required in later youth, will probably not interfere with the procreative power of the individual, since one gland will supply all requisite material, and the affected one is practically useless from atrophy, even if it is not devoid of tubular structure. Traction is of little service, as manipulation tends to increase the sensitiveness of the organ.

Simple *umbilical* and *inguinal hernia* should receive early attention, as, contrary to the rule in adults, a cure can often be effected during the first year of life by the persistent use of a truss. In young infants I prefer the hard-rubber variety as more cleanly. The instrument should be applied during the first few weeks of life and continued for one or more years. The treatment of strangulated hernia does not differ from that in the adult, but, in obstruction of the bowels, *intussusception* is so commonly the cause of the blockade that, unless violent peritonitis is present, laparotomy, with careful search for the invagination, offers the best hope of relief, and, I am glad to say, is rapidly growing in favor.

Meningocele, *encephalocele*, and *spina bifida* are complaints that will early require the surgeon's attention, or at least his expression of opinion and his prognosis. If attached by means of a narrow pedicle, constriction with an elastic band is feasible, but, unfortunately, this pedicle is but seldom found. Injection of iodine, following tapping, is rarely successful, yet is worthy of trial in so hopeless a task. In a large hydrorrhachis of the lumbar region, lately under my care, which resisted pressure, tapping, injection, and constriction, I was strongly inclined to excise the thin sac and attempt a plastic operation by drawing in toward the median line two flaps of skin from the lumbar region, leaving the vacancies to granulate. Soon after a consultation, in which I was dissuaded from my attempt, the tumor ruptured spontaneously and death occurred in two days, although frequent tappings had never produced any nervous symptoms. I had then never seen a record of such a plan of procedure, but only last week I noticed in the "Journal of the American Medical Association," vol. iv, No. 17, p. 466, that Mr. Robson had performed this operation with successful results in two out of four cases. Strict antisepsis was enforced.

Cephalhæmatomata are usually easily distinguished from encephalocele or meningocele, and also from the simpler tumor, caput succedaneum, the latter being exterior to the periosteum and more doughy. The blood in a cephalhæmatoma is always confined between the pericranium and the bone substance, and increases until the second or third day. The hardened ridge around the border of the tumor may give the sensation of an opening in the bone, but the orifice in meningocele is rarely as large as the base of the swelling mentioned. The peculiar crackling feeling upon pressure at a later period is due to the new bone deposits beneath the periosteum. Absorption so generally takes place in three or four weeks that aspiration or incision is unwise, even though antisepsis be thoroughly practiced, unless in exceptional cases when suppuration is certainly present.

Hare-lip will early require the careful study of the surgeon, situated as it is upon the portion of the body that is most regarded from the cosmetic point of view. Its proper relief therefore becomes not only a matter of surgical skill, but of surgico-artistic skill. The time for the performance of the operation is a point upon which there is a wide diversity of opinion. My rule is to relieve the deformity within three or four days if it interferes with the proper nursing of the child. Practically I must confess, however, that by the end of the operation the milk has left the mother's breast, unless there is some other baby to maintain the flow. My preference is to wait about three months, until a full, vigorous activity of growth and cell action is at work, and before the process of dentition has commenced. This period is selected not only for the reason mentioned, but also because the child can not use its hands so freely as at a late period of infancy, thus avoiding risk of injury. In one patient a year old, diphtheria appeared on the day following operation, and in his convulsions all the pins were twice torn entirely from their fastenings and the fresh wound became implicated. In spite of such complication, an excellent result was obtained by holding the parts in position for days with adhesive plaster cut in the form of a triangle, sufficiently large to cover at its base the area from in front of the ear to the corner of the hyoid bone, with its apex prolonged at the width of the upper lip to meet a similarly shaped piece from the opposite side. These sections were united by a small elastic ring which maintained a constant pull upon the tissues of the cheek and controlled spasmodic muscular action. In fractious children I have now discarded pins and have substituted catgut sutures for the mucous surfaces, which, if of small size and tied in three knots, will remain in position until union occurs. For the skin edges I use carbolized interrupted silk sutures, my reason for stitching the surfaces separately being that there is less linear depression of the cicatrix, and less constriction of tissues is thereby exercised than by pins and the figure-of-eight, while, if each set penetrates half-way through the lip antero-posteriorly, the sphincter is thoroughly controlled. One of the stitches should pierce the coronary arteries. To prevent pouching of the flaps or separation of the deeper parts by oozing, horse-hair drainage

for a few hours answers the best purpose. Additional control of muscles should be given by adhesive plaster prepared as above indicated or by strips, which should not only be applied transversely, but, in order to prevent strain, should commence upon the neck on either side, in front of the sterno-mastoid, near the cornu of the hyoid, and run thence just above the angle of the mouth across the opposite malar to the front of the ear. If these are all put in position while the surgeon pinches the cheeks well together, he will find, upon releasing his grasp, that the minimum of tension is exerted upon the stitches. A still better plan is to have the nurse regulate this muscular action for the first few days by pressure whenever the child cries or eats. Only by securing union by the first intention can we hope to have a narrow cicatrix; hence I do not allow the child to suck, as is the practice with some surgeons, but prefer spoon-feeding, as producing less disturbance. For the same reason, anodynes should be employed to control pain and keep the little one for a few days in a quiescent state. The child should be in the best possible condition physically, as quick union is desirable. To avoid the marginal depression so commonly seen, and which is inevitable if the simple inverted V-incision is used, I never sacrifice any portion of the paring, but, commencing the incision at the apex of the cleft, stop it just before it reaches the border of the lip, thus leaving a base of supply to nourish the flap which remains on either side. These two flaps, when the parts are brought together, project downward and form a fleshy prominence: but, if stitched nicely together, will unite and, from subsequent absorption during the next year, give a slight projection. Even should this be larger than desirable, it is far preferable to the ugly notch which can not be corrected, since a simple scissor-cut will remove all redundancy and give a nearly normal lip. The same rule in regard to utilization of tissue holds good in complicated cases of hare-lip when it becomes necessary to save as much of the alveolus as possible. Broken or cut, it can often be worked to advantage in bridging the chasm or supporting a fallen nasal septum.

If *cleft palate* co-exists with hare-lip, an additional necessity for early treatment is present, since the closure of the lip will tend greatly to lessen the gap in the hard palate. Dentists realize more fully than surgeons how slight is the pressure required to act upon a tooth or upon the alveolar process, but a moment's reflection will convince any practical man that such narrowing can be accomplished even if he has never witnessed it. In these instances, as in hare-lip and many other deformities, neglect is often as much the fault of the physician as of the family. An early operation upon the lip, strong pressure upon the maxillary bones, followed by the use of a Hainsby's compressor, will in a few years bring the cleft so close together that a single operation will unite the edges.

These are the considerations which influence me in advising that, while the lip should be closed early, the cleft-palate operation be deferred until the plan has been tested. Few children from five to ten are tractable enough to endure the pain of a staphylorrhaphy without ether, which is desirable, and I see no particular harm in delaying the procedure until the latter period, save that the unused or malused muscles will require a longer period of education after closure. In a recent staphylorrhaphy upon a boy of sixteen the letters of the alphabet could, however, all be correctly pronounced in three weeks except the *k* and hard-*c* sounds. If a good velum and uvula can be secured by union, the hard palate can be admirably assisted by an obturator. Only last week, by preliminary touching and the use of cocaine, I was able, in a child of five years, to make the parings without pain, and thus avoided anæsthesia until all hæmorrhage had ceased, ether being employed for stitching only.

Tongue-tie is a condition that exists more frequently in imagination than in reality, yet the operation for its relief need be no more than the most trifling nick of the frænum, the finger completing the work. If the organ can be protruded to the red border of the lip, no operation is necessary.

Club-foot is a deformity which is frequently neglected, not alone from the apathy of parents, but, as is shown by the cases which come under my notice, far more frequently from the incomprehensible advice of the family physician, who has counseled that "nothing shall be done for the present." Weeks slip away into months and months into years, during which time one set of muscular fibers and one set of ligaments have become elongated, while the opposite ones are atrophied, condensed, and shortened. Bones, too, have become distorted and wedge-shaped, and the difficulties have, of course, increased fourfold with each advancing year. I have never been able to see any reason why delay should be countenanced a single day after birth, since manipulation and subsequent fixation can easily be accomplished at the first dressing of the child. I know of no words sufficiently strong to characterize such neglect of duty as is seen in numerous instances. Twice in the last three days have I had this matter brought before me by parents who have come to the office and who have given as the reason of their inaction that the physician had directed them to wait. Even before the age for walking, great condensation of tissue will take place and increase of deformity will occur from simple pressure of clothing, but, as soon as the weight of the body is brought to bear upon these misshapen members, the change will be rapid. The secret of the cure of club-foot lies not in operation, but in careful attention to all the means of relief. At the first hour of birth, as I have said, manipulation should be commenced by bringing the foot from the abnormal into a normal position, or as near it as possible, and confining it there by wood, felt, binder's board, or leather splints rightly adapted. At the next visit, leather, gutta-percha, or, preferably, printer's-blanket cinctures, should be laced upon the foot and leg, and connected by an elastic strap. The two-ply printer's blanket, with its rubber face, does not slip, even when applied with only moderate tightness, thus being superior to other materials. Hook-eyelets are easily inserted by any shoemaker, and the lacing need not impede circulation. Manipulation can be practiced twenty times a day without taking off the apparatus, while removal at night gives opportunities for massage, frictions, etc. If co-operation of parents is wanting, plaster of Paris can be employed with excellent advantage for fixation, a gain being effected with each month's renewal of the dressing. Leather, felt, sheet-lead, and silicate of sodium are of use, but do not permit removal for manipulation, and are, therefore, inferior to the bands already mentioned. These bands, which permit of constant elastic traction day and night, are very inexpensive if remnants are bought. Their use puts the successful early treatment of any case of talipes into the hands of the ordinary practitioner for the first few months of life. In cases which are of a severe type, a subsequent operation is usually necessary, but the manipulation which has been practiced up to the time for tenotomy stretches condensed tissues and increases nutrition so that relapse after division of the tendons will not occur, if the same measures are continued subsequently. Failure after tenotomy is nearly always due to the neglect of manipulation. The special form of apparatus is far less important than a strict attention to details. The chief advantage of the shoe which I employ lies in the fact that it permits manipulation and stretching without removal, owing to its flexible sole-shank of upper-leathers, which acts perfectly as a ball-and-socket joint, the force being exerted by an elastic strap operating upon the foot

through a catgut cord passing through an eye attached to the upright. The eye-bearing arm is ordinarily constructed with too little an outward bend. If I can control the patient I rarely operate until I have the tissues thoroughly stretched, but if the foot can not be placed upon its plantar surface at eight or nine months—that is, when the age of walking arrives—tenotomy should be delayed no longer, since each step will increase the deformity. In operating, I divide every tissue that interferes with perfect straightening, whether it is tendinous or fascial. The tendon of the posterior tibial is an exceedingly difficult one to sever in a fat infant with a poorly developed heel. The puncture should be made just below the malleolus, and, having placed the back of a tenotome toward the artery, division can be safely made. Tenotomes, as found in the shops, have too long a cutting surface for infantile work, as the sharp edge will frequently enlarge the external wound unnecessarily. It is my practice to leave the tendo Achillis until the end of the operation, in order to gain its fixation power in the leverage required for stretching the parts into position, a procedure which is best accomplished at the time of operation. The amount of power which should be employed in this process is governed by the degree of resistance and the caution of the surgeon, special care being taken that the force is expended only on the resistant tissues. In the class of cases with which this paper deals—namely, those of young infants—it is scarcely possible that tarsectomy could be called for, although an English surgeon has thus operated upon a sixteen-months-old babe. I now use the gypsum dressing entirely after tenotomy, not only since it is less expensive, but chiefly because it holds the foot and heel in much better position than is possible by any apparatus, and is less liable to produce sloughing, because the pressure is exerted over the entire surface. The instances where plaster produces a slough are always due to faulty application, mainly caused by some indentation produced during the setting process. If the bandages are smoothly and rapidly applied (salt having been added to the water in which they are immersed), the surgeon can, by grasping the knee, hold it steadily in place, while, with the palm of his other hand placed against the plantar surface of the child's foot, complete rectification can be maintained until the plaster hardens without danger of depressing any region of the cast. A dossil of curled hair or cotton placed over the ball of the great toe and the prominence of the cuboid or astragalus, and confined in position by the flannel bandage enveloping the foot, will also assist in averting any harmful pressure.

I can not too strongly emphasize my appreciation of plaster of Paris in the treatment of *fractures* in infants, giving, as it does, a perfectly adaptable material, and yet, when hardened, securing an immobility of the injured part that permits free handling, provided the articulation both above and below the injury is included in the dressing. This is feasible even in fractures near the hip, since the splint can be made to encircle the thorax, and thus prevent the great motion that is always present if only the pelvis is fixed. No risk of injurious swelling need be feared if a flannel bandage or a thin layer of cotton is first applied to the limb. It is better to saw open a dressing at the end of two weeks, and either tighten it or apply a new one. Silicate and other rigid dressings harden so slowly that displacement may occur during the process. The fractures occurring during birth are often overlooked for several days, and the fact that the child moves a particular portion of its body freely is not proof that lesion of bone has not occurred. I have seen several instances of fractured clavicle in which the child indulged in most vigorous movements of the arm. These collar-bone breaks are quite common, either from falling out of bed, from careless handling, or from the playful jerking of other children. The under-waist of an older child, placed in proper position over the sound arm and pinned tightly around the body so as to include the injured member, often keeps in place better in fat babies than a Velpeau bandage, especially if the hand is secured with a loop. Borated cotton should be placed in the axilla.

Green-stick fractures are best treated by etherizing the child and slowly straightening the bone by hand-pressure. Even should complete solution occur, the result will be good. A slight curve can be reduced by a splint and bandage. Separations of epiphyses are practically fractures, and should be treated as such.

Dislocations do not differ from similar injuries in adults, save that they are even more readily replaced by manipulation.

The resultant deformities of *infantile paralysis* are numerous, and are frequently passed over by both physician and parents, under the erroneous impression that nothing can be done for the relief of these poor weakened members. Recognizing that restoration is best accomplished by massage, electricity, etc., and particularly by action, it is my rule never to assist a muscle if it is capable of permitting locomotion, or unless deformity is being produced by non-support. The following are the considerations that determine the necessity for apparatus: If a bone is bending, an articular surface becoming distorted, a ligament yielding, or muscles becoming atrophied from excessive stretching, or if, by applying a support, the child can be made to walk, then I always order an apparatus which shall not take the place of the enfeebled muscles, or put them in splints at rest, but which shall render just enough resistance to enable them by contraction to accomplish the desired purpose. If rigid steel is used, they will soon relinquish their attempts at assertion of power, and enfeeblement will increase. By a judicious adaptation of mechanical appliances, many who are now condemned to chairs and beds can be placed upon their feet. The advisability of tenotomy will depend upon the benefit to be gained by such a procedure. In many cases it will assist greatly in placing limbs in proper position for locomotion, and for this reason its mechanical effect should be thoroughly studied. My observation leads me to believe that it is employed too seldom. The excision and shortening of tendons by suturing is often of advantage. Any irregularity in the length of limbs should be counteracted, lest lateral curvature result.

Nævi, if situated upon exposed portions of the body, must be cured early in life if rapidly increasing in size, and in the majority of cases should be attended to before six months is reached. The question of excision, ligature, subcutaneous ligature, injection, electrolysis, or sun-heat, will depend upon situation, size, etc.

Webbed fingers and *supernumerary toes and fingers* will yield smaller resultant scars if operated on during the first half-year of life.

Wry-neck may follow injury to the spinal accessory nerve during labor, or it may be found as a result of some of the exanthemata. If resistant to local and constitutional remedies, myotomy should be performed at the end of a year.

Spinal caries in young children can be retarded by placing the sufferer upon its back between two sand-bags, while passive motion is employed to develop muscular power. A jacket or cuirass may be added if bone-death is rapid, or if difficulty of retention is experienced. Horizontal extension is rarely necessary. I have occasionally seen *lateral curvature* in weak infants caused by the mother's habit of always holding them in one position, the reversal of which custom has, together with constitutional remedies, completed a cure. It may also be the result of a rhachitic tendency, which will necessitate the appropriate medicinal and hygienic management. Simple posterior

curvature, and also lordosis, are sometimes found, and should be closely watched, as other symptoms of that disease of malnutrition, rickets, may soon present themselves. Dorsal decubitus should be maintained until the proper treatment has had time to strengthen the child. *Rickets*, fortunately, is seen upon this side of the Atlantic far less frequently than on the eastern shores, and, I am thankful to say, is seldom found in Philadelphia even as compared with New York. In fifty thousand cases in our hospitals, I find that fewer than fifty are enumerated under rickets and its results, including knock-knee, bow-legs, etc. Its onset is usually within the first six months of life, but, unfortunately, many cases are not brought to the notice of the surgeon until one or two years have elapsed and great deformity has already resulted. When pronounced, the most rigid care should be taken to prevent the distortions, from which no bone in the body seems exempt. The effects upon the female pelvis are most disastrous, as life is thereby endangered. The recumbent position is the only safe one, and must be maintained until the general remedies have time to act, passive motion meanwhile taking the place of active. The *tibial curves* are the most common of defects. Very slight bowing is sometimes corrected in the growth of the individual, but we have no more right to expect that such a result will spontaneously occur than that a crooked tree will be blown into the upright position by chance winds. The proper means should always be used to compel rectification. If the bones are spongy, much can be expected from manipulation, pressure, and apparatus properly constructed. During the first two years of life we may confidently hope to accomplish a good result by such means, but in later childhood or adult life, if the deflections are great and the bones rigid, and especially if the curve is anterior, but little can be gained by these means, and osteotomy is the more certain and speedy means of relief. The risks of this operation, if done antiseptically, are but very slight, as the case, if sealed, becomes one of simple fracture. Plaster of Paris, again, gives us the best means of fixation after operation, and is very comfortable to the patient.

I approve of instruments in lateral bow-legs, but, when they fail to secure straight limbs in the class of cases above mentioned, I firmly advocate operation. The deformity, if allowed to continue, is not only unsightly, but also interferes greatly with the locomotive powers. It is not true that a bow-legged man is strong. He has, on the contrary, to use his limbs at a disadvantage, and, if he is vigorous, it is in spite of his complaint.

The question of *tracheotomy in young infants*, with whom our present discussion chiefly deals, is one demanding the gravest consideration, whether the dyspnœa originates from diphtheria or from true croup. So fatal are the results that the mortality in babes below the age of six months is placed by some writers as high as ninety-five per cent., and, even taking all under two years, we can not expect to save more than from ten to fifteen per cent. When we consider, however, that some English writers place the mortality of croup without operation at ninety per cent., we can not believe that the operation has increased the number of deaths. Moreover, when cases are taken at the most favorable age and the most favorable conditions, we can scarcely hope to save more than twenty-five per cent. of all patients operated on. I have spoken thus in regard to prognosis since some surgeons absolutely condemn the employment of tracheotomy for these young patients. I can not feel, however, that they are absolutely hopeless, and, if surgery can relieve them from the horrid death by suffocation, we should not hesitate to give them the aid of science, although a true tracheotomy is well-nigh impossible in a young, fat infant, owing to the exceeding shortness of the trachea and the great size of the thyroid body. It is usually best to do an inferior laryngotomy (or crico-thyro-laryngotomy), making the opening through the crico-thyroid membrane, and also through the cricoid if necessary. The risk of hæmorrhage is thereby greatly diminished, since, while the crico-thyroid arteries may be cut, they will be far less troublesome to secure than the vessels about the thyroid body or the middle thyroid artery, which often lies in front of the trachea. Again, the innominate artery may rise high in the neck, or a wound of a vein near the innominate may speedily kill the little one, as has happened in a number of instances, even when the operator has been experienced. The fact that surgeons who have opened the windpipe several hundred times look upon this operation as an exceedingly difficult one is proof that the utmost care is necessary. The danger of wandering from the median line may be partially obviated by having the child's head kept perfectly straight and by placing the body in exact line with the table. The trachea is sometimes missed because it has not been thoroughly cleared of everything before attempting to open it. The puncture should be made firmly but guardedly. The size of an infant's trachea will surprise one who has never studied it. Although I have given large and special study to the anatomy of childhood, both from the cadaver and clinically, my first tracheotomy patient died on the table before I could insert the tube, my error being in trying to push the cannula too far back. Unless the urgency is great, ether should be given in moderate amount and the operation carefully performed. A plunge into the trachea is never good surgery; in infants it would be worse than folly. If a circular piece is taken from the crico-thyroid membrane and the cricoid, and a pilot used, introduction will be rendered more easy. In fat necks, the windpipe may be brought nearer the surface by extending the head far backward and by grasping the tube on either side and dragging it forward. If fixed thus in the median line and retained continuously by an assistant, much time will be gained. In a recent case I found it wiser to go above a large thyroid body, even in a five-year-old child, and insert the cannula in the crico-thyroid space. There was afterward a slight burying of the upper edge of the plate, owing to its high position, but a strip of sheet-lead obviated this difficulty. To arrest the venous hæmorrhage, just before puncture, hot-water sponges answer admirably. After operation, the temperature of the room should be kept above 80°. I have never opened the larynx to remove a foreign body in a very young child, but the universal habit of making the mouth the general receptacle of everything makes the introduction of such substances exceedingly probable at from one to two years.

Foreign bodies in the nose, which can not be seized, if not removed by sternutatories, should always be sought for with the aid of anæsthetics. In the ear the opposite mode holds good, since consciousness of pain will often prevent an unskilled practitioner from doing great injury to the membrana tympani.

Joint diseases are best treated by recumbency, with fixation or extension.

Excisions are rarely performed at this early age, and need not therefore be discussed.

I omit strumous and syphilitic diseases and a score of other conditions, which might well detain us for hours, since time forbids.

I have thus, gentlemen, hastily touched upon only the more frequent of the surgical maladies met with in daily practice among infants. Many of the suggestions may be already familiar to you, but even the brief mention which I have been allowed to bestow upon each subject may possibly have served to revive in your minds old and forgotten experiences, and thus be helpful. You will, at least, see that the field is a wide one, and that results are most encouraging.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of May 19, 1885.

(*Concluded from page 49.*)

The Eradication of Syphilis during the First Stage by Surgical Means.—Dr. A. H. P. Leuf read a paper on this subject. [See page 36.]

Dr. F. N. Otis, of New York, said that the treatment of syphilis was a subject in which he was very much interested, and especially as to the point which was announced for discussion this evening, namely, the eradication by surgical means. It was a subject which had interested the surgical world for a number of years. Auspitz and Kölliker, of Vienna, he believed, were among the first who had claimed success in eradicating syphilis by excision of the initial lesion, and reported a large number of cases—something less than half a hundred. Others had supported the claims of Auspitz by citation of similar success both in this country and abroad, but it was still a mooted question whether or not syphilis could be eradicated by excision of the initial lesion. It was well understood and had been ably expressed by the author of the paper that the invasion of syphilis was a gradual process, that the chancre, or initial lesion, was the first manifestation, and the second observable manifestation was the enlargement of the glands in connection with it, wherever situated. There were, however, a number of points about which mistakes might arise in taking the paper exactly in the terms in which it had been read. For instance, in describing the chancre as an "ulcer" we had to recognize that the chancre was not an ulcer primarily, and was not necessarily an ulcer at all, and that the processes of syphilis were not destructive. There was always destruction in chancroid, and this was one of the differences between chancre and chancroid. Chancre might be acquired without any recognized abrasion or breach of the surface. The virus might enter through a ruptured hair follicle. Syphilis might enter through some unobserved wound, which healed promptly, no destruction taking place, and yet the person would have syphilis just as certainly and as severely as if the introduction of the syphilitic principle was followed by a typical Hunterian chancre. It was not a process of destruction, but of *proliferation*, from the very beginning. Proliferation and aggregation of cells, wherever it commenced, were always its characteristic, whether great or small. Now, excision of these cells had been asserted to relieve the system of danger of syphilis, they being assumed to be the starting-point. It had been demonstrated by histologists beyond cavil that this difficulty, instead of being the result of a general instantaneous infection, always commenced at a given point, and that there was a contagium introduced through a lesion of the skin, or mucous membrane, which traversed the system slowly through the lymphatic spaces and vessels. Having, then, its beginning at a certain point, if it could be determined that it had not gone much farther, we might hope for its eradication by surgical procedure. But the syphilitic principle, so far as we know anything about it, was a cell which possessed the power of motion, the power of traversing tissue, and it had also the power of generating other cells having equally the power of traversing tissues. They were not quiescent, but were always moving to a greater or less extent, and in a short time—a few days or, perhaps, weeks—they would have traveled along the lymphatic vessels and have established local points of proliferation in neighboring lymphatic glands, thus accumulating, so that the glands became emphatically identical with the chancre—the initial lesion of syphilis. They contained the same vitiated cell material. Inoculations with the cell material from these glands would produce syphilis in a healthy person as certainly as with the secretion of the typical chancre. We had, then, these cells traversing lymph-spaces and vessels; and it had been maintained, on examination, that they often clung to the sides of the lymph channels on their passage through them, and in this way often blocked up such channels completely for the time being. It was not unusual to see a line of lymphatic vessels extending from the initial lesion to the glands in the groin distinctly marked by an induration caused by accumulation of newly generated cells, and, if this be the case, it seemed impossible, then, that by excision of the initial lesion alone syphilis could be cured. In order to prevent its passage into the system, we must eradicate every infected cell, not alone the initial lesion, but those which had passed from it into the lymph-spaces, vessels, and glands in connection with it. This, of course, would necessitate an amount of surgical interference which would hardly be justifiable under the circumstances. The facts were, so far as he knew anything about them, that as yet no case had ever been cured by a simple excision of the initial lesion, for the reason that the cells had got beyond the reach of the surgeon's knife before he had ascertained the presence of this accumulation. He had himself excised perhaps twenty or thirty chancres, and carefully kept track of the patients afterward. In some of these cases no positive secondary symptoms had followed, but there was always a doubt about such cases whether the diagnosis had been correct or not. In these cases he had traced the source from whence the disease had been acquired; but he assumed, from their history and appearances, that they were genuine cases of syphilis.

It would not surprise him very much to see some of these cases of excision, in which no secondary manifestations had followed, develop what was called tertiary lesions ten, fifteen, or twenty years hence. We saw so many cases where there had been no secondary lesions apparently, and yet the sequelæ showed that the disease did exist. We must recognize this fact, then, that there were a great many patients who had the secondary stage so slight that it escaped observation, and this was a source of a great deal of mistaken diagnosis, and assertions of success in treatment which had no real foundation in fact. Among other points of special interest alluded to in the paper just read had been that of hereditary syphilis. It was a question of great interest. He would like to say a few words in regard to this subject, and especially to look at it from the point of view which was taken by that most distinguished syphilographer, Mr. Jonathan Hutchinson, of London. He said that *syphilis was not an hereditary disease;* and he said distinctly that *syphilis was no more hereditary than small-pox, and was hereditary in the same way as small-pox.* It was the *disease*, and not a *diathesis*, that was communicated. This would be found in his article on syphilis, etc., published in London, in 1884, in a little work entitled "The Pedigree of Disease." This position was certainly a very startling one in view of the doctrine heretofore held by the profession at large. For his own part the speaker was quite willing to accept it. In point of fact, the views which he had held and advocated, first in his "Physiology and Pathology of Syphilis," published in 1880, made such a conclusion the logical sequence of the position assumed in that work. Afterward, in his work on "Genito-urinary Diseases and Syphilis," published in 1883, there occurred a chapter on the syphilis of infants and the so-called hereditary syphilis in which the question was considered from the standpoint of a gradual material syphilitic infection through a diseased cell or germ as opposed to the mysterious instantaneous doctrine held by most authorities, and the only logical deductions from these premises fully warranted the statement (first made by Mr. Hutchinson in 1882) that syphilis was never the result of hereditary transmission. It seemed to him that there were

many things that hitherto had not been understood which pointed to the truth of this teaching. For instanee, syphilis was said to be eommunicated by the male parent to the ehild by heredity. This was aecepted by almost all authorities. Now, it was likewise asserted by all authorities that the physiological secretions—sweat, milk, saliva, mueus, urine, tears, and *semen*—did not contain the eontagium. The latter was partieularly mentioned. They all mentioned it. If we referred to any of the transatlantie authorities, we should find this statement confirmed. Our own authorities — Bumsted, Taylor, Van Buren, and Keyes—all stated distinetly that it was well ascertained and aceepted that *the semen did not contain the contagium* of syphilis. If that was the ease, it would be interesting to know how they would answer the question as to how the male had access to the ovum—how the male could eommunicate syphilis to an embryo or to an unborn child. This was a question which it might be well to think of. The faets probably eould be shown to be that whenever the ovum, or fœtus, or child had syphilis—syphilis that had been aequired *in utero—the mother had first been infected;* that, if due to the male parent, he must necessarily have given the disease first to the mother, and she in turn to the ehild. Now, there was a curious fact spoken of by Diday. He said it was a well-known *law* that no woman eould communieate to her infant a syphilis which she had acquired not to exeeed two months previously to the birth of the ehild. So certain was Diday's belief in this law that he said he was willing to give to a healthy woman to nurse a ehild of a woman who had acquired her disease *not more than two months previous to her delivery.* Now, there were two months during whieh it was accepted as a clinical fact the child is safe. If the mother aequired her initial lesion only two months previous to the birth of the child, that ehild could not aequire syphilis *in utero.* The question at onee arose, Why was this? It was beeause the syphilitic poison was not yet in the blood of the mother, that it required *two months* at least for it to get into the blood of the mother, and then only eould she communicate it to the embryo or to the child. This also proved what had been stated in the paper of the evening in regard to the gradual infection of syphilis. Before this was understood, this rule of Diday could hardly be comprehended.

Dr. Bartlett, of Flatbush, remarked that all physieians having a large experienee with the criminal elasses knew but too well the moral, intellectual, and physical misery and degradation entailed by syphilis. In view of this, he thought that, in certain cases, both for the good of the eriminal and the protection of soeiety, a more radieal and serious surgical operation would be justifiable than the one proposed. The principle of heredity was so strong that society had the right to protect itself in these cases by preventing the possibility of procreation.

Dr. George R. Fowler took exception to the statement made by the essayist that tertiary symptoms of syphilis almost always occurred. The speaker was of the opinion that syphilographers of the present day maintained that tertiary symptoms, and particularly those of a severe type, were rather rarely met with. He further believed that it was a growing impression that syphilis in its protean form was, so to speak, "running out." The syphilis of to-day was not the syphilis of one hundred years ago, and many of the cases which were supposed to have escaped syphilis beeause of excision of the initial lesion were cases in which possibly no manifestation of the disease would have occurred at all. He alluded to the faet that in Auspitz's experiments, in those eases in whieh the characteristie sclerosis reappeared at the point where the ehanere had been excised, eonstitutional syphilis oecurred irrespective of the existence or non-existence of indurated glands prior to the excision. This must make it appear that there was a stage of the disease during whieh the condition of the glands, so far as we were able to determine it, had very little, if anything, to do with the development of the sequelæ, if the subsequent stages in their development might be so denominated. Dr. Leuf had said it was well proved, although not generally known, that self-inoculation was possible prior to systemic infection; and that brought us at once to the important point in the discussion of the question of the excision of the initial ehanere together with the indurated glands. The eases cited by Auspitz, in which eonstitutional syphilis occurred in spite of the faet that no induration of the inguinal glands took place prior to sueh development, suggested the possibility of channels of infection other than these lymphatics. He recalled a ease in which a surgeon removed a tumor of the testiele, and, while excising some indurated glands in the groin, accidentally pricked his thumb. In due course of time a syphilitic chancre made its appearanee at the site of the little wound, and this in its turn was followed by constitutional syphilis. Although the patient had denied venereal disease when admitted to the hospital, yet he acknowledged to the surgeon subsequently that ten years before he had had a sore upon his penis, for whieh he did not seek advice, and that the indurated glands in the groin had existed since that time. No other manifestation of the disease had ever occurred. If it eould be supposed that this patient had kept the virus stored up in these indurated glands for ten years, then we eould see our way clear, in a eertain proportion of cases, to a hope of benefit to be derived from exeising sueh glands as early as praetieable.

Dr. Leuf, in coneluding the debate, saw, in reference to the remarks of Dr. Otis, that that gentlemen had entirely misunderstood him. He had expressly stated that the primary lesion was not an ulcer. With referenee to the implication of the lymphatie vessels, if they were at all involved, perhaps whether they appeared to be involved or not, it might be most proper to excise them. As to the justifiability of the operation, he would say, if it was justifiable to extirpate a whole breast, to dissect away all the fat and superficial fascia down to the peetoralis major, and elean out the whole axilla because there was a little nodule in the breast, it certainly ought to be justifiable to remove from the end of the penis a small sore, and even a few glands and lymphatic vessels running therefrom. With referenee to Dr. Fowler's observation that syphilis was not so bad as it was one hundred years ago and was "running out," the speaker thought if that were so the operation might be justifiable on the ground that by its means it might be made to "run out" so much the quicker, and he thought it was not wise to exeise the lesion without scooping out the glands also. If these lymphatie vessels and everything in their immediate vicinity were excised, "eleaned out," he thought an additional safeguard would be effected, and he did not think the operation very dangerous. A surgeon of the enthusiasm of Dr. Fowler ought not to see any particular danger in it. Dr. Fowler had also referred to the possibility of there being some other channel of absorption on aceount of the non-infection of the glands, apparently. There seemed to be no other channel exeept the blood, and the speaker thought that idea had been refuted in the paper. If it was not through the blood, it must be through the lymphatie or other ehannels that he knew not of.

Miscellany.

The Ninth International Medical Congress.—Speaking of the action of the enlarged committee, the "Boston Medical and Surgical Journal" says:

"The committee did the work expected of it, and with less malice than would have been possible, but with sufficient thoroughness, we fear, to put an end to the prospects of a successful and creditable *international* congress, and adjourned to meet in St. Louis on the first Monday in May, 1886. The rules were amended so as to confine membership to the constituency of the American Medical Association. The American members, it is decreed, shall consist of delegates from the American Medical Association, and from medical societies in affiliation with it, each of these societies being entitled to one delegate for every ten members. The number of sections was reduced from nineteen to sixteen, and the presidents of sections are no longer *ex-officio* members of the General Committee.

"Dr. H. I. Bowditch, of Boston, was dropped from the list of vice-presidents, Dr. A. Jacobi from the presidency of the Section of Diseases of Children, Dr. Lefferts from that of Laryngology, Dr. H. P. Bowditch from that of Medical Education, and Dr. H. D. Noyes from that of Ophthalmology. Numerous changes and additions were made in the vice-presidents and members of council of the different sections. These honors are issued as plentifully as fiat money after a *coup d'état*, and the various geographical divisions of the country are impartially besprinkled with them. A publication of the full list would require much space; and, as this is already the second long list made public within a few months, as the refusal by many prominent men to serve as officers under existing conditions makes certain the appearance of other revised lists, which may eventually end in no list at all, we content ourselves with referring our readers to our news columns for the present organization of the Congress and for changes in the presidents and vice-presidents of sections. In the same columns will also be found a report of the action of prominent physicians in Philadelphia and Boston connected with the organization of the Congress. These refusals to accept office in the present organization will doubtless be followed by others.

"These gentlemen proposed to aid and participate in the discussion of questions of medical science, not of medical ethics, medical politics, or of square miles of territory. There will, however, be more offices, although less congress, for those who prefer such discussions and such distinctions to a harmonious gathering of scientific men searching for truth; and we hope somebody may be happy, if it be only for a short time."

In a very temperate article on the same subject, the "Maryland Medical Journal" says:

"Looking at the work of the General Committee, it seems to us that it has endeavored to make but few changes, and that it has performed the disagreeable duty assigned to it by the association in an extremely mild way. It has managed to make a few alterations in the chairmanship of the sections and to add a few college professors, formerly overlooked by the original committee, to the sections. It has, however, performed, in our judgment, the most stupendous work of supererogation ever exacted from a body of intelligent men. We are totally unable to see how the fortunes of the Congress have been a tithe benefited by the changes made. On the contrary, it has suffered immensely in the eyes of all unbiased thinkers by this unnecessary controversy about representation on sections and 'New Code' principles. As the Congress now stands organized, we much doubt its ability to attract that attention as a scientific body it was entitled to. How can those men interested in pure science feel that same interest in the fortunes of an organization handicapped with contentions for offices and ethics and weighted down with that ponderous body, the American Medical Association? It is truly an unfortunate circumstance which has happened to impair the usefulness of the International Medical Congress. While we still trust that wise counsels will prevail, that bitter differences will subside, that men will consent to work together in harmony for the success of the Congress, it seems quite clear to us that the Ninth International Medical Congress can not take the position it would have assumed under its first organization. It is an apt saying, Two wrongs can never make a right. The mistakes of the first committee—if such were made—have not been corrected by the present committee. We fail to see how the few changes which have been made in the officers of the Congress can do otherwise than impair its usefulness and drag it down to the level of a promiscuous social and semi-scientific gathering. It is a sad commentary upon the status of the profession in America that a petty squabble for a few positions should have marred what had promised to be one of the most noted scientific meetings ever held on American soil. What view our transatlantic brethren will take of this status of the Congress it is not difficult to surmise. We presume that the American Medical Association will enjoy the banquet it has prepared to its own eminent satisfaction, while the rest of the profession will look on from a distance. We can not but deplore the present outlook, and profoundly trust that the final result will be more satisfactory than present indications would seem to warrant."

The "Peoria Medical Monthly" says:

"We believe the whole trouble has arisen from personal grounds on the part of a few who were overlooked when the places of honor were distributed. It was purely a fight of the 'outs' against the 'ins,' and, now that the 'outs' have gained the field, the existence of the Congress is jeopardized.

"It can not be claimed that the American Medical Association at New Orleans represented the medical profession of this country, or if the claim be made it is a laughable one. And it can not be denied that the American Medical Association, with every similar body in the country, is more or less ruled by coteries and cliques.

"The situation is a deplorable one for the good name of the medical profession in America. Our European brethren will hesitate to attend the Congress at Washington in very large numbers, for they will have reason to fear that the factional feeling and jealousies of certain members of the 'rule or ruin' party in the American Medical Association will carry their fight into the Congress itself.

"What is to be done to remedy the trouble and preserve the good name of the profession of America? We do not know; perhaps the best thing that could be done would be to notify the Executive Committee of the last Congress that, owing to the war raging in the United States, the next Congress should be held elsewhere, either in Europe or Canada."

Science and Modern Discovery.—The present occupant of Sir Isaac Newton's professorial chair at Cambridge University, Professor G. G. Stokes, F. R. S., who is also secretary of the Royal Society of London, delivered a remarkable address at the annual meeting of the Victoria Institute, in London, toward the end of June. Professor Stokes gave an important account of the progress of physical science during the past quarter of a century, and, reviewing the results, specially noted that as scientific truth developed, so had men to give up the idea that there was any opposition between the Book of Nature and the Book of Revelation. He said that for the last twenty years or so one of the most striking advances in science had been made in the application of the spectroscope, and in the information obtained with regard to the constitution of the heavenly bodies. The discovery that there were in these particular chemical elements which were also present in our earth exalted our idea of the universality of the laws of Nature, and there was nothing in that contrary to what he had learned in Revelation, unless we were to say, as the heathen did, that the God of the Hebrews was the God of the hills and not of the valleys. Entering with some particularity into the composition of the sun, he said this gave an idea of an enormous temperature, since iron existed there in a state of vapor. This was utterly inconsistent with the possibility of the existence there of living beings at all approaching in character to those we had here. Were we, then, to regard this as a waste of materials? Might we not rather argue that as in animals we ascended by greater specialization, so we could consider the differentiation of office in different members of the solar system as marks of superiority, and could regard the sun as performing most important functions for that system? In fact, all life on our earth was ultimately derived from the radiation of solar heat. Referring to the doctrines of conservation of energy and of dissipation of energy, he pointed out at some length how the sun, so far as we could see, was not calculated for an eternal duration in the same state and performing the same functions as now. We must regard the universe on a grand scale, and then there was progress. If we contemplated nothing but periodicity, perhaps we might rest content and think things

would go on for ever as at present; but, looking on the state of the universe on a grand scale as one of progress, this idea obliged us to refer to a first cause. He concluded with recommending that the Annual Report of the society, read by Captain Frank Petrie, the honorary secretary, be adopted. It showed that the number of home, American, and colonial members had increased to upward of eleven hundred, and that the Institute's object, in which scientific men whether in its ranks or not aided, was to promote scientific inquiry, and especially in cases where questions of science were held by those who advanced them to be subversive of religion. All its members and one-guinea associates received its Transactions free, and twelve of its papers were now published in a People's Edition, which was to be had in many of the colonies and in America. The address was delivered by Dr. J. Leslie Porter, president of Queen's College, Belfast, the subject being "Egypt: Historical and Geographical," a country with which he had been thirty years intimately acquainted. Having referred to the antiquity of Egyptian records, which in so many instances bore on the history of other ancient countries, he proceeded to describe the various changes through which that country had passed since its first colonization; and, touching on its physical geography, concluded by giving the main results of recent exploration. He said: "Were the Nile, by some convulsion of Nature, or by some gigantic work of engineering skill—neither of which is impossible—turned out of its present channel away up to Khartoum, or any other point above Wady Halfa, Egypt would speedily become a desert." No tributary enters the Nile below Berber—that is to say, for the last thousand miles of its course. "The arable land of Egypt is about equal in extent to Yorkshire." The White Nile, issuing from Lakes Albert and Victoria Nyanza, is broad and deep, never rises above a few feet, and supplies the permanent source of the river of Egypt. "The other tributaries produce the inundation." Of these the *Atbara*, from the mountains of Abyssinia, is the most fertilizing, as it brings down with it a quantity of soil. The deposit of this soil is slowly raising the bed of the river as well as extending on each side; for example, on the plain of Thebes the soil formed by deposits has in thirty-five hundred years encroached upon the desert a third of a mile, "while the ruins of Hierapolis in the Delta, which once stood above reach of the inundation, are now buried in a mud deposit to a depth of nearly seven feet." In conclusion, he referred to Egypt and its present condition, saying: "The commerce from the upper tributaries of the Nile, and from the wide region of the Soudan, forms an essential factor in the prosperity and progress of Egypt."

How to avoid Night Calls.—A story is going the rounds (who started it we do not know) at the expense of the young physician who is always so busy that he doesn't know what to do. "I have got more business than I can attend to," boasted he to an old practitioner who knew he lied. "I had to get out of bed five times last night." "Why don't you buy some insect powder?" quietly asked the old doctor.—*Medical Age.*

Prizes for Electrical Appliances.—We learn from the "Chicago Tribune" that the McIntosh Company, of that city, received the first medal for fine displays of electrical goods at the New Orleans Exposition.

THERAPEUTICAL NOTES.

Glycerin as a Preventive of Trichiniasis.—Merkel ("Dtsch. Arch. f. klin. Med."; "Ctrlbl. f. kliu. Med.") relates the case of a man who ate a portiou, as long as one's finger, of a sausage in which living trichinæ abounded. Twenty hours after the ingestion of the sausage he was purged thoroughly with senna, and several specimens of the trichina, non-encapsulated, together with fragments of the parasite, were found in the dejecta. The next day he was given a tablespoonful of pure glycerin every hour until fifteen doses had been taken. This caused no unpleasant symptoms beyond thirst and a feeling of dryness in the mouth, and the man escaped trichiniasis, while others who had eaten of the sausage were attacked with the disease.

Naphthol.—Mr. W. J. Rigney, of New York, an analytical chemist, writes to us as follows: "The extraordinary power of naphthol as an antiseptic and disinfecting agent has been known for a long time, but its disagreeable smell and the difficulty of preparing it in a pure state, with the occasional toxical action of the crude naphthol, have been a bar to its use as a remedial and antiseptic agent. Justus Wolff, a chemist interested in coal-tar products, has recently succeeded in producing it in a pure and odorless state, in well-defined crystals, and states that its antiseptic action is much greater than that of carbolic acid. Recent research has demonstrated that the toxic effects of crude naphthol are due to the impurities it contains. Dr. Shoemaker, of Philadelphia, as he stated in a paper read before the Philadelphia County Medical Society, has conclusively proved the non-poisonous character of the purified or odorless naphthol by taking large doses internally. It has no corrosive action on the skin, and will not injure textile fabrics. As a remedial agent, it acts with greater efficiency than carbolic acid, over which it has many advantages, and the fact of its being absolutely odorless will make it a desirable substitute. It is expected that it will shortly be produced on a manufacturing scale as a substitute for carbolic acid."

A Gargle for Chronic Pharyngitis.—The "Union médicale" attributes the following formula to Bamberger:

Chloride of ammonium	75 grains;
Honey of roses	750 "
Water	12½ ounces.

To be used several times a day, together with mustard foot-baths, the use of tobacco being prohibited.

Belladonna in the Treatment of Intestinal Obstruction.—Dr. T. J. Hudson ("Med. Times and Gaz.") thinks that in these cases the best way to use belladonna is to apply the extract to the abdomen with very hot poultices, and to give one or two grains of the extract as a suppository every hour, or iuject $\frac{1}{120}$ of a grain of atropine every two hours until slight dilatation of the pupil is maintained. If the pain continues, and is serious, an injection of $\frac{1}{60}$ of a grain of atropiue, with $\frac{1}{8}$ of a grain of morphine, is the best, as it combats depression and nausea. Morphine alone often increases the obstruction by causing or increasing nausea and, in the early stage of intussusception, preventing the bowel from righting itself by its own muscular power. He adds the caution that lime-water should not be given, as it decomposes atropine.

The Treatment of Seasickness.—"In our own person," says a reviewer in the "American Practitioner," "the bromide availed not, nor would the Seidlitz stay down, but the Mellin's food was acceptable and useful, while a good article of kumys was most grateful to the palate and did much to allay nausea."

Hydrobromate of Quinine and Valerianate of Caffeine in the Treatment of Malarial Poisoning.—Cerededo ("Gazz. degli Ospit."; "Rev. méd.") concludes from numerous experiments that the hydrobromate of quinine is preferable to the sulphate for the following reasons: 1. Its activity is greater in moderate doses. 2. It acts as a nervous sedative. 3. It stops vomiting, a matter of special importance in certain countries. 4. It readily brings about a favorable change in the type of the fever. 5. Its bitterness is less marked. 6. It does not irritate the intestinal mucous membrane, and produces neither constipation nor diarrhœa. 7. It allows of the avoidance of too frequent subcutaneous injections. 8. It diminishes the probability of relapse. 9. When once the paroxysm has come on, if it can not reduce its intensity and duration, it should be administered in capsules, combined with valerianate of caffeine. 10. Given in that way half an hour before the paroxysm, it is capable of arresting the latter. 11. By combining the two salts (fifteen grains of the hydrobromate and seven or eight grains of the valerianate), we may check certain quotidian forms which are rebellious to much larger doses of the sulphate. 12. The action of this combination of the two drugs, given in comparatively small doses, is more powerful than that of any other salt of quinine in much larger doses.

The Treatment of Epistaxis.—Introduce into the nostril, to a considerable distance upward, a piece of fine sponge, cut to the size and shape necessary to enable it to enter without difficulty, previously soaked in lemon juice or vinegar and water. The patient is to be kept lying on the face for a length of time, with the sponge in place. This, says "Lyon médical," is the procedure employed by M. Siredey for controlling epistaxis in typhoid-fever patients.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON,

BY AMBROSE L. RANNEY, M.D., NEW YORK.

(*Continued from page 63.*)

PART III.

ELECTRO-THERAPEUTICS.

WE have now discussed the essential points pertaining to electro-physics and electro-diagnosis, and there remains now for us to consider the uses of electricity in the treatment of diseased conditions of various organs and tissues.

Before we pass to details of the practical part it may be well for us to review in a general way some of the laws which should govern us in applying electric currents to the different tissues, and the objects to be attained by the employment of faradaism, galvanism, and static electricity.

GENERAL ELECTRO-THERAPEUTICS.

The rapidity and completeness of reported cures by the use of electric currents upon living tissues during the last quarter of a century leave no room for doubt that this agent is particularly valuable in the treatment of paralysis, neuralgia, spasmodic diseases, disturbances in the sensibility of the skin, and many disordered states of the brain, spinal cord, and peripheral nerves themselves. We have undisputed facts which prove also that blood may be coagulated with safety within some aneurysmal sacs by the galvanic current, that the life of the ovum may be destroyed in extra-uterine pregnancy, that animal tissues may be disintegrated by chemical changes induced within them by this agent, and that neoplasms may be removed without hæmorrhage by the cautery loop.

Our present ignorance of the molecular and nutritive changes in tissues (as the cause or result of disease) renders it impossible to do more than speculate upon the theory of the therapeutical action of electricity in many cases; but, on the other hand, our empirical knowledge of these effects is none the less valuable because we are unable to explain them. The same criticisms would otherwise hold good in reference to almost all of the drugs employed in medicine. None of us know exactly *how* they produce their specific effects.

Concerning speculation upon electrical effects on living tissues, Erb remarks as follows: "What appears more natural than that neuralgia and spasms could be relieved by the sedative action of the anode, with production of anelectrotonus, and that anæsthesia and paralysis could be cured by the exciting action of the cathode, with production of catelectrotonus? But, apart from the fact that we are not certain that an increase of irritability really occurs in one group of cases and a diminution in the other, it must be remembered that electrotonic action disappears very rapidly after the cessation of the current, while the curative effects of the current are more or less permanent."

Now, we may summarize the general principles which regulate the use of electric currents as follows:

1. They may exert, under certain circumstances, a *stimulating* or *irritating effect.* This is, perhaps, the basis of the most varied applications of electricity to disease.

2. They may exert, when properly applied, a *sedative action* on nerves or nerve-centers.

3. They may be made to exert a *catalytic action* upon neoplasms, enlarged glands, etc.

4. They are capable of causing *electrolysis.* This action is one which has lately come into prominence.

5. They create *heat* under certain conditions. The galvano-cautery is to-day assuming a very prominent place in some of the departments of surgery.

Let us now discuss each of these special actions separately, noting the general points of interest pertaining to each which will aid us in properly treating our patients. Electrolysis and the galvano-cautery have been treated of in previous lectures.

STIMULATING OR IRRITATING EFFECT OF ELECTRICITY.—This is indicated in many diseased conditions. Among these the following may be prominently mentioned:

Some of the various forms of cerebral and spinal diseases.

Depressed irritability of some special nerve-trunks.

Abnormal resistance to conduction of electric currents, exhibited by the motor or sensory nerve-filaments of some part.

As a counter-irritant to some pathological conditions.

Trophic disturbances of special regions (skin, nails, hair, etc.).

Vaso-motor depression.

Atrophic changes in muscles.

As a means of indirectly affecting the nerve-centers through the sensory nerves, thus influencing respiration, circulation, phonation, vaso-motor paths, peripheral organs, the muscles, etc.

The methods of application which are best adapted to accomplish irritating or stimulating effects are differently stated by authors. Personally, I do not confine myself exclusively to faradaism or galvanism.

The *faradaic current* is more commonly employed for this purpose than the galvanic. The electrodes should be selected, as to their size and shape, in accordance with the parts to be acted upon; they should be well moistened with salt water, and kept closely in contact with the skin. The wire-brush is the best electrode to stimulate the nerves or other tissues of the skin. It should be used dry. I prefer the secondary faradaic current to that of the primary coil for stimulating effects.

If galvanism is employed as a stimulant, Remak's plan, of moving the well-moistened cathode rapidly over the nerve-trunk or muscle to be stimulated, with a current sufficiently strong to cause strong wave-like contractions, is a good one. Another method, termed by this author "terminal labile stimulation," consists in stroking the tendinous

end of a muscle with the cathode so as to affect the entire length of the muscle. In both of these methods the anode is kept stationary upon some indifferent or neutral point—the center of the sternum by preference, or the nape of the neck.

One of the most vigorous methods of stimulation consists in rapidly changing the polarity by means of a commutator, when the galvanic battery is employed.

The Combined Current.—Another method which I employ (not generally mentioned in text-books) consists in connecting a galvanic battery, by means of a rheophore, with a faradaic instrument, thus bringing *both a constant and induced current* to bear upon the tissues at once. The rheophore which connects the batteries joins the positive binding-post of the galvanic instrument with the secondary coil of the faradaic; the two rheophores connected with the electrodes run from the negative binding-post of the galvanic and from the secondary coil of the faradaic instrument. The two instruments (faradaic and galvanic) are thrown into action simultaneously, and the strength of the current employed is graduated by the number of cells used in the galvanic battery and by the extent of the overlap of the secondary coil of the faradaic instrument. I have obtained some remarkable results by the stimulation thus produced in various forms of trophic disturbances of the skin and muscles.

The stimulation of nerve-fibers (when obstacles exist to their conduction) should be performed peripherally from the site of the lesion in sensory nerves, and as centrally as possible in motor nerves (Erb). Degenerated and atrophied nerves and muscles require a direct effect of the currents employed. For these reasons, the site of stimulating electrical applications depends upon the situation and character of the lesion and the object to be attained.

Modifying Effects of Electric Currents.—The *irritability of nerves and muscles* may be influenced by electric currents.

In certain diseased conditions we may expect a favorable result from such an action. Thus, for example, in some types of paralysis, in anæsthesia, in certain vaso-motor disturbances, and in depressed states of cerebral and spinal activity, the irritability of nerves or of muscular fibers is diminished; hence we resort to the so-called "catelectrotonic action" of electricity as a means of stimulating and restoring the normal irritability of the tissues affected.

It is now generally accepted as proved that *feeble faradaic currents* will accomplish this end. Galvanic currents, when applied for this purpose, give more positive results, however, than faradaic.

In order to *increase irritability* by galvanism, the negative electrode should be applied in a stabile manner (*i. e.*, without being moved) to the part upon which this effect is to be produced; and the strength and duration of the current should be steadily increased. When the muscles or motor nerves have been exhausted by over-exertion, excessive fatigue, etc., this action (termed by Heidenhain the "refreshing action" of galvanism) is particularly indicated.

Those conditions in which the *normal irritability of nerves or muscles is intensified* demand the so-called "anelectrotonic action" of electricity. These conditions comprise all irritative states of the sensory, motor, and vaso-motor tracts within or without the brain and spinal cord; hence we employ this action in neuralgias, spasmodic affections, hyperæsthesia of any of the cerebro-spinal nerves, headache, excitation of any of the special senses, cerebral and spinal irritation, etc.

In order to *decrease the irritability of nerves or muscles*, we may employ very powerful faradaic currents. We may also begin by employing a feeble faradaic current and gradually increasing its strength to the highest point of endurance; then maintaining it at this point for some time; and subsequently reducing it gradually to the feeblest current perceptible to the patient. This method is known as the "*increasing induction method.*" Electrodes well-moistened and of large size should be employed and kept immovable upon the same points during the application. It is often advisable to repeat this procedure several times at one sitting (Erb).

When the galvanic current is employed for the purpose of decreasing irritability, the positive pole is made fast at the point to be influenced. The current is increased in strength and maintained at its maximum for some time, after which it should be decreased gradually until it can not be perceived by the patient. The gradual decrease of the current-strength prevents the marked temporary increase of irritability which is liable to follow this method when this step is omitted.

Static electricity exerts in many cases an immediate beneficial effect upon neuralgic pains (especially upon sciatica) and upon the various spasmodic affections, as, for example, chorea, paralysis agitans, tremor, contracture, etc. These effects are obtained, in some cases, when galvanism and faradaism have proved of no benefit. I should never regard a case as incapable of benefit by electric treatment until static electricity, in the form of insulation, the electric wind, or the spark, had been thoroughly tested. I have had better results with this form of current in tremor than with galvanism or faradaism.

Some forms of pain (as, for example, the pains of ataxia, sciatica, trigeminal neuralgia, muscular rheumatism, etc.) are oftentimes relieved by a few applications of static electricity. My experience with this agent has convinced me that its effects are often satisfactory in cases where pain is a prominent symptom, when galvanism has been tried without benefit. I have found that insulation and the abstraction of heavy sparks from the seat of pain give the best results.

Catalytic Action of Electrical Currents.—Under this heading we include (1) an increase of absorption produced by dilatation of the capillary blood-vessels and lymphatics; (2) an increased capability of tissues for imbibition of fluids, through an increase of osmotic processes; (3) changes in the disassimilation and nutrition of nerves, on account of their stimulation or "refreshing effects; (4) changes in the molecular arrangement of tissues, caused by electrolytic processes; and (5) the results of the transportation of fluids from one pole to the other (Remak and Erb).

Remak has shown that muscles become congested and greatly swollen when subjected to galvanism. They are rendered tense, and (according to this observer) absorb water more freely than muscle which has not been galvanized.

Changes of a marked character may be indueed in the skin by galvanism. These have been studied by Erb, Remak, Bollinger, and others.

The vaso-motor nerves may be influenced by electrical currents. This is shown by many of the later investigations—prominently those of Lowenfeld, which demonstrate that contraction and dilatation of the vessels of the brain result, respectively, from antero-posterior and transverse currents through the head from a galvanic battery.

Although we are, as yet, unable to speak with positiveness regarding the certainty of the catalytic effects of electrical currents, or to map out the forms of disease which are to be regarded as specially indicating these catalytic effeets, still it may be said that the following states have been successfully treated by electrical currents, and that the cures are probably to be attributed to a eatalytic action: (1) Inflammatory affections of the nervous system, including sclerosis, myelitis, neuritis, etc.; (2) arthritis and chronic exudations into joints; (3) glandular enlargements; (4) hard cicatrices, periosteal swellings, and fibrous adhesions; (5) eontusions, sprains, extravasations of blood, and other results of traumatisms.

The *galvanic current* is the one that is generally employed when catalytic effects are desired. In diseased conditions of the brain, spinal eord, or any of the deeply seated organs, the faradaic currents are not usually productive of benefit.

The "stabile method" of application of the galvanic current is preferable, to my mind, when catalytic action is to be attained. The strength of the current should be sufficient to easily overcome the resistance offered, and the duration should be suffieiently prolonged to accomplish changes in the tissues subjected to its influence. One pole is placed, as a rule, at an indifferent point (the sternum by preference), and the other over the tissue diseased. Sometimes, as in the case of the brain, for example, the poles are placed upon either side of the diseased part. Although there are exeeptions to the rule, it is well to use the anode or positive pole over the diseased part when pain is present, when symptoms of active irritation exist, or when the morbid processes are very active. The cathode or negative pole is best adapted to influence chronic morbid processes, such as sclerosis, indurations, etc. Erb reeommends that the polarity of the eurrent be changed several times in either case; he doubts the infalhbility of the rule given, although it is theoretically sound. Chvostek urges the use of short and moderate currents for a few minutes (three to ten) when catalytic action is desired. In this way, he believes, the vaso-motor and trophic nerves are more impressed than by any other method.

Respecting the catalytic action of *faradaic currents*, a difference of opinion exists between authors of note. One thing is certain—viz., that strong currents are required, and that the currents must be passed directly through the diseased part to accomplish marked results. Glandular tumors have been resolved by this method with great rapidity in some reeorded instances.

(To be continued.)

Original Communications.

LEUCOPLAKIA BUCCALIS ET LINGUALIS, OR ICHTHYOSIS LINGUÆ;

SUCCESSFUL TREATMENT WITH THE GALVANO-CAUTERY.*

By E. FLETCHER INGALS, M. D.,

PROFESSOR OF LARYNGOLOGY IN THE RUSH MEDICAL COLLEGE, AND OF DISEASES OF THE THROAT AND CHEST IN THE WOMAN'S MEDICAL COLLEGE, CHICAGO.

During the past year it has been my good fortune to cure a case of the rare and intractable disease which forms the subject of this paper.

This disease has been recognized but a short time, and very little can be found upon the subject in general medical literature, but, by a thorough search in the library of the Surgeon-General's Office in Washington, I found about fifty papers, mostly reports of cases, which, with the single exception of one by Bazin, which I take second-hand, seem to embrace all that has been written concerning the disease.

The literature is involved in what at first seemed inextricable confusion, for the reason that several different affections have been confounded and described under the same name. Thus, "smokers' patches," the peculiar condition of the mucous membrane of the mouth found in old glass-blowers, termed by Guinaud † "professional patches," psoriasis linguæ, and various manifestations of syphilis, have been considered by different authors as true leucoplakia, or as one of its phases.

The term leueoplakia, which, of the names proposed for this affection, seems open to least objeetion, was suggested by Professor Schwimmer,‡ who gives a lengthy and exhaustive description of the disease. Ullmann # employed the term tylosis, which is strongly advocated by W. Fairlie Clarke.‖ The affection was first brought prominently before the profession by J. W. Hulke,△ under the title ichthyosis linguæ, a name which has been quite generally aceepted save by Debove ◊ and some other French writers, who have described it, together with other affeetions, as a manifestation of psoriasis.

Definition.—Leucoplakia buccalis is a chronic affection of the buccal mucous membrane, characterized by thickening of the epithelium, and the formation of white, opaline, elevated patches, which usually become fissured and painful, and, after continuing for a long time, are likely to terminate in epithelioma.

* Read before the American Laryngological Association, June 24, 1885.

† "Syphilis des reniers," "Lyon méd.," xxxv, 1880.

‡ "Vierteljahresschrift für Dermatologie," iv, 1877.

"Aerztlich. Intelligenzblatt," Munich, v, 1858.

‖ "British Med. Jour.," 1874, vol. i.

△ "Med. Times and Gazette," London, 1865, vol. i.

◊ Paris thesis, 1873.

History.—The first mention that I can find of ichthyosis linguæ is in a paper under the title of "Maladies de la peau," 1822, by Alibert, who records a case, reported in some of the journals, of a young woman in Naples who had extensive ichthyosis of the skin, which finally involved the tongue and lips. In 1837 Samuel Plumbe* described a case of enlargement of the papillæ of the tongue which he regarded as precisely similar in its nature to local ichthyosis of the skin. In 1858 Ullmann† described a case of leucoplakia under the name of tylosis. In the same year J. J. Buzenet‡ reported two cases of undoubted leucoplakia, and, in 1861, J. W. Hulke# recorded a case under the title of "Wart and Corn of the Mucous Membrane of the Tongue." The following year Sir William Fergusson‖ presented a somewhat similar case in a clinic at the King's College Hospital, and in the same year, in the report of a clinic by Dr. Andrew Clark,△ we find a case described under the name of aphtha figurata, which is supposed by some to have been true leucoplakia, but which seems to have been psoriasis of the tongue. The same year J. Moore Neligan◊ notes a case of true leucoplakia which finally terminated in epithelioma. February 28, 1865, J. W. Hulke,‡ of London, presented what is generally credited as the first paper on the subject to the Royal Medical and Chirurgical Society. Subsequently brief articles appeared on the subject by S. James A. Salter,↕ 1866; Bazin,‡ 1868; M. Lailler,** 1869; Sir James Paget,†† 1870; C. Saison,‡‡ 1871; and W. Fairlie Clarke,## 1872. Finally, in 1873, Charles Mauriac‖‖ published an exhaustive article on the subject under the title of "Du psoriasis de la langue et de la muqueuse buccale." Since Mauriac's article numerous papers have appeared, the most important of which are by M. G. Debove,△△ 1873; Henry Morris,◊◊ 1874; W. Fairlie Clarke,↕↕ the same year; Robert F. Weir,↕↕ 1875; Professor Ernst Schwimmer,‡‡ 1877 and 1881; and E. Vidal,*** 1883.

The disease is very rare, but its frequency can not be accurately determined, on account of the diversity of opinion which has been entertained by different writers with reference to its ætiology and diagnosis—a diversity which has caused many cases to be placed in this class which do not properly belong in it. Professor Schwimmer saw only twenty examples out of five thousand cases of diseases of the skin and syphilis, and many others have not seen so large a proportion as this; but doubtless many cases are not recognized, and pass for constitutional syphilis.

Most of the cases have been reported from Germany, France, and England, but some have been recorded in this country. So far the records show that the disease seldom affects any excepting males over forty years of age, though it has been observed as early as the thirty-second year, and a very few examples have been seen in women.

Anatomical Characters. — The patches are generally found on the dorsum of the tongue or the inner surface of the cheek and lips, but seldom, if ever, on the lower surface of the tongue or behind the anterior pillars of the fauces, and they are limited to the buccal cavity.

They may be seen in one or more small, irregular, or oval patches, or these may have become confluent. A considerable portion of the tongue alone may be involved, or the dorsum of the tongue, the buccal mucosa, and the surface of the jaw may one or all be affected.

The first appearance of the white patch is preceded by hyperæmia, and in the early stages a hyperæmic areola is found about its borders. Afterward the patch itself is more or less thickened, sometimes to the extent of six or eight mm., and the epithelium, which has become hard and dry, may be easily removed, or in spots it may have been spontaneously exfoliated, leaving the appearance of an ulcer.

The surface of the patch is marked by numerous fine lines or furrows, which intersect each other, dividing it into small polygonal spaces. Some of these may extend as deep fissures down through the thickened epithelium, and involve the mucosa in painful ulceration. In cases of long standing the papillæ may be much enlarged, giving the surface a warty appearance.

Under the microscope the epithelium is found greatly thickened, the papillæ enlarged and flattened, the blood-vessels dilated, with an accumulation of leucocytes about their walls. The superficial layer of the mucous corium is infiltrated with embryonic cells, and the deep layer is involved in vascular alterations.

According to Hulke,* there is hypertrophy of the epithelial and papillary layer of the mucous membrane, similar to the condition of the skin termed ichthyosis.

In 1874, W. Fairlie Clarke† spoke of the disease as a chronic inflammation and papillary growth, but in later writings he does not strictly adhere to these views.

Mauriac‡ says "it is certain that it is a chronic inflammation of the parts involved."

In the first stage of the affection, hyperæmia of the deeper layers of the epithelium exists, which is soon followed by exudation, and this consolidating causes induration.

The epithelial cells are increased and the papillæ enlarged, but later, when the affection merges into epithelioma, there is, according to Clarke,# an enormous increase of the rete mucosum at the expense of the papillæ, which are then reduced to mere threads.

Causation.—Excessive tobacco-smoking is ranked as one of the most frequent causes of the disease, but it is barely

* "Diseases of the Skin," Philadelphia, 1837.

† *Loc. cit.* ‡ Paris thesis, 1858.

"Med. Times and Gazette," London, 1861, vol. ii.

‖ "Lancet," London, 1862.

△ "Med. Times and Gazette," London, 1862, vol. ii.

◊ "Notes of an Unusual Abnormal Condition of the Mucous Membrane of the Tongue and Cheeks considered in Connection with Life Assurance," 1862.

‡ *Loc. cit.* ↕ "Papillary Tumors of the Gums," 1866.

‡ Paris thesis, 1873.

** "Dict. encycl. des sci. méd.," Paris, 1869.

†† "Case of Cancer following Ichthyosis of the Tongue," 1870.

‡‡ Paris thesis, xlvi, 1871. ## "Lancet," London, 1872, vol. i.

‖‖ "L'Union médicale," xvi, 1873. △△ Paris thesis, 1873.

◊◊ "British Med. Jour.," 1874, vol. vi. ↕↕ *Loc. cit.*

↕↕ "N. Y. Med. Jour.," vol. xxi, 1875.

‡‡ *Loc. cit.*, and "Transactions of the International Med. Cong.," London, vol. iii, 1881.

*** "L'Union méd.," xxxv, 1883.

* *Loc. cit.* † *Loc. cit.* ‡ *Loc. cit.* # *Loc. cit.*

possible that prolonged irritation of any character may have a similar effect on those predisposed to it.

Thus, Mauriac * and Vidal † mention highly spiced foods and alcoholic stimulants as irritants which must be avoided.

Schwimmer ‡ calls the affection idiopathic, but both he and Mauriac think there must be some peculiar predisposition toward it in order that it may be developed.

Bazin,# who has seen the affection in several members of the same family, believes that it is often, if not usually, the result of constitutional syphilis.

Mauriac believes that all psoriasis of the mouth and tongue supervening in syphilis is not necessarily syphilitic, and may not take part in the syphilitic disease.

Debove, Bazin, and Mauriac attribute it frequently to the arthritic or dartrous diathesis. Thus it will be seen that the cause of the affection is not definitely known, though it is commonly believed to be induced by smoking in most instances. It must not be forgotten, however, that several cases have been recorded in persons not addicted to the use of tobacco. In those who use tobacco to excess it is not necessarily the irritant effects of the smoke or heat that cause the disease, but, as in the case here appended, the noxious influence of the tobacco itself.

Clinical History.—It is also difficult to determine exactly the duration of the disease, for it has generally been discovered accidentally; but usually it will be found to have existed for months or years when the patient first presents himself. This is due to the fact that at first the affection causes no inconvenience. Usually the small patch first observed gradually increases in size until at length stiffness of the part occurs or painful fissures form, which cause the patient to seek advice.

In some cases the epithelial cells gradually pile up until a thick, horny mass is formed, which may then be thrown off spontaneously or pared off by the patient as he would cut off a corn or wart. After a time, varying from a few months to many years, the formation of fissures and ulcers causes pain, and finally, in a large percentage of cases, epithelioma results and runs its usual course. Sometimes the affection will remain stationary for months, or, under the influence of some irritant, it may rapidly progress, but may again become dormant if the irritant is removed. Occasionally unchanging erythematous patches remain in the surrounding mucous membrane for years.

In the cases associated with syphilis and in those that have developed into epithelioma the parts become greatly swollen, and deep, fungous ulcers occur which may erode vessels and cause serious hæmorrhage. In these same cases the lymphatic glands are involved, but this does not occur in the earlier stages of idiopathic leucoplakia.

Often the first symptom noticed by the patient is simply an uneasy sensation; but this may not appear until the disease has existed for years. In other cases the mucous membrane early becomes sensitive, so that spices, hot food or drinks, alcoholics, tobacco, etc., cause more or less pain. When deep fissures occur, the pain may become intense and almost constant, though in some cases it is present only at intervals. There are no constitutional symptoms until epithelioma is developed. Late in the disease, speaking, mastication, and swallowing sometimes become difficult, especially when epithelioma occurs. In such cases there is also profuse and very troublesome salivation, which continues both night and day.

Upon examining the mouth in the early stages, several more or less oval red or white patches are usually found which are apt to be mistaken for secondary syphilis. These in time become bluish, and finally, with increase in their epithelial covering, grayish or of a milky white color—like mucous membrane touched with nitrate of silver. These spots may remain distinct for a long time, but with the progress of the disease they become confluent, and at length form large, irregular patches. At first the surface of the patch is usually smooth, marked only by fine intersecting fissures, and is but slightly elevated above the surrounding mucous membrane. At this time the papillæ are often prominent and large, but, as the epithelial cells accumulate, they atrophy and are buried out of sight, and the surface may become raised several millimetres above the healthy mucous membrane. In some instances we find that a portion of the horny mass has been thrown off, and has left a central depression which may be ulcerated. These latter changes take place only in those cases which have been exposed to great irritation or which are approaching the stage of epithelioma. About the younger and growing patches we find an erythematous border, but this finally disappears. In cases associated with syphilis, cicatrices and nodosities or deep fissures of the tongue are usually found, and, in those which have passed into epithelioma, induration and thickening of the subjacent tissues, with deep, unhealthy ulcers, are likely to be present.

Diagnosis.—Leucoplakia is liable to be mistaken for what Guinaud * has termed the "professional patches," found in glass-blowers, for "smokers' patches," mercurial patches, psoriasis linguæ, syphilitic patches, and epithelioma unconnected with leucoplakia. The "professional patches" occur only in old glass-blowers, particularly in bottle-makers, and are found symmetrically upon both sides of the mouth, on the lateral surface of the jaw, and around Stenson's duct. "Smokers' patches" are more irregular in seat than those of leucoplakia, and are commonly located near the commissures of the lips, but not upon the dorsum of the tongue or inner side of the cheek. Again, the epithelium covering their surfaces is thin and closely adherent, so that it can not be removed, as in the disease under discussion. Mercurial patches are not so thick as those of leucoplakia, are never quite white, and are found on all parts of the tongue, but particularly where it is pressed against the teeth. According to W. Fairlie Clarke,† psoriasis is an affection in which circumscribed patches of epithelium assume a white, opaque appearance, which, after a day or two, are thrown off, when the epithelium is speedily restored; but soon other patches appear and go through the same course, until, after a time, the whole surface of the tongue becomes denuded and of a uniform red color,

* *Loc. cit.* † *Loc. cit.* ‡ *Loc. cit.* # *Loc. cit.*

* *Loc. cit.* † *Loc. cit.*

with crescentic markings or depressions, which, it will be observed, is very unlike the course of leucoplakia. Syphilitic patches are not so white as those of leucoplakia; they are usually round or oval, and more regular in form, and they seldom occur on the cheek, but are found principally on the tip or margins of the tongue, and often on its lower surface, which is never invaded by leucoplakia. Syphilitic patches do not become so thick as those of leucoplakia, and in syphilis the lymphatic glands are soon involved, which is not the case in the latter unless it has become cancerous. The pain is more severe in leucoplakia than in the syphilitic disease, and anti-syphilitic treatment causes no improvement, but may aggravate the affection. When syphilis and leucoplakia co-exist, the diagnosis is difficult, and sometimes can only be cleared up by specific treatment. Cancer arising without previous leucoplakia is distinguished from the latter by its history. In cancer, the induration of tissues and the final ulceration are not preceded by the chronic white patch, and are attended by more constant pain, with profuse salivation and a very offensive odor.

Prognosis.—The duration of the disease is uncertain One authority mentions two cases in which cancer supervened in less than six months. Sir James Paget * mentions one case which terminated in cancer at the end of eighteen months, several of Mauriac's † were of eleven to thirteen years' duration, while of the two cases seen by Hulke, ‡ which terminated in this way, one had existed twenty years. Others have mentioned cases of thirty to forty-five years' duration. Debove # and Bazin, ‖ who make no clear distinction between leucoplakia and syphilis, and Kaposi, △ who speaks of leucoplakia as a universal product of syphilis, very naturally believe that the affection is frequent, that it does not terminate in cancer so often as we should suppose from the writings of others, and that it is very amenable to treatment. Schwimmer ◊ says that the disease is frequently transformed into malignant formations and ends fatally, and the general belief is that it is very likely to end in epithelioma. Vidal ↕ believes that one half the cases terminate in this way. On this point Mauriac ↕ says that "transformation into epithelioma has often been noted, therefore it is important to cure the superficial affection, or it may pass into a deep, destructive, mortal disease."

The same author thinks that there are three varieties of leucoplakia (or, as he terms it, psoriasis linguæ). One, which he says is curable (due to syphilis), we do not think belongs to this class of diseases. The others he considers incurable. The variety which he attributes to the arthritic or dartrous diathesis he terms innocuous, while the third variety—the epitheliomatous—is incurable and malignant.

Among the indications that leucoplakia is passing into epithelioma are: non-inflammatory enlargement of the lymphatic glands, with exfoliation of the thicker portion of the patch, the formation of an ulcer, the supervention of sharp pain, salivation, and at length induration of the subjacent tissues. Finally, great swelling in the region of the jaw is likely to occur, and death takes place from exhaustion.

Treatment.—In cases of leucoplakia all sources of irritation, particularly those resulting from the use of tobacco and alcoholic stimulants, should be at once removed, and if the digestive organs are deranged, as is frequently the case, they should receive proper attention. Aside from these measures, most authorities believe treatment of little or no avail. Schwimmer * says that local* treatment is not rational; that alkaline washes and the waters of Vichy and St. Christan, and other alkaline waters, though highly recommended by Bazin † and other French writers, are not satisfactory in their effects; and that, even if improvement does occur under their use, it is not likely to be enduring. Debove ‡ and Bazin state that many cases of buccal psoriasis may be cured, but their favorable results may be due to the fact that they included many syphilitic cases in this class. By an examination of Debove's recorded cases, I find that, exclusive of the syphilitics, none of the patients seem to have been entirely cured, though many were treated by both Bazin and Debove, and a number are reported as "something better" after several months of treatment. Mauriac, # who believes that there are three varieties of leucoplakia—viz.: 1, the dartrous and arthritic; 2, the syphilitic; 3, the epitheliomatous—recommends arsenic and alkalies for the first, mercury and iodides for the second, and surgical measures for the third; however, he urges great prudence in using any of these measures, and states that the internal remedies have been found almost useless, and that mercury and the iodides are dangerous in the absence of syphilis.

For local application, the caustics which have commonly been employed are nitrate of silver, chloride of zinc, tincture of iodine, and acid nitrate of mercury; but none of them seem to do any good excepting in syphilitic cases, which I do not include under the term leucoplakia. Soothing applications seem to have been most beneficial, but they give only temporary relief.

E. Vidal ‖ says that "mercury and iodide of potassium aggravate the disease the more advanced it is," and that in the papillomatous state they precipitate epithelioma. When the affection has passed into epithelioma nothing can be of much benefit excepting thorough excision, but even this has not often been followed by happy results.

Henry Morris △ advises that, after other measures have been fairly tried, if the epithelium is constantly thrown off, leaving abrasions or ulcerations which are painful, the tongue should be excised without delay. He states that "the prospect of curing, or even much improving, ichthyosis by treatment is most unfavorable."

S. James A. Salter ◊ reported a case, which seemed to have been leucoplakia, which was cured by extirpation and cauterization of the wound with the actual cautery. In the case which I report it will be observed that internal remedies did no good, and that local applications of tincture of iodine, nitrate of silver, and the acid nitrate of mercury greatly increased the patient's sufferings, and would doubtless have aggravated the disease had they been persisted in;

* *Loc. cit.* † *Loc. cit.* ‡ *Loc. cit.* # *Loc. cit.* ‖ *Loc. cit.*
△ "Syphilis der Haut," Wien, 1875, vol. iii.
◊ *Loc. cit.* ↕ *Loc. cit.* ↕ *Loc. cit.*

* *Loc. cit.* † *Loc. cit.* ‡ *Loc. cit.* # *Loc. cit.*
‖ *Loc. cit.* △ *Loc. cit.* ◊ *Loc. cit.*

but, as soon as the actual (galvanic) cautery was employed, relief from all pain was obtained, and by a persistent, careful use of it the disease was eradicated.

In considering this favorable result, of course we must not overlook the reported tendency of the disease to recur; but the fact remains that the belief in this tendency is based on a study of cases in the majority of which the diseased patch was never entirely removed. In my case the mucous membrane is perfectly healthy after a lapse of four months; therefore I believe the treatment adopted for it will prove curative in many cases if applied before epithelioma has developed.

From a study of the literature of this subject, and from my own small experience, I arrive at the following conclusions:

1. Leucoplakia buccalis is an idiopathic disease, distinct from psoriasis, "smokers' patches," and syphilis. It is largely confined to men past middle life, but it occasionally occurs in women.

2. The disease is so commonly found in inveterate smokers that the abuse of tobacco may fairly be considered as an exciting cause, though cases occur where tobacco has never been used.

3. The affection is chronic and, finally, in a majority of cases, terminates in epithelioma.

4. Internal treatment and the local application of sedative, stimulant, or caustic drugs are, in nearly all cases, either useless or injurious, and the latter are sometimes disastrous by hastening the development of epithelioma.

5. The actual cautery or the galvano-cautery will probably enable us to cure many cases if they are treated sufficiently early, provided it is applied to only a small spot at each sitting, and carefully, so as not to destroy the healthy tissues beneath the changed epithelium.

A Typical Case.—L. C., aged forty-three, printer, came to me in September, 1884, complaining of a sharp pain in the left side of the mouth, particularly when eating. This, he said, began two years before, when he had a tooth drawn. Two months later he first noticed a small white patch on the buccal mucous membrane. Upon examining the mouth, I found a large, irregular, milk-white patch, extending from the border of the gums down through the gingivo-buccal groove, upward along the left cheek, and from the first bicuspid tooth, in front, to the last molar, behind. Altogether this was as large as a silver dollar; its surface was marked by fine intersecting lines, which divided it into numerous polygonal spaces.

At the center of the patch, on the buccal surface, was a depression about 3 mm. in depth and 1 cm. in diameter, surrounded by elevated, hard margins, which gradually became thinner toward the edge of the patch. This margin was deeply fissured in two or three places. About half an inch in front of the anterior portion of this patch, on the under lip, was a small, white, warty growth, about 4 mm. in height by 3 mm. in diameter.

A critical investigation of the case failed to discover any history or signs of syphilis or hereditary disease. The patient chewed tobacco to excess and had smoked occasionally. He stated that previous to the removal of the tooth, and until the pain became troublesome, he had been accustomed to carry his quid of tobacco in the left side of the mouth, at the location of the patch. His general health was perfect, and he had never suffered from rheumatism or eruptive diseases, and did not use alcoholic stimulants. During the first few months of the affection pain came on about once in two weeks and would last several hours, but the attacks gradually became more frequent, until seven or eight weeks before I saw him, during which time the pain had been constant and often severe. The patch had been cauterized occasionally with nitrate of silver, but was never benefited.

When I first saw the case, suspecting that it might be syphilitic, I ordered iodide of potassium in large doses and directed that tobacco be discontinued. I cauterized the patch with tincture of iodine, but the application caused such severe and protracted smarting that I began at once to be doubtful about the character of the disease. Three days later I applied the solid nitrate of silver to a small portion of the patch, with similar results, and four days later the acid nitrate of mercury. This last application caused intense pain that lasted about seven hours, which, he said, drove him nearly crazy. I was now convinced that the disease was not syphilitic, and had the patient see Professor Hyde, who pronounced it leucoplakia. I next cauterized the central depressed portion of the patch with the galvano-cautery, which caused momentary smarting, but perfectly relieved the severe pains from which he had suffered for weeks, and they never returned. Two days later I destroyed the small, wart-like projection in front of the large patch, and subsequently, about every fifth or sixth day, I cauterized a small spot, nearly a centimetre in diameter, at the edge of the patch. These cauterizations were so superficial that only the epithelium was destroyed, the membrane beneath being but slightly burned; indeed, so light were they that a few times I was obliged to again cauterize the same spot before all the epithelium was destroyed. I found that as these cauterized places healed the mucous membrane appeared natural, and finally, after about thirty applications of the cautery, the entire surface presented the appearance of healthy mucous membrane, showing only two or three small cicatrices, where the cauterizations had been unusually deep. The iodide of potassium, which did no good, was discontinued soon after I began the use of the galvano-cautery. Now, at the end of four months after the last cauterization, the mucous membrane remains perfectly healthy.

Bibliography.

Alibert. "Maladies de la peau," Paris, 1822.

Bazin. "Psoriasis buccal," Paris thesis, 1873.

Buzenet, J. J. A. "Chancre de la bouche," Paris thesis, 225, 1858.

Church, William. "Report of a Case of Ichthyosis, with Congenital Malformation of the Aorta," 1865.

Clark, Andrew. "Aphtha Figurata; Clinical Remarks on its Pathology and Treatment," "Medical Times and Gazette," vol. i, 1862.

Clarke, W. Fairlie. "Case of Ichthyosis Linguæ," "Lancet," vol. i, 1872. See also "British Medical Journal," vol. i, 1874; "Practitioner," London, vol. xiii, 1874; "Lancet," vol. i, 1874. "Cases of (so-called) Ichthyosis Linguæ," "Med. Chir. Trans.," 1874, vol. ii. "Exfoliation of the Tongue," 1882.

Debove, G. M. "Psoriasis buccal," Paris thesis, 1873. "Du psoriasis buccal," "Archives gén. de méd.," xxiii, 1874.

Devergie. "L'Union méd.," xxii, 1876.

Fergusson, Sir William. "Clinical Remarks on a Peculiar Form of Disease of the Jaw in an Aged Patient," "Lancet," 1862, vol. ii.

Fox, Tilbury. "So-called Ichthyosis Linguæ and its Relation to Ichthyosis," from "British Medical Journal," 1874, vol. i.

Fournier, Alfred. "Des glossites tertiaires," Clinical Lectures, "La France méd.," xxiii, 1876.

Fredet. "Bull. et mém. de la soc. de chir. de Paris," vol. ii, 1876.

Gautier. "De la desquamation épithéliale de la langue," "Revue méd. de la Suisse romande," 1881, vol. i.

Goodhart, James F. "On Cancer, as illustrated in Ichthyosis of the Tongue and Allied Diseases resulting from Prolonged Local Irritation," "Guy's Hospital Reports," Third Series, vol. xx, 1875.

Guinaud. "Syphilis des reniers," "Lyon méd.," xxxv, 1880.

Hulke, J. W. "Wart and Corn of the Mucous Membrane of the Tongue," "Med. Times and Gazette," London, 1861, vol. ii. "Ichthyosis of the Tongue," from "Med. Times and Gazette," 1865, vol. i, London. See "Proceedings of the Royal Med. and Chir. Soc.," 1865, vol. v, London.

Hugonneau. Report of a case of glossitis, ending in epithelioma. Paris thesis, 431, 1876.

Kaposi. "Syphilis der Haut," Wien, 1875, vol. iii.

Krueg, Julius. "Leucoplakia linguæ bei einem Geisteskranken mit Vergiftungsideen," "Wien. med. Woch.," 1878.

Leloir. "Progrès méd.," Dec. 15, 1883.

Lailler, M. Art. "Bouche," "Dict. encycl. des sci. méd.," vol. x, Paris, 1869.

Mauriac, Charles. "Du psoriasis de la langue et de la muqueuse buccale," "L'Union médicale," xvi, 1873. Definition based upon anatomo-pathological constituents of bucco-lingual psoriasis, *Ibid.*, xvii, 1874.

Morris, Henry. "Remarks on Ichthyosis Linguæ followed by Epithelioma Linguæ," with notes of three cases, "British Med. Journal," Feb. 21, 1874. See "British Med. Journal," March, 1874, London. "Remarks on Epithelioma and Ichthyosis of the Tongue, based on Records of Seventy-five Cases," "Lancet," 1882.

Merklen, P. "Psoriasis buccal de Bazin," "Annales de derm. et de syph.," vol. iv, 1883.

Nedophil, M. "Ueber die Psoriasis der Zungen- und Mundschleimhaut und deren Verhältniss zum Carcinom," Langenbeck's "Archiv," Berlin, vol. xx, 1877.

Neligan, J. Moore. "Notes of an Unusual Abnormal Condition of the Mucous Membrane of the Tongue and Cheeks considered in Connection with Life Assurance," 1862.

Paget, Sir James. "Case of Cancer following Ichthyosis of the Tongue," 1870.

Plumbe, Samuel. "Diseases of the Skin," Philadelphia, 1837.

Rigal, Aug. Art. "Langue," "Nouv. dict. de méd. et de chir.," vol. xx, Paris, 1875.

Saison, C. "Syphilides sur la langue," Paris thesis, xlvi, 1871.

Salter, S. James A. "On Papillary Tumors of the Gum," 1866.

Schwimmer, Ernst. "Die idiopathischen Schleimhaut-Plaques der Mundhöhle; Leucoplakia buccalis," "Vierteljahresschrift für Dermat. und Syph.," iv, v, 1877, 1878. See "Transactions of the International Med. Congress," vol. iii, 1881.

Trélat, ——. Relations between psoriasis and epithelioma of the tongue, "Bull. et mém. de la soc. de chir.," vol. i, 1875, and vol. ii, 1876.

Ullmann, ——. "Schwielenbildung auf der Zunge," "Aerztlich. Intelligenzblatt," Munich, v, 1858.

Vidal, E. Clinical lecture at the Hôpital St. Louis on buccal leucoplasia, "L'Union méd.," xxxv, 1883.

Weir, Robert F. "Ichthyosis of the Tongue and Vulva," "New York Med. Jour.," xxi, 1875.

NOTE ON THE USE OF ANTIPYRINE IN SUNSTROKE.

By BENJAMIN F. WESTBROOK, M. D.,
PHYSICIAN IN CHIEF TO THE DEPARTMENT OF DISEASES OF THE CHEST, ST. MARY'S GENERAL HOSPITAL, BROOKLYN.

My object in publishing this note is to call attention to the use of antipyrine in two cases of sunstroke, so that others may, if they think proper, test it and contribute the results of their experience.

It occurred to me that the prompt introduction of an antipyretic dose of this substance into the subcutaneous tissues might be of great service in reducing the temperature, and so give time for attention to the treatment of the other pathological conditions. The ambulance surgeon, Dr. Folker, was therefore requested to provide himself with a fifty-per-cent. solution, and, in the event of his being called to a case of the apoplectic form of the disease, to administer a drachm of the solution hypodermically at once, and to repeat it in an hour, if the temperature was not markedly reduced. Other measures for the relief of the patient were, of course, not to be neglected.

On Saturday, the 18th, when the thermometer registered 99° F. in the shade, he was called to attend a young Englishman, twenty-two years old, of very robust habit, who, after working out of doors all the forenoon, became comatose and convulsed after reaching his home at midday. The head was congested, eyes suffused, pulse rapid and strong, skin dry, and the coma profound. The bowels had moved spontaneously, and he had vomited freely. The rectal temperature was 109° F. The doctor administered a drachm of the fifty-per-cent. solution of antipyrine hypodermically, applied ice to the head, and removed him to the hospital.

In the confusion attending his admission the exact time was not noted, but in about three quarters of an hour after the first dose the rectal temperature was 107·50° F. Cold was applied to the body and head by means of towels wrung out of ice-water and frequently changed; and another drachm of the solution was introduced under the skin. In thirty minutes the rectal temperature was again taken and found to be 99° F. The cold applications were at once discontinued and dry heat was applied to the surface, while whisky was injected subcutaneously.

When I arrived shortly afterward the surface of the body was cool, the pulse 120, the coma profound, and all the limbs were twitching convulsively. The head was still congested, the conjunctivæ injected, the pupils contracted but responding feebly to light, and the respiration was irregular and accompanied by a loud expiratory groan, such as is heard in severe cerebral disturbance. I gave two ounces of whisky and forty grains of chloral hydrate by enema, but they were not retained. About half an ounce of whisky was then given hypodermically. In half an hour the temperature began to rise slowly, so that the surface was warm. The twitching of the voluntary muscles became more marked, and he was seized with a most violent tetanic convulsion, which was controlled by chloroform. As the convulsions succeeded each other with increasing rapidity and intensity, I opened the median basilic vein and withdrew thirteen ounces of blood. The bleeding was terminated sooner than was desirable by the onset of a terrific convulsion, during which the arm was twisted violently and the opening in the vein occluded. After this there were no more severe convulsions; the patient became more quiet, and the rectum retained forty grains of chloral hydrate. This was followed by a

period of rest, during which the axillary temperature was taken and found to be 103·75° F.

One drachm of Lente's solution was thrown under the skin, and repeated about once in two hours till four doses were administered. At 8.15 P. M., as slight convulsions had occurred from time to time, six leeches were applied to the temporal regions, twenty grains of antipyrine given hypodermically, and forty grains of chloral hydrate by the rectum. From this time on he slept quietly, the temperature slowly declining until Sunday morning, when it was 99° F.

At about ten o'clock on Saturday evening the patient first became sufficiently conscious to partially respond when spoken to, and from this he passed into a condition of hebetude, which, by Monday forenoon, had given place to complete consciousness. The temperature has been normal since Sunday afternoon, though the pulse is still somewhat rapid. He takes nourishment well. From Sunday morning to Monday morning he had forty grains of sodium bromide every two hours, and five grains of the sulphate of quinine every four hours. The doses were then reduced to twenty grains and two grains.

This case represented the severest type of sunstroke. I have never before seen so bad a one recover. The temperature was high, the coma very profound, and the convulsions the most terrible that I have ever witnessed, except in one case of tetanus, the subject of which died within twenty-four hours after the diagnosis was made. The rapid and permanent reduction of temperature, which must have been mainly due to the antipyrine—inasmuch as the cold applications were only continued for half an hour—undoubtedly contributed toward the favorable result by giving time and removing at once the injurious effect of the hyperpyretic blood upon the higher nervous centers. The beneficial effect of the abstraction of blood was evident.

The second case was brought in an hour or two after the first, and while I was in the hospital:

The patient, an Italian laborer, had been engaged in some laborious work upon the new building of the St. John's Orphan Asylum, which was destroyed by fire last winter. He became suddenly unconscious, had well-marked convulsions, and voided his excrement involuntarily. When Dr. Folker, our very competent ambulance surgeon, arrived he was comatose, breathing irregularly, with rapid and tense pulse, suffused conjunctivæ, dry skin, and continual convulsive twitchings of all the voluntary muscles. The rectal temperature was 110° F. The doctor gave him a hypodermic injection of one drachm of the fifty-per-cent. solution of antipyrine, applied ice to the head, and brought him to the hospital. On his admission he was comatose. The surface, to my surprise, was cool. The pulse was 120, as nearly as it could be counted, with marked tension and a laboring stroke of the heart. The respiration was rendered irregular by the continued spasmodic movements of the voluntary muscles.

The convulsive movements of the limbs were very peculiar, differing from any that I had seen before, in that they were rhythmic in character, and most readily likened to those of a man pulling upon a rope. The rectal temperature, thirty-five minutes after the administration of the hypodermic injection containing one half drachm of antipyrine, was 101° F.

No cold applications were used in this case, with the exception of ice to the head. He was given, by enema, four ounces of whisky and thirty grains of the hydrate of chloral, and retained it.

After a time he became quiet, the convulsive movements almost entirely ceased, and consciousness became dimly perceptible. But, upon changing him to another bed, the peripheral irritation threw him into an active tetanic convulsion, which, however, soon subsided spontaneously. It was noted afterward that any pronounced peripheral irritation would produce convulsive movement. After an hour he received another half-drachm dose of chloral hydrate, with two ounces of whisky, *per rectum*.

He also received a drachm of Lente's solution of quinine about once in two hours. On Sunday morning he was quite conscious. The temperature was 99° F. He was ordered twenty grains of the bromide of sodium every two hours and three grains of quinine every four hours. On Monday his condition was still better, his mind, apparently, quite lucid, and his desire to move about and partake of food very decided. The bromide and quinine were continued.

The favorable termination in both of these cases is significant, as they were both accompanied by great hyperpyrexia and signs of a most profound vital disturbance. The first case was, probably, slightly injured by the use of cold applications too long continued, but this was quite excusable on the part of the house staff, as they were dealing with a new remedy, and had been advised not to neglect the old ones. The result in the second case would seem to strongly indicate that, where antipyrine is used, the external application of cold is not necessary. Another interesting observation was that, when the temperature declined, the cerebral symptoms still continued. This might indicate that even a short period of such intense heat and arterial excitement may so benumb the vaso-motor apparatus that several hours are required for recuperation.

If this is the correct inference, an agent like antipyrine, which is capable of reducing the temperature quickly, may be of the utmost importance.

But, of course, further observation is necessary before any positive conclusion can be drawn. From our experience so far, I should say that half a drachm of the drug would be sufficient to accomplish the purpose. A fifty-per-cent. solution is easily made, and, when injected beneath the skin, produces very little irritation.

CHOLERA ASIATICA AND CHOLERA NOSTRAS;

THEIR DIAGNOSIS AND TREATMENT,

WITH SPECIAL REFERENCE TO THE BACILLUS.

By ARNOLD STUB, M. D.,
BROOKLYN.

(*Concluded from page 36.*)

Those spirilla discovered by Deneke in cheese, and by Lewis found in the mucous covering of the teeth, I have nothing to do with in this paper; it will be sufficient, I think, to mention that they also present different appearances on cultivation, and that Dr. Lewis's bacillus does not grow at all in alkaline or neutral nutritive gelatin. If a small particle is taken, with a previously well-sterilized platinum wire, from one of the colonies recognized as Asiatic-cholera bacilli, and gelatin kept in a test-tube inoculated with the same, we shall find that within forty-eight hours, at 68° F., from the time of inoculation, a whitish turbidity

will start, in the immediate neighborhood of which the gelatin will become liquefied; but this process is so slight that only a very fine capillary tube will be the result, which becomes a little wider toward the surface. The top of this tube is generally below the level of the solid gelatin, and upon the top of the tube we generally see an air-bubble. The liquefied gelatin remains clear, and only upon a few places do a few whitish masses appear. After four to six days the gelatin will be sufficiently liquefied to reach the walls of the test-tube. The spirillum of cholera nostras, however, is characterized by its very energetic liquefying action upon gelatin.

Within twenty-four hours it has formed a wide tube filled with a diffuse opalescent fluid, and the surface of this tube extends to the walls of the test-tube. The lower end of the tube is widened out sack-like. I may add also that the cholera spirillum does not grow upon potatoes at a temperature less than 86° to 88° F., and from 98½° to 99½° F. it forms a dark-brown paste upon the surface. The spirillum of cholera nostras grows beautifully upon potatoes at 64·5° F., and forms a yellowish-gray covering.

However, before I proceed to make a cultivation of the bacilli to be found in the alvine evacuations, I first make an attempt to relieve the patient by a hypodermic injection of sulphate of morphine and atropine. I order frictions with soap liniment, chloroform, and laudanum to the body; also sinapisms alternately applied to the extremities and epigastrium, hot flat-irons or bottles filled with hot water to the soles of the feet, and try to administer a good dose of 10 to 15 grains of calomel internally, and order the same to be continued in small doses of about two grains every two hours.

I certainly shall not give bismuth, either the subcarbonate or the subnitrate, because I wish to avoid everything which tends to make the contents of the stomach and alimentary canal more alkaline. I do not expect anything from the calomel except from its property as a mercurial to destroy the cholera germ by acting as a poison directly upon the latter; and perfectly agree with the views of Dr. Pallen, of New York, who published the same in the "Medical Record" of March 7th, and who contended that during cholera the stomach and alimentary canal were not capable of assimilating any medicine whatsoever. For this very reason I shall also continue the hypodermic injections at proper intervals, and in accordance with the urgency of the case. Later on, when the condition of the patient requires it, I shall also administer brandy hypodermically.

But, gentlemen, I shall also remember the results of the treatment of Professor Cantani, of Naples, who, during the last epidemic, resorted to acidulated enteroclysmata of a temperature from 103° to 104° F. According to Koch, one part of carbolic acid to 400 parts of water is sufficient to prevent the increase of the cholera bacilli, and, although we should not be justified in administering such a clysma to a healthy person, I believe that, in case of cholera where all the powers of absorption by the intestinal canal were suspended, we might perhaps be able to resort to this proportion with benefit to the patient. Although Professor Armanni, of Italy, has found the microbes principally in the colon and cæcum, and a number of cases have been treated with simple medicated enemas with benefit, in severe cases, where the inroad of the microbe extends higher up, it will be necessary to resort to an enteroclysma which will reach beyond the ileo-cæcal valve.

Of all substances, however, which prevent the reproduction of the cholera bacillus, the bichloride of mercury stands foremost. Oil of peppermint has this property in the proportion of 1 to 2,000, sulphate of copper 1 to 2,500, quinine 1 to 5,000, and the bichloride of mercury 1 to 100,000. For this reason I would try the sublimate in combination with hydrochloric acid: first as an ordinary enema, and later on, if I found the disease make progress and the case become desperate, as an enteroclysma. If, however, I were able to dust the whole of the alimentary canal over with calomel in the same manner as we sprinkle iodoform over an ulcerated surface, I think I should prefer the latter method to kill the microbe.

I am not aware that the sublimate has been tried in the manner proposed by me, and I certainly would abstain from its use in the beginning of the disease and before the faculty of absorption had ceased. The algid stage, I think, would be the proper time to begin with, and previous to it I should confine myself simply to copious enemas of hot water acidulated with hydrochloric acid, and administer the latter also by the mouth in the form of an iced lemonade to relieve thirst.

Whether an occasional enema or an enteroclysma of hydrochlorate of quinine, dissolved in hot water and acidulated with hydrochloric acid, would be desirable, I think a matter worthy of consideration.

Gentlemen, we put a typhus-fever patient into an iced bath with the view of reducing his temperature. Would it be unscientific and unpractical to put a cholera patient into a *permanent* hot bath with a temperature, say, of 104° or over to increase his temperature? Koch considers the manner in which the cholera bacillus produces certain changes in the system a poisoning process, and states that in his opinion the poisonous properties of the bacillus act with paralyzing influence upon the circulatory apparatus, and, although this seems to be only theoretical so far, it would explain the fact that hot baths have proved of benefit in cholera. I must also allude to the transfusion of salt water into the venous system as advocated by Dr. Kronecker, who also gives a description of an apparatus to be used for the purpose, and who condemns the practice of intra-abdominal and subcutaneous injections, frequently resorted to during the last epidemic in Italy, on account of the impossibility of regulating the time when the injected fluids may enter the circulation.

During the same epidemic the following treatment was adopted. Cantani, Paoluzi, and particularly Dr. Vitone, speak of the excellent results of a clysma composed of

Inf. flor. camomill (38° C.)	2 litres;
Acid. tannic	3,0–6,0 grammes;
Gumm. arab	30,0–50,0 "
Laudanum	30,0–50,0 "

which, freely administered, caused intermissions of from six to twelve hours. With all internal remedies for the pur-

pose of disinfecting no result has been obtained. But all Italian authorities agree that subcutaneous injections of morphine have been of benefit. Of special benefit, however, have been irrigations *per rectum* of carbolic acid, sublimat, iron sulphate, and quinine.

In the algid stage Cantani has resorted, with considerable benefit, to subcutaneous injections of salt water of the temperature of about 100° F. and in the proportion of thirty-four ounces of water, sixty grains of table-salt, and forty-five grains of carbonate of sodium.

He observed in the severest cases an abatement of all the urgent symptoms within a few minutes after this enema had been given. During the stage of asphyxia, subcutaneous injections of ethereal tincture of valerian, ether, and sulphate of caffeine were used.

The Italians also speak highly of hot baths and of the inhalations of oxygen. Cantani especially mentions that during convalescence we must be careful to avoid milk and beef-tea or meat broths of any kind, because the comma bacillus is apt to grow in those media and a relapse may be the consequence. But between the two he would prefer meat broths, because he found that milk never did agree with his patients. His meat broths he acidulated with hydrochloric or lactic acid. In case, after the strength of the patient has returned, vomiting persists in consequence of hyperæsthesia of the stomach, he recommends ether and chlorodyne, or cherry-laurel water with morphine or belladonna.

Dr. Dornbluth, of Rostock, recommends calomel to be given as I have recommended before, and particularly in the typhoid stage he calls attention to resorcin and cotoin. He speaks highly also of subcutaneous or intravenous injections of salt water, to overcome the thickening of the blood. During the epidemic in Toulon the treatment of the so-called cholera diarrhœa consisted of

℞ Æther	.....	1,0;
Tinct. opii	..... gtt.	xv–xx;
Ext. krameriæ	.....	1,0;
Syr. cort. aurant	.....	30,0;
Aq. melissæ	.....	120,0.

Against the vomiting, every quarter of an hour a teaspoonful of Chartrense, sometimes bismuth and opium.

In more serious cases this treatment is combined with injections of warm wine and laudanum, carbonic-acid water cooled on ice, and, against profuse diarrhœa, water saturated with oxygen gas, to which I personally beg leave to object, as the cholera bacillus belongs to the species of aërobe bacteria and requires oxygen to develop. Frictions with ol. terebinthinæ, opodeldoc, and chloroform are used. Hypodermic injections of morphine in the epigastric region are particularly mentioned by Dr. Cuneo, physician-in-chief of the navy of France, who has found great benefit from the hypodermic injection of half a centigramme of hydrochlorate of morphine with one quarter of a milligramme of atropine. Spasm of the muscles of the lower extremities he has treated successfully with hypodermic injections of ether.

During the stage of asphyxia, injections of ether prolonged life for a few hours in a few cases, but subcutaneous injections of atropine sulphate, first one half a milligramme and afterward one milligramme, from four to five times in twenty-four hours, caused a rise of temperature of 2° in one case.

He also professes to have saved six patients with inhalations of pure oxygen by means of a mask and a tube, the latter introduced into the nares. In those cases where coldness and cyanosis did *not* form the prominent symptoms, this treatment, which he, by the way, repeated every half-hour, and continued for two minutes each time, gave no results.

The question of prophylaxis requires consideration in this paper, and I would like to call attention to the remarks made at the meeting of the Imperial Board at Berlin, July 24, 1884, by Dr. Leyden, that a certain immunity exists against a second attack of cholera, although this immunity does not seem to be absolute, and it is well authenticated that persons have been attacked by cholera in one epidemic and died during a second attack in another epidemic. More rare, however, is the fact that a person has been attacked more than once during one epidemic, although Dr. Wievioroevski quotes the case of a patient who was taken sick August 13th, left the hospital well on the 20th, and was taken sick again with cholera on the 5th of September, and died. Dr. Koch, however, thinks that such cases must be very rare, and seems to be of the opinion that one attack secures the person against a second attack during the same epidemic in most cases. Perhaps being impressed with the same views, a Spanish physician inoculates his clients with the comma bacillus, as I have read in a daily paper. It is remarkable, however, that the medical papers are silent upon the subject, or that they only give short notices of Dr. Ferrán's investigations.* If Dr. Ferrán's microbes are identical with Koch's bacillus, it would appear impossible to inoculate them into the blood with any chance of success, because the circulatory system does not seem to be the home of this parasite. In none of the post-mortem examinations Koch has made could he detect this parasite outside of the alimentary canal, and only very rarely in the contents of the stomach. If found in the latter, it has been only in cases where a process of regurgitation had caused fæces to enter the stomach. The blood and other fluids of the body are not invaded by the bacillus, and not a single case is on record where infection has taken place from a post-mortem examination. Whether Koch's comma bacillus assumes different properties if cultivated and recultivated upon different nutritive media, is a question which later investigations will certainly solve. If I may venture upon an opinion at all in this matter, it is that, if artificially cultivated bacilli have the property of causing immunity from a severe attack of cholera, they should be introduced into the intestine and not into the circulation. The question naturally forces itself upon me, Is this microbe of Dr. Ferrán's actually identical with Dr. Koch's bacillus, or is it the same Dr. Emmerich, of Munich, has discovered in the blood and in the tissues of the whole body of persons who died of cholera?

* Only the "Deutsche medicinische Wochenschrift," of Berlin, April 20, 1885, speaks of the fantastic views of Dr. Ferrán in reference to his inoculation of the bacillus.

Dr. Emmerich also cultivated his bacterium, and inoculated various animals with the same. They all died, but post-mortem examinations seem to have revealed the fact that Peyer's patches were ulcerated, which led critics to assume that those animals did not die of cholera but of a septic poison. Koch has made about one hundred post-mortem examinations in Egypt, India, and France, and in all cases the result has been the following. He divides the results of his investigations into three different varieties. First, he mentions cases where the lower part of the ileum and cæcum, and particularly above the ileo-cæcal valve, had assumed a dark-brown, reddish color, the mucous membrane being studded upon the surface with hæmorrhagic exudation. In a few cases he found diphtheritic patches, and the membrane almost necrotic. In accordance with this, the contents of the bowels were not of rice-water appearance, but a bloody, stinking fluid. In the second class of cases the redness was less marked, being only by spots, and in some cases only the edges of the follicles and Peyer's patches were reddened. The last form he considers to be particularly characteristic; it does not appear in any other affection of the alimentary canal, and seems to be peculiar to cholera.

In comparatively few cases did he find the mucous membrane little changed; it looked swollen and less transparent in the upper layers, the solitary follicles and Peyer's patches were more prominent, the whole of the mucous membrane was of a light rose color, but in no case was there capillary bleeding.

In those cases which constitute the third class the contents of the bowels were colorless—not always like rice-water, but more like water which had been mixed with flour. Only a few cases came to his notice where the contents of the bowel were a watery mucus; the reddened edges surrounding Peyer's patches contained the most of the comma bacilli. All the animals which died after being injected with the virus presented the same symptoms and the same post-mortem appearances. Numerous experiments to this effect have recently been made by Koch, Klob, Nicati and Rietsch, Cautani, and others, and all to the same effect. In addition to the foregoing, I may state that the spleen in cholera cases, and in animals which died after being injected with the cholera bacillus of Koch, has always been found atrophied. It seems that the spleen of animals inoculated with the bacterium of Emmerich was found to be the reverse. In my opinion, all the experiments made upon animals must be accepted with caution as regards their bearing upon the cholera-germ question, because no cases are on record in which an animal ever has taken the cholera during any of the great epidemics in India and in Europe. They seem to enjoy an immunity from this disease, and whether we are able to produce it artificially or not is a question not yet solved to my satisfaction.

After this digression, I beg leave to mention one prophylactic which enjoys a reputation with some medical men up to the present time. It is the sulphate of copper, to be taken daily in very minute doses, during the whole course of an epidemic. The French particularly seem to have been impressed with this belief, and Burq, the father of metallotherapy, recommended it in 1857. French medical papers also quoted instances where large bodies of troops marched through cholera districts and enjoyed immunity from the disease, which was explained by the fact that they had been constantly dosed with the copper during the time they traveled through the infected locality. Dr. Garrigues, formerly of this city, stated to me that he attended a hospital with six hundred cholera patients, during the year 1864, at Copenhagen; that he took daily small doses of the copper, and did not get the cholera, but, as he remarked, other physicians in the same hospital, who also did not get the cholera, did not take the copper.

Gentlemen, I think the best prophylactic will be to avoid everything that tends to derange our digestive organs, and which may give rise to an intestinal or gastric catarrh. The healthy gastric juice will certainly kill the cholera germ; but an alkaline condition of the contents of the stomach will be the means of its passing into the intestinal canal, and then the mischief begins. I would, perhaps, recommend taking small quantities of hydrochloric acid every time we drink water. I should certainly prefer distilled or, at least, boiled water to the ordinary drinking-water. Although the bacillus can not live longer than two days and can not reproduce itself in pure water, the ordinary drinking-water may contain enough of the germ to infect us. The same with milk; it should never be used unless it has been boiled first; then milk in particular forms a good nutritive medium for the microbe.

In the rooms of the sick I would strictly enforce the rule that nobody should be allowed to eat or drink except the patient, and I would urge upon the attendants to wash their hands with a solution of bichloride before taking food. I would not trust to any other disinfectants in the rooms of the sick, unless later researches should give us practical proof that some of the articles of commerce now in the market, and highly extolled as disinfectants, will stand the scientific test against cholera germs. It seems that all acids are not destructive to the cholera germ, as is proved by the fact that it will grow upon freshly cut potatoes, and such a fresh cut has an acid reaction. For this reason I would advise to abstain from the use of fruits, apples in particular, because, besides that they have the faculty of rendering the contents of the stomach alkaline, they may also be the direct means of introducing the bacillus into the stomach. In using disinfectants we should strictly avoid those which retard putrefaction, for it has been amply proved that the bacillus of putrefaction is the deadliest enemy of the comma bacillus, and that wherever the former appears the latter disappears. To put sulphate of iron into a cesspool containing excrements of human beings during a cholera epidemic would prepare a good nutritive element for the germ. I would like to call the special attention of our Board of Health to the cesspools of our public resorts, particularly to those of Coney Island. If no proper care is exercised in disinfecting the same, they may be the cause of much suffering. Bichloride in liberal quantities, often applied, will be the only means, in my opinion. Not those means which only deodorize come into consideration in this momentous question, but those disinfectants which kill the germs of the

disease. The best of all means of killing the cholera bacillus is dry heat. If it is subjected to a drying process, it will die within a few hours. For this reason I mentioned before that I did not think the importation of rags from Europe could import the disease also, because all rags, before they are shipped for commerce, are subjected to a drying process. For the reason that dry heat kills the germ, I would recommend stopping the sprinkling of the streets during an epidemic of cholera, and I would also recommend that all the bed-clothing of cholera patients, and all the personal wearing apparel used during their illness, be subjected to a process of dry heat. If all the excrements could be destroyed by fire, it would be better still; but, as such a process would be difficult or impossible to accomplish, let us boil, at least, the clothes in a solution of bichloride, and then subject them to a process of drying in a hot stove, and, if they burn, it will be all the better. No wet clothing of cholera patients should be allowed to hang out in the yards or upon the roofs of houses to dry, there is such a possibility of a strong draught of air taking up the germ and carrying it to a soil where it may grow and increase. Gentlemen, you will remember the appropriate remarks made by the medical officer of the navy who visited our last meeting. You will remember that he told us that during a time when cholera was raging in India a United States man-of-war was lying in the Ganges in midstream, and none of the officers or crew took the cholera. Why did that happen? First, the proverbial cleanliness on board of a United States man-of-war, and, second—and may be, perhaps, first—because they drank only distilled water.

Although I told you that the comma bacillus could live only a few hours in water, and did not multiply there, it may grow upon the soil of the banks of a river, provided the soil happens to have some of the elements necessary for its reproduction. The stream of water may carry the germ along, and by that means become the cause of the disease —one reason more why we should drink only distilled or boiled water during those times, and why we should not sprinkle the streets. I beg leave to mention that Dr. Koch spoke to the Medical Society of Marseilles, and stated that, in his opinion, chloride of lime must not be relied upon as a means for disinfection. He advises keeping a five-per-cent. solution of carbolic acid in all vessels used in the room of a cholera patient. The best means of destroying the germ he considers hot steam, which must be used with an apparatus from which a jet of steam issues of a temperature of 100° C. Such a system may well be carried out in hospitals, etc., but in private dwellings, tenement-houses, etc., it will be impracticable, and I think boiling with a strong solution of bichloride, and afterward drying in a hot stove, will answer our purpose in private practice. The solution of sublimate which he recommends as wash-water for the hands of nurses and physicians who attend cholera patients should be of the strength of 1 to 1,000. Koch also urges to avoid drinking water unless it has been previously boiled, and he himself, during his stay at Marseilles, drank only mineral waters, and always washed his hands in a solution of sublimate before he took his meals. He strongly urges the washing of all cooking utensils, glasses, etc., with boiling water, and is of the opinion that, although beer in all probability does not contain the microbes, the water in which the glasses have been washed may do so, and thus cause infection. Gentlemen, I am of the opinion that our system of sewerage, our water supplies, etc., and the general sanitary condition of this city, thanks to the efforts of the Board of Health, are such that we may consider ourselves well prepared to meet the enemy if he attempts an invasion.

We hear of unclean streets, and in some parts of the city an improvement would be desirable, but, on the whole, we may compare well with such cities as Naples, Toulon, or Marseilles. Although it may be comfortable to contemplate this condition of affairs, vigilance in sanitary matters must not cease, and we, as physicians, should be willing to lend a helping hand to the efforts of the Board of Health to suppress an epidemic by reporting every suspected case as soon as it occurs. I contend that private interest must not be taken into consideration as long as the public welfare is at stake.

I have not mentioned in this paper the report of the English commission which was sent to India to investigate the cholera. The exact words which Dr. Klein used in his report, March 24th, before the Royal Medical and Chirurgical Society of London, copied from the London "Lancet" into the "Deutsche medicinische Wochenschrift," April 16, 1885, are the following: "Comma bacilli of various species have been discovered in other diseases of the alimentary canal, in the fluid of the mouth of normal persons (Lewis), and in old cheese (Deneke). The comma bacilli found by Finkler and Prior in cholera nostras differ in mode of growth from Koch's comma bacilli of cholera; so do those found in diarrhœa due to other causes; but those of the fluid of the mouth are identical with Koch's comma bacilli in *many* respects."

He admits, consequently, that they are not identical in *all* respects, and I may refer you to my former remarks that Dr. Lewis's bacilli do not grow upon alkaline nutritive gelatin. I would recommend to all those of you gentlemen who wish to be informed upon the subject of the cholera bacillus to read the reports to the Scientific Grants Committee of the British Medical Association, by W. Watson Cheyne, Assistant Surgeon to King's College Hospital, etc., and Research Scholar of the British Medical Association, as published in the "British Medical Journal." One of the articles published in the "Journal" of May 2, 1882, I have seen through the kindness of Dr. Hunt, and I found it to be such a lucid and true *exposé* of Koch's discoveries that I beg leave to mention it here. It gives all the illustrations, partly after Koch, and in a great measure after Mr. Cheyne's own investigations, and mentions also the later highly interesting researches of a Mr. E. M. Nelson in reference to the discovery of the flagella of the bacillus, before unknown to me. I would not have mentioned Dr. Klein's report in this paper, because I considered the matter as settled, had not an allusion to it been made at our last meeting, and if the president of the Medical and Chirurgical Faculty of Maryland, at the annual session, May 12th, as reported by

the "Medical Record," May 16th, had not stated in his opening address, "Origin and Diffusion of Cholera," that he "did not consider the parasitic origin of the disease proved, because Koch had not succeeded in producing the disease by injecting the comma bacilli, and Lewis had demonstrated the presence of bacilli in the human system under other circumstances." But not alone Koch, but Klob, Rietsch, Nicati, and others have successfully injected the comma bacillus into the intestines of animals, as already stated before, and Lewis's bacillus is certainly not identical with Koch's. Gentlemen, if a physician has a suspected case of kidney disease, he is expected to test the urine for albumin, and examine into the percentage of urea and look for casts, etc.; but, when it is necessary to make a quantitative analysis of the urine, he will be obliged to get a specialist to attend to the matter; for, even if he has the necessary knowledge and apparatus to do so, he has not the time. If a hospital surgeon removes a tumor from a patient he turns the specimen over to a pathologist for microscopical examination, and I think it will be the same with the examinations of the excrements of suspected cholera cases. We, as practical physicians, will be able to make the primary examinations by cultivation and with the microscope; but when it comes to further scientific researches into the matter, there our duty ends, and also our ability. A constant, untiring observation, together with the minutest attention to details, is necessary to carry out the investigations, and those of us who undertake to work further upon this field, with the hope of adding something new to the general knowledge, will be sorry to find that they worked in vain because they have no time for such researches. We have to content ourselves with utilizing the discoveries made by those who make it their sole study. If the German Government, however, thinks the matter of sufficient practical importance to detail by turns all the medical officers of the army to take a course in the laboratories of the board of health at Berlin, to enable the army physicians to make the necessary investigations for diagnostic purposes, I think it will not be out of the way if I herewith respectfully suggest that our Board of Health detail one of its members to take a course at the lately established laboratory of the Bellevue Hospital Medical College, for the purpose of familiarizing himself with the technical methods of making such investigations, and if, with a little financial aid from the city, the Board of Health could afterward establish a laboratory for biological researches, it would materially further rational sanitary purposes.

RIGGS'S DISEASE.

By G. A. MILLS.

At a meeting of the Connecticut Valley Dental Association, about eighteen years ago, at Northampton, Mass., John M. Riggs, M. D., of Hartford, Conn., was invited to make a proclamation (associated with a clinic) of his views concerning a diseased condition of the gums and the sockets of the teeth which often causes the loosening and falling out of the same. Up to this time nothing had appeared in the literature of dentistry except that which classed this disorder among the incurables, and it was spoken of as the result of senility; hence the common remark among people, "My father's and mother's teeth all dropped out, and it is only a matter of time with me." The removal of tartar as an external deposit upon the teeth was classed simply as an operation of scaling. This operation only recognized the foreign matter that could be seen. Dr. Riggs, in announcing his original views—while he gave it as his opinion that the deposits of tartar were the cause of the disorder under consideration—stated that his observation and experience matured the knowledge that there was a decided progressive inflammation existing under the gums and wasting both the hard and soft tissues, so that their attachments with the roots were gradually being destroyed. His knowledge of surgical principles suggested a practical application to these diseased localities, and he proceeded to the removal of all foreign substances from the roots of teeth, and the trimming of the necrosed edge of the alveolus to the life-line, leaving nature to restore to a normal condition. Dr. Riggs's view naturally excited a variety of comment—some expressing disbelief, and others accepting his novel ideas and statements. Not a few denied the existence of a necrosed edge of the alveolus. Dr. Riggs had devised a set of instruments well adapted for the treatment of this disorder—and these were unique and new, yet there was an effort on the part of a very few to dispute his claim to this invention; this did not prove a success. This body (the Connecticut Valley Dental Association) subsequently passed a resolution giving credit to Dr. Riggs for originality relative to the new pathology of the disorder now termed Riggs's disease, and so named at about that time in honor of Dr. Riggs. I have previously remarked that nothing of the doctor's views had ever been published so far as known. But—having become personally much interested in this disease, and in the discussion of it, and also finding my position regarding it misunderstood by several dentists—I was led to prepare a series of articles (six), which were published in the "Dental Cosmos" during the years 1876 and 1877, under the title of "What I know about Riggs's Disease," in one of which articles I challenged the record of views corresponding to Dr. Riggs's. Since then not a word has come from any source to show that he is antedated in the matter. I may add that a confirmation of his views and their acceptance by many members of the dental profession have gradually taken place. I am glad to say that to-day it is the most prominent subject for consideration before dentists generally. Only a limited number, however, have come to a correct understanding of what is required and how to meet the requirements. These few are demonstrating a successful treatment of the disorder. At this point of my article it seems advisable to introduce a feature which I shall elaborate later on; it is in reference to the technical term by which this disorder is now known—viz., *pericementitis*, substituted for the term well known by medical men—dental periostitis—meaning inflammation of the dental periosteum. This term (pericementitis) originated in the laboratory of Charles Heitzman, M. D., of New York city, during the late investigations made there by dentists under his instruction. The general subject of perice-

mentitis it is not my design to discuss here, but it is necessary to make the distinction clear between Riggs's disease and general pericementitis. Riggs's disease is a peculiar phase of pericementitis; it may exist to the final loss of all the teeth, without a sign of any other phase of this disorder.

As the nature of this disease is so plainly embodied in my brief history of the matter which includes its pathology, it would seem that my readers need not be ignorant of its main features; therefore I pass to consider the diagnosis.

To diagnosticate an incipient case, or first manifestation, as it is often seen in the mouths of children (even at a very early age): The simplest form of the disease may often be seen at the peripheral part of the festoon of the gum-tissue indicated by a congested appearance; by lifting this gum with a delicate instrument, there will be seen a little seed-like granule of calcific substance. Another case might show a deep red and raw-looking, elongated appearance of the gum-tissue about the necks of the teeth, and with or without any deposit; there may be also a looseness of the gum about the teeth, which causes quite a pocket. This latter condition is often a sequela of exanthematous disorders. The gums are often extremely sensitive to the touch. In the various cases we find general congestion, easy hæmorrhage, pale and bloodless gums, a decidedly anæmic and frequently pimpled surface of the gums—the latter appearance in adults. Not uncommonly a first warning to the patient (adult) will be pain or tenderness about the tooth or teeth, and an examination will not reveal any decay, death of pulp (commonly called nerve), or evidence of inflammation of pulp. This is what I shall term a subtle manifestation, for it has been believed there could be no inflammation of the dental membrane without a disturbance of the pulp. This is now proved to be untrue, for abscesses do occur while the pulp remains normal. In a large proportion of cases there will be, on light pressure, a flow of pus from under the gums, and oftentimes it is a copious discharge. This may be general, or it may be confined to a single tooth. Looseness of one or more of the teeth may be observed; also malposition, and this commonly after an occluding tooth is lost. I have given in detail enough of the manifestations to lead one even superficially familiar with unhealthy conditions to the diagnosis. It will be observed that I have omitted other conditions of disease that are manifested in the mouth, associated with the teeth and allied structures—viz.: syphilis, salivation, and scurvy. While in some instances these may be separated from the disorder in question, yet they are sometimes complications. I will mention another marked diagnostic feature associated always with an active stage of the disorder, and that is the odor which is distinctly noticeable to one familiar with Riggs's disease. There are other local manifestations that are, without doubt, largely influenced by the disease, but are commonly classed as expressions of constitutional debility, and still they may be wholly the result of the disorder under definition. This is proved by the arresting of the disease when the disabilities referred to are removed. Recession of gum-tissue is often seen, and no apparent inflammatory condition. While this is a peculiar phase, I maintain it is the same disorder. My term for it is atrophy of the gum-tissue—erosion of the tooth-structure, causing grooves across and around the necks of the teeth, not infrequently taking a serpentine direction. This also is a manifestation of the same disorder, as it is arrested by the treatment which will now be described.

Treatment.—As the nature of the disorder has proved to be novel, so will the treatment appear, as Dr. Riggs was the inventor of a set of instruments with which to perform the operations required in treating the disease. Each one is six inches in length, including the handle, which is of ebony and steel, octagonal and tapered; the blades are seven eighths of an inch long, bent at an obtuse angle. The instruments are in two pairs, and there are two single ones. One pair has a knife edge and a safe edge; the other pair has the same, but these are reversed in their bevels—made so for the purpose of working at a different angle of the mouth, and from the operator instead of toward him. The single ones are double knife-edged, and differing in thickness of blade. Perhaps no better idea can be given of the general form of the blades than to say they resemble the half of a snipe's bill, the long, ovoid point being particularly adapted to ferreting out the intricate and deep-seated disordered parts of the hard and soft tissues about the roots of the teeth. In their dimensions they may seem ponderous to a novice, but in the hands of an expert no instrument can be more efficiently and delicately used. It must now be seen, by the description and location of Riggs's disease, that most of the operation is under the gum-tissue and out of sight, so that necessarily to know when the operation is complete at a given point can only be accomplished by an acquired and acute sense of touch. It may be said that the Riggs treatment has instituted a distinct and systematic mode of arresting the disease. Rightly understood and rightly practiced, I regard this treatment as the most efficient in dental surgery. The severity of the cases differs according to constitutional conditions, and, if the dentist is the doctor, he will know whether the patient can be wisely aided by constitutional treatment. The prognosis must be based upon the conditions as they appear in each case.

From an extensive experience within the last ten years in the treatment of a large number of cases, and the success attained, I am justified in saying that Riggs's disease can no longer be classed among the incurable ones.

It is perfectly plain that this disease is not confined to any one period in life. Under the age of forty I have had numerous cases in the most active stages of progress—so noticeable that there was almost spontaneous hæmorrhage of the gums, and such an excessive flow of pus that the service of napkins for absorbing was required in sleeping hours. These facts can be testified to by well-known physicians. As one impressed with the prevalence of Riggs's disease, and its destructive effect on the general health, I should be remiss in duty if I were silent, or neglected to call the earnest attention of medical men and the public to the grave facts, for they have had too little consideration. I would say emphatically that the most serious complications may arise, and the worst septic conditions may be threatened

and encountered, from pure neglect. That one disorder not arrested calls others of a more serious nature into existence is a well-known fact among medical men.

Book Notices.

A Text-Book of the Principles of Physics. By Alfred Daniell, M. A., Lecturer on Physics in the School of Medicine, Edinburgh. London: Macmillan & Co., 1884. Pp. xx–653. [Price, $5.]

This book is intended to be used in the preliminary medical course. The author justly lays stress in the preface upon the importance of the study of physics, and the close relation between that branch and the department of experimental physiology. He states that it is his express purpose to avoid the introduction of "anything of the nature of an unsolved riddle" into his work. But the reader will find himself greatly in error if he regards this as an elementary treatise; a mere glance at the table of contents will assure him that he has not entered upon a course of light reading. The subject-matter is arranged in an ascending series. Beginning with introductory sections upon matter and its properties, we soon reach a solid chapter on "Kinematics," under which are included wave-motions and their demonstration by the aid of the higher mathematics. We prophesy that this will prove a tough morsel for the student, especially if he approaches it without a previous knowledge of the subject.

Under "Kinetics" are included the familiar problems of the lever, inclined plane, screw, and wedge, with a paragraph on friction. "Attraction and Potential" and "Gravitation and the Pendulum" form the subjects of Chapters VII and VIII. Chapters IX, X, XI, and XII include "Matter," "Solids," "Liquids," and "Gases." With Chapter XIII we begin an exhaustive consideration of "Heat," which is fully up to the latest theories. This is followed by "Sound," "Ether-waves" (as the author calls his chapter upon light), and a concluding dissertation upon "Electricity and Magnetism." An exhaustive bibliography and an excellent index conclude one of the most scholarly works on physics that we have ever had the pleasure of perusing. We regret that we can not give a more extended notice of the book, but this is hardly permissible in a strictly medical journal. The reader who is prepared to give his close attention to every page is advised to look it over for himself. A superficial reading is worse than useless, for, as we before stated, this is not light literature. The criticism which we venture to offer upon the volume as a whole is that it is entirely too advanced for the class for whom it is written. When we remember that the average medical student has not enjoyed a university education, we are compelled to believe that many of the pages of formulæ and mathematical demonstrations will be quite beyond his grasp. As for the "general reader," whom the author also includes among his audience, it will be a very intelligent general reader indeed who profits by some of the more abstruse paragraphs.

None of the familiar illustrations of physical apparatus have been introduced (we think unwisely), but their places have been supplied by numerous geometrical figures, often quite complicated. We do not wish to underrate the ability of our American medical students, but we must confess that few of them would take pleasure in physics with such a text-book. A little less of mathematics and a little more of the practical application of theories would be highly desirable.

The volume is a model of neatness and accuracy. The clear type, systematic arrangement—in fact, the *tout ensemble*—reflect great credit upon both author and publishers.

Resoconto clinico del comparto speciale per le malattie cutanee dell' Ospedale Maggiore di Milano, nel seiennio 1879–1884. Memoria del D. Ambrogio Bertarelli, medico aiutante. Milano: Tipografia Bortolotti di Dal Bono e C., 1885. Pp. vii–159.

As its title indicates, this book is a clinical report of the dermatological wards of the Ospedale Maggiore, of Milan, for the six years from 1879 to 1884 inclusive. We welcome it as another evidence of the intellectual activity of Italy, and as a voice from one of the largest hospitals in the world—one that was in operation before this country was discovered.

Unlike many hospital reports, it is not a mere collection of statistics, but resembles rather a series of clinical lectures upon selected and more or less uncommon cases that have come under the writer's notice. About thirty diseases of the skin are treated of, illustrated by cases, and discussed in regard to their ætiology, pathology, diagnosis, and treatment. The histories of many of the cases will well repay perusal, notably one of acute gangrene of the skin from softening of the brain. Much space is devoted to the consideration of eczema, lupus, and the parasitic diseases.

The author is an enthusiastic disciple of Hebra. His views are, nevertheless, not limited by the horizon of the Vienna school, but are catholic in scope. We notice that in his therapeutics he has given fair trial to the methods of the representative men of all nations, and his deductions from these trials enhance the value of the work. The book is of value as an exposition of the state of dermatology in Italy at the present time, and we can only regret that Dr. Bertarelli has stopped short of giving us a complete treatise upon the diseases of the skin as seen in his country.

BOOKS AND PAMPHLETS RECEIVED.

Gout, and its Relations to Diseases of the Liver and Kidneys. By Robson Roose, M. D., Fellow of the Royal College of Physicians in Edinburgh. London: H. K. Lewis, 1885. Pp. xii–158.

Manual of the Antiseptic Treatment of Wounds. For Students and Practitioners. By W. Watson Cheyne, M. B., F. R. C. S., Assistant Surgeon to King's College Hospital, etc. With Illustrations. New York: J. H. Vail & Co., 1885. Pp. xiii–151.

L'Année médicale (septième année), 1884. Résumé des progrès réalisés dans les sciences médicales. Publié sons la direction du Dr. Bourneville, Médicin de l'hospice de Bicêtre, Rédacteur en chef du "Progrès médical." Paris: E. Plon, Nourrit et Cie., 1885. Pp. viii–409.

Resoconto clinico del comparto speciale per le malattie cutanee dell' Ospedale Maggiore di Milano, nel seiennio 1879–1884. Memoria del D. Ambrogio Bertarelli, medico aiutante. Milano: Tipografia Bortolotti di Dal Bono e C., 1885. Pp. vii–159.

A Manual for Hospital Nurses and Others engaged in attending on the Sick. By Edward J. Domville, L. R. C. P. Lond., etc. Fifth Edition. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. 96. [Price, 75*c.*]

The Pre-albuminuric Stage of Chronic Bright's Disease. By Charles W. Purdy, M. D., etc. Chicago: Clark & Longley, 1885. Pp. 35.

Poliambulanza delle specialità medico-chirurgiche, premiata con medaglia d' argento all' Esposizione di Torino. Il primo anno di vita (1 Ottobre, 1883—30 Settembre, 1884).

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co. Edited by FRANK P. FOSTER, M. D.
NEW YORK, SATURDAY, JULY 25, 1885.

THE INTERNATIONAL MEDICAL CONGRESS.

So far as our information goes at the time we go to press, the week has been comparatively barren of striking incidents growing out of the International Medical Congress difficulty. We have no knowledge of further concerted action in the way of resolutions of disapproval and withdrawal, but individuals have in a number of instances publicly declared themselves in accord with the action taken in Philadelphia, Boston, Baltimore, and Washington, and at the same time expressed their intention not to take part in the Congress as at present sought to be organized. It is worthy of note that not a few of these gentlemen are residents of the West.

The inglorious part played by the New Orleans meeting of the American Medical Association continues to be the subject of comment. We have received a number of private communications approving of the position we took in our issue of the 11th inst., in which we explicitly fixed the responsibility for the present disgraceful state of affairs upon the association—not merely finding fault with the fortuitous indiscretion of the New Orleans meeting, but tracing the possibility of that action to the debased condition of the association itself. Many of our contemporaries are taking the same view of the matter, and some of them contain very pointed expressions. The "Medical Record" says that we have shown the association to be "a useless and mischief-making body." It precedes this statement with the remark that we were "at first a little non-committal, not to say strabismic," in our views; but this we take in the Pickwickian sense which is occasionally to be discerned between the "Record's" lines, and are content with its thorough approval of the position that it finally discovers us to hold.

The "Medical News" says: "The men who are engaged in original research, and who are best known as those who are contributing to the honor and dignity of American medicine by their writings and teachings, are not usually active in medical politics or in the supervision of their medical brethren, nor are they given to log-rolling and striving for office. For the past ten years these men have been becoming dissatisfied with the tone of the American Medical Association, and, while many of them have not formally severed their connection with it, they have nevertheless ceased to attend its meetings."

The "Maryland Medical Journal" uses the most forcible language to express its condemnation of the American Medical Association, as will be seen by its editorial of last week, which we reproduce elsewhere in this issue. The "Canada Medical and Surgical Journal" alludes to the withdrawals, and adds: "When we ask why they take this serious step, we learn that they have, in the first place, a deep distrust of the American Medical Association as an organization which could satisfactorily carry out such an undertaking."

Speaking of the general subject, the "Medical Times and Gazette," of London, says: "There is a very unfortunate discussion going on at present in professional circles in America, which, it is quite possible, may turn out disastrously for the International Medical Congress which it has been decided to hold at Washington in 1887. It will be remembered that a small Committee of the American Medical Association was nominated by the executive of the Copenhagen Congress, with full power to add to their number, and to act on behalf of their professional brethren. Carrying out their mission, they chose as colleagues twenty-eight leading American practitioners, especially selected on account of their standing in the profession, and drew up the programme which has already been published. Subsequently, when the Committee reported to the meeting of the American Medical Association at New Orleans, exception was taken to their proceedings on the plea that they had exceeded their powers, and had no commission to act on behalf of the association. The jealousies that had been roused among those who had been passed over in the co-optative selection were worked upon by two or three pushing wire-pullers, and, in the end, resolutions were passed, revising the work of the Committee, and substituting a Committee of thirty-eight men selected from the different States and Territories for those added to their number by the original Committee. At a subsequent meeting, the results of which we are daily expecting to hear, the subject was again to come under consideration, and we learn that it was the intention of all the leading practitioners in the States to withdraw from the Congress, if the decisions of the original Committee were not treated with more respect. We sincerely hope that the profession in America will strenuously support their recognized leaders; otherwise they will make an exhibition of themselves to the world, and, besides imperiling the future success of those international gatherings which have hitherto been conducted with so much harmony, will distinctly lower the respect in which the profession is held throughout the world."

MINOR PARAGRAPHS.

"DANIEL'S TEXAS MEDICAL JOURNAL."

"DANIEL'S TEXAS MEDICAL JOURNAL" is now, to use its own expression, launched. We lately took occasion to commend Dr. Daniel's undertaking, and he now reciprocates by mentioning this journal a number of times in his first issue. To be sure, much of what he puts forward as quotations from our columns never appeared in them, but we have grown quite accustomed to being misquoted and to having our meaning perverted. It seems that this journal was not the only one to notice Dr. Daniel's journal in advance of its appearance, for he quotes the following—and we envy the state of mind that enables him to reproduce it with apparent satisfaction—from the "Denver Medical Journal": "Dr. F. E. Daniel, of Austin, Texas, sends us the prospectus of 'Daniel's Texas Medical Journal.' To those of our readers who were lovers of the editorial writings of the much lamented Gaillard we commend Dr. Daniel as the coming

'Mephistopheles of medical journalism.' At least we will venture to so christen the baby." We wonder if Dr. Daniel has ever read Faust, and we wonder also if the "Denver Medical Journal" realized with what sort of character it coupled the name of a man who was utterly free from guile.

VIVISECTION IN ENGLAND.

We regret to learn that Mr. Lawson Tait has again thought fit to cast the weight of his influence publicly in aid of the anti-vivisection mania in England. We do not question his entire conscientiousness in the matter, and it is even conceivable that he might make a good argument in favor of the proposition "that vivisection is not only useless in solving riddles such as we have to deal with, but that it is absolutely misleading." A forcible argument could perhaps be made in support of that position, but certainly not one that would prove convincing to the present generation of medical men, who owe almost all that they possess of real physiological knowledge to the practice which Mr. Tait condemns.

THE PROPOSED TEACHING OF HYGIENE AT WEST POINT.

It seems to us that a most excellent suggestion has been made in the recent report of the Board of Visitors of the Military Academy, namely, that the officers of the medical corps on duty at the post should give lectures on hygiene to the senior class of cadets. Not only is it indisputable that a knowledge of the principles of hygiene by the line officers of the army is in the highest degree desirable, but it is also scarcely less certain that for the medical officers in question to devote a portion of their time to teaching those principles would be both agreeable and profitable to them as individuals and as officers. Moreover, in the course of a very few years the whole medical corps would find its routine duties much facilitated by the increased readiness with which officers in command of posts would grasp the purport and appreciate the importance of the hygienic measures recommended by the medical officers from time to time. We trust, therefore, that the board's suggestion will meet with favor at Washington.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 21, 1885:

DISEASES.	Week ending July 14.		Week ending July 21.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	0	1	0
Typhoid fever	9	2	10	2
Scarlet fever	31	9	40	14
Cerebro-spinal meningitis	4	3	4	3
Measles	55	10	48	8
Diphtheria	55	24	59	23
Small-pox	2	1	2	0

Small-pox is reported as prevailing in the town of Scotland, in Dakota, twenty-five cases having been discovered last Sunday.

Anthrax in Louisiana.—Anthrax is reported to be prevailing extensively among cattle in the region of New Iberia, La.

The International Sanitary Conference and the Disinfection of Rags.—One of the incidents in a controversy that has been going on for some months between certain sanitary officials and the importers of rags was the suggestion that a report of the proceedings of the recent International Sanitary Conference held in Rome, which appeared in a Philadelphia medical journal, contained an interpolation by the correspondent of the journal in question, in the following clause: "Disinfection of merchandise and of the mails is unnecessary (steam under pressure is the only reliable agent for the disinfection of rags—*les chiffons en gros*)." This suggestion having been urged in the "New York Times," the American delegate to the Conference, Dr. George M. Sternberg, of the army, wrote to that paper denying the truth of the charge and affirming the accuracy of the account given in the Philadelphia journal. The "Times" now returns to the matter and publishes the following remarkable statement: "A gentleman of this city, who is interested in the importation of paper stock, wrote to Dr. Koch, at Berlin, for definite information on this point, and yesterday he received a cablegram stating that no such words as those quoted in parentheses appear in the report of the committee."

The American Laryngological Association.—At the recent annual meeting, held in Detroit, Dr. Wilhelm Meyer, the distinguished professor of laryngology in the University of Copenhagen, and president of the combined laryngological and otological sections of the last International Medical Congress, was unanimously elected a corresponding fellow of the association. Dr. H. Clinton McSherry, of Baltimore, and Dr. Charles H. Knight, of New York, were elected to active fellowship.

Professor Tyndall's Gift to American Colleges.—The "British Medical Journal" states that the proceeds of Professor Tyndall's lectures in the United States in 1872, which, with the accumulated interest, now amount to $32,400, are to be divided equally between Columbia College, Harvard University, and the University of Pennsylvania.

The Medico-Chirurgical College of Philadelphia.—We learn that Dr. F. Le Sieur Weir has severed his connection with the college.

The Death of Dr. Thomas E. Burtsell, of New York, took place on Thursday of last week. The deceased was a graduate of the Medical Department of the University of the City of New York, in the class of 1844.

The Death of Surgeon Joseph H. Bill, of the Army, took place in Yonkers on Tuesday last. He was a native of Pennsylvania, and was appointed first lieutenant and assistant surgeon April 13, 1860. March 13, 1865, he received the brevet ranks of major and of lieutenant-colonel for faithful and meritorious service during the war. April 13, 1865, he was commissioned captain and assistant surgeon, and July 28, 1866, major and surgeon. His death is said to have been due to Bright's disease.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 12, 1885, to July 18, 1885:*

Vollum, E. P., Lieutenant Colonel and Surgeon. To be relieved from duty in Department of the East on the expiration of his present leave of absence and to report to commanding general, Department of the Platte, for assignment to duty as attending surgeon at the headquarters of that department. S. O. 159, A. G. O., July 14, 1885.

Middleton, J. V. D., Major and Surgeon. Leave of absence extended fifteen days. S. O. 159, A. G. O., July 14, 1885.

Brown, J. M., Major and Surgeon, Captain Clarence Ewen, Assistant Surgeon, Captain A. W. Taylor, Assistant Surgeon, and First Lieutenant W. C. Borden, Assistant Surgeon. Ordered to prepare for field service. S. O. 64, Department of the Platte, July 9, 1885.

GRAY, W. W., Captain and Assistant Surgeon. Relieved from duty at Fort Barrancas, Fla., and ordered for duty at Fort Columbus, New York Harbor. S. O. 147, Department of the East, July 13, 1885.

EVERTS, EDWARD, First Lieutenant and Assistant Surgeon. Ordered for duty as Post Surgeon, Fort McDermit, Nevada. S. O. 68, Department of California, July 11, 1885.

POLHEMUS, A. S., First Lieutenant and Assistant Surgeon. Ordered for duty as Post Surgeon, Benicia Barracks, California. S. O. 68, Department of California, July 11, 1885.

WINNE, C. K., Captain and Assistant Surgeon. Ordered for duty at Benicia Arsenal, California. S. O. 68, Department of California, July 11, 1885.

EDIE, G. L., and C. S. BLACK, First Lieutenants and Assistant Surgeons. Ordered for duty with troops en route to Department of Missouri. S. O. 78, Department of Texas, July 10, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the week ending July 18, 1885.*

OWENS, THOMAS, Assistant Surgeon. Granted sick leave for one month. July 14, 1885.

Society Meetings for the Coming Week:

MONDAY, *July 27th:* Boston Society for Medical Improvement.

TUESDAY, *July 28th:* Medical Society of the County of Putnam, N. Y. (annual).

WEDNESDAY, *July 29th:* Auburn, N. Y., City Medical Association; Gloucester County, N. J., Medical Society (quarterly); Berkshire District (Pittsfield) and Middlesex North District (Lowell), Mass., Medical Societies.

THURSDAY, *July 30th:* Cumberland County, Me., Medical Society (Portland).

Proceedings of Societies.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Twenty-first Annual Session, held at the Pequot House, New London, Conn., Wednesday and Thursday, July 15 and 16, 1885.

Wednesday's Proceedings.—Morning Session.

THE meeting was called to order by the president, Dr. WILLIAM F. NORRIS, of Philadelphia.

Operation for the Removal of a Dislocated Crystalline Lens.—Dr. C. R. AGNEW, of New York, related the steps of the operation as follows: The pupil was dilated, and the patient was then etherized and cocaine was applied. The eye was secured with fixation forceps. An instrument resembling a two-pronged fork, which was termed a bident, was introduced into the vitreous chamber behind the dislocated lens, pressing it forward. Section was then made and the lens removed. The eye was dressed with absorbent cotton and a black silk bandage. Antiseptic solutions were used, and a four-per-cent. solution of cocaine was applied twice a day. The eye recovered without any unpleasant symptoms. The speaker did not claim that all dislocated lenses should be removed, but this instrument facilitated the operation when it was required.

Extraction of a Dislocated Lens.—Dr. DAVID WEBSTER, of New York, reported the case of a patient who received a blow on the right eye. This was immediately followed by loss of sight. Examination showed that the lens was dislocated. No treatment was recommended at that time. Some months later, pain suddenly appeared in the injured eye. The lens was found to be cataractous and incarcerated in the pupil. Cocaine was applied, but did not relieve the pain. Atropine relieved the pain. Later the lens became loose and was found in the vitreous. The tension was normal. It was decided to remove the lens. The bident was passed back of the lens, pressing it forward. The incision in the cornea was then made and the lens removed with a spoon. The eye was dressed with absorbent cotton, and recovered without complication.

Dr. H. KNAPP thought that in these cases there was not much difficulty in removing the lens, which could often be accomplished with the loss of very little vitreous, but the danger came in afterward from inflammatory complications; and where the sight was lost he thought it better to enucleate the eye at once and thus lessen the dangers of inflammation.

Dr. WILLIAMS, of Cincinnati, agreed with Dr. Knapp that enucleation was the best procedure.

Dr. AGNEW thought that the bident might also be useful in the removal of foreign bodies from the interior of the eye. He did not acquiesce in the view that enucleation was a simple operation. He regarded it as a serious mutilation.

Dr. C. H. WILLIAMS, of Boston, thought that there was another alternative than those mentioned, and that was eviseration of the eye, and closure of the anterior opening with sutures. He thought this better than enucleation, and it gave a better stump for the artificial eye.

Extraction of the Lens in its Capsule.—Dr. D. B. ST. JOHN ROOSA, of New York, said that for the past three years he had been in the habit of removing the lens in its capsule, in a large proportion of cases without iridectomy. The section was made as usual, but large. After puncture and counter-puncture were made, the knife was turned on its back so that it rested on the iris. It was then moved up and down two or three times until the lens was seen to move; then the section was completed, and the lens could usually be removed without loss of vitreous. Sometimes after the operation the iris was rolled under, but in many cases the pupil was circular. Dr. Roosa had performed the operation between thirty and forty times, and was satisfied with his success.

Sub-conjunctival Luxation of the Lens.—Dr. GEORGE C. HARLAN, of Philadelphia, reported two cases. In the first case no operation was recommended, as vision was good. In the second case the lens was removed. In those exceptional cases in which vision remained, the operator should think twice before resorting to removal.

Dislocation of the Lens under Tenon's Capsule.—Dr. O. F. WADSWORTH, of Boston, reported a case in which the eye had been injured two weeks before the patient came under observation. There was loss of sight, pain about the eye and irritation of the other eye, the cornea was hazy, and there was blood in the anterior chamber. The eye was enucleated, and it was found that the lens was beneath Tenon's capsule, and that it was held in this position by inflammatory tissue.

The Treatment of Purulent Conjunctivitis.—Dr. J. A. ANDREWS, of New York, read a paper on this subject in which he said that the treatment was based upon the belief that the contagious element was of the micrococcus variety. He related a case in which he had secured an inoculation of the seventh generation of a pure cultivation of a gonococcus. This was the first case inoculated with the gonococcus. He exhibited an instrument which he had devised to wash out the conjunctival *cul-de-sac*. It consisted of an eye speculum with hollow arms through which fluid might be passed. He had found bichloride-of-mercury solution (1 to 10,000) serviceable, but apt to irritate. A six-per-cent. solution of boric acid was also found efficient.

A two-per-cent. solution of carbolic acid was useful, as it inhibited the movements of the white corpuscles. Irrigation should be maintained for ten minutes in order to remove all secretion. Nitrate-of-silver solution (two to twelve per cent.) was then used, and an antiseptic dressing was next applied. This consisted of vaseline and boric acid or carbolic acid; but he laid especial stress upon the importance of maintaining irrigation of the conjunctiva by means of the instrument referred to.

Abscess of both Frontal Sinuses.—Dr. Charles S. Bull, of New York, related a case in which the patient had been hit on the forehead fourteen years previously with a piece of wood. This produced a fracture of both nasal bones and deviation of the septum. In seven weeks the wound had closed. Ten years after the accident a swelling was noted at the upper inner angle of the right orbit which could be made to disappear by pressure. There was complete ptosis. An incision was made into the swelling just beneath the orbital margin and a large quantity of pus escaped (two or three ounces). The cavity was washed with a five-per-cent. solution of carbolic acid. The septum between the two frontal sinuses was absorbed and both sinuses were converted into large cavities. The entire ethmoid bone was an immense cavity, the bony suture being absorbed. A number of osteophites were removed and a drainage-tube was introduced. The patient was discharged six weeks after the operation and recovered completely. The ptosis disappeared and the eye was restored to the normal plane.

Dr. Knapp recommended the substitution of a silver tube for the rubber drainage-tube usually employed.

Bony Tumor of the Orbit.—Dr. B. E. Fryer, of Kansas City, Mo., related the case of a boy six years of age who came under observation in April, 1885. There was swelling of the left orbit, which included the whole line of the superciliary ridge. It was quite hard. The boy had been struck with a piece of wood. It was decided to remove the tumor. This was done, and, on examination, it proved to be a cyst within which was a small piece of wood. This was inclosed in bone on all sides. The edges of the wound were brought together and healing resulted without complication.

Sarcoma of the Orbit in a Child.—Dr. W. H. Carmalt, of New Haven, Conn., reported the case of a child of ten years of age from whom he removed a small growth from the upper lid. Six weeks later the growth had returned. An exploratory operation was done, and it was found that the growth extended into the orbit, and that it was impossible to remove it entirely. It was therefore decided not to complete the operation. The child had since died, and the tumor proved to be a rapidly growing sarcoma. He thought that, if in young children the tumor appeared to be quickly recurrent and not easily isolated, no operative interference should be attempted.

Dr. Kipp, of Newark, thought that in many cases these tumors of the orbit were not primary, but secondary, and that the primary tumor might be in such a position as not to attract attention.

Dr. Harlan, of Philadelphia, reported several instances of inflammatory exudations in the orbit simulating tumors, and illustrating the importance of exercising great care in diagnosis.

Some of the Results obtained in the Compilation of 1,000 Cases of Refraction.—Dr. E. E. Holt, of Portland, Me., had been in the habit of recording all the measurements connected with the prescribing of glasses. As a result, he had found, in 1,000 cases thus recorded, the average distance between the centers of the pupils of the human eye to be about 60 mm. The average of other measurements was given, and the importance of the physician determining and designating them, and then seeing that they were carried out, was dwelt upon.

Rapidly Progressive Myopia checked by Section of the External Rectus.—Dr. Harlan related the case of a boy of sixteen in whom myopia was progressing rapidly. The external rectus was divided seven years ago. The internal rectus was also excised by the use of prisms. Since then there has been no increase of the myopia.

Progressive Astigmatism.—Dr. Samuel Theobald, of Baltimore, related three cases of this affection.

Afternoon Session.

Hypermetropic Refraction passing into Myopic Refraction.—Dr. S. D. Risley, of Philadelphia, had on previous occasions called attention to five cases of a similar kind, and the object of his paper was simply to report six additional cases seen within the past year.

The Demonstration of Refraction and Accommodation.—An apparatus for this purpose was exhibited by Dr. Lucien Howe, of Buffalo, N. Y. It consisted of two bands of thin metal bent in such a manner as to represent the outlines of a double convex lens, and passing through it were two jointed rods representing the rays of light ordinarily figured as passing through such a lens and joining at its focus. The flexible bands were attached to each other above and below, so that, by approaching or separating the sides, they could be made to show less or greater convexity. The rods representing the rays of light were jointed near the center in such a way that while the two halves could be placed in such a direction as to show the light as entering parallel to the axis of the lens, the other two portions could be bent to a point to show the convergence of rays at the focus. By alteration in the position of these rods, and also in the forms of the bands representing the lens, all the different variations of the laws of refraction and the changes in accommodation could be demonstrated to a class.

Two Cases of Unilateral Temporal Hemianopsia.—Dr. C. S. Bull read a paper with this title. [It will be published in full in a future number of the journal.]

Penetration of the Eyeball with Scissors in the Operation for Strabismus.—Dr. H. Derby, of Boston, reported two cases, the first of which was that of a young man on whom an operation for strabismus had been attempted. The surgeon inadvertently picked up a pair of sharp-pointed scissors. The point of the scissors suddenly penetrated the eyeball, and a portion of vitreous, equal in size to a cherry-stone, escaped. The operation was abandoned, and Dr. Derby was called to see the case. The eye was bandaged and the patient put to bed. Several attacks of inflammation supervened, but the patient was discharged on the forty-first day with $V = \frac{7}{10}$.

In the second case the scissors also entered the sclerotic, but, after a somewhat tedious convalescence, the wound was found closed on the twenty-first day with vision as good as before the operation.

Dr. Knapp stated that he had done three thousand squint operations, and in three cases he had punctured the sclerotic. He, however, completed the division of the muscle, and the patients recovered as readily as from an uncomplicated operation.

Dr. Mittendorf thought that in case the accident happened the division of the muscle should be completed.

Dr. E. Williams reported a case in which he had punctured the eye. The patient recovered without difficulty.

Strabismus; its Correction when Excessive and in High Degrees of Amblyopia.—Dr. E. E. Holt read a paper with this title, in which he said that he had employed advancement of the weakened, attenuated muscle in connection with tenotomy in certain cases of squint, and after tenotomy alone had failed to correct the deviation. He also exhibited an apparatus that he had devised for showing the associated and accommoda-

tive movements of the eyes and the effects of tenotomy and advancement of the muscle in correcting squint.

Dr. KIPP had at one time employed advancement, but he had given it up because it was difficult to graduate the result.

The Treatment of Strabismus Internus.—Dr. W. W. SEELY, of Cincinnati, read a paper with this title, and from which he made the following deductions: 1. That, with our present knowledge, routine operative interference is wrong. 2. That to thoroughly correct the deviation in young children by operative interference is extremely liable to subject them in after life to insufficiency or external squint. 3. That a later period of life, if anything, favors better results from operative interference.

Dr. KNAPP considered advancement a dangerous operation. He had always been able to correct the deviation by two or three tenotomies, and, if necessary, by stitching the eye to the commisure.

Dr. THEOBALD indorsed Dr. Knapp's views in reference to advancement. He was surprised at the conclusions of Dr. Seely. Squint operations in his hands had been very satisfactory. If postponed, they were likely to prove unsatisfactory on account of the amblyopia which was liable to develop.

Dr. O. F. WADSWORTH had convinced himself that amblyopia from squint did not occur. The ability of the patient to use the vision which he had seemed to be lost by a continuance of the squint, but it might be recovered by practice.

Ectropion of Both Lids; Blepharoplasty by the Italian Method.—Dr. R. H. DERBY, of New York, reported a case in which the displacement of the lids was the result of cicatricial tissue from a severe and extensive burn of the face. The lids were loosened from their attachments, and the new lids were formed from flaps raised from the arm. The arm was bound to the head with water-glass plaster, and the pedicle was not divided until union had taken place.

Plastic Operations without Pedicles.—Dr. B. JOY JEFFRIES, of Boston, read a paper with this title, in which he suggested the use of the prepuce from the circumcision of Jewish children for operations about the eyes. He also suggested that in plastic operations the desired result might be obtained without the use of a flap by employing carbolized-oil dressings to retard healing.

(*To be concluded.*)

AMERICAN OTOLOGICAL SOCIETY.

Eighteenth Annual Meeting, held in New London, Conn., Tuesday, July 14, 1885.

The President, Dr. C. H. BURNETT, of Philadelphia, in the Chair.

Dr. CHARLES J. KIPP, of Newark, showed a copy of Retzius's work on the "Anatomy of the Organ of Hearing in Vertebrate Animals."

The PRESIDENT reported the deaths of two members during the year—Dr. John H. Dix, of Boston, and Dr. Edward T. Ely, of New York.

Inflammation of the Attic of the Tympanum.—Dr. SAMUEL SEXTON, of New York, read a paper in which he first referred to the importance of inflammation arising in the attic as compared with that arising in the atrium. The atticus tympanicus was described as that portion of the tympanum lying above a plane extending transversely from the prominence on the inner wall, formed by the external semicircular and facial canals, to the auditory plate on the outside. Beneath this plane lay the atrium tympanicum. Over the attic arches were the tegmen, which also covered the antrum, the petro-mastoid canal, a varying number of cellules, and the Eustachian tube. The attic communicated freely with the antrum by means of the petro-mastoid canal of Sappey. The mastoid antrum lay behind and to the outer side of the attic, in the spongy substance of the mastoid. It was usually larger than the attic, and, as a rule, extended downward among the cellules of the mastoid process, giving off frequently a small passage, communicating with the cellules overlying the external auditory meatus. The attic was divided below into two compartments, the inner being the larger, by the incus and malleus, the cord, ligaments, etc., which formed a partial antero-posterior partition. These compartments communicated freely with each other above, with the atrium below, with the Eustachian tube in front, and with the antrum behind. The outer compartment was wedge-shaped, larger above, and shut in below by the close approximation of the large ossicles to the auditory plate, except anteriorly and posteriorly, where two small openings allowed of drainage into the atrium below. The inner compartment also communicated with the atrium by an elliptical opening surrounded on the inner side by the facial canal and on the outer by the large ossicles, the cord, ligaments, etc. All these cavities were lined throughout with mucous membrane. Acute inflammation of the attic might result from catarrh of the head, the exanthemata, or the entrance of fluids propelled along the Eustachian tube in bathing or from the use of the nasal douche. Irritating fluids seemed always to be better borne in the lower than in the upper part of the tympanum. Inflammation of the attic might occur in connection with, or be independent of, inflammation of the atrium. It was the more serious from the fact that swelling of the mucous membrane clogged the outlets and prevented drainage. In such cases the membrana flaccida was red, the vascular turgescence extending above into the external auditory canal and sometimes downward about the short process of the mallet. Should the disease progress further, the inflammation might extend beneath the margo tympanicus of the auditory plate, and be followed by effusion of serum and blood, which pressed away the membrana flaccida and the integument of the canal, producing a bulging sac so great sometimes as to entirely conceal the membrana tympani, and it might entirely fill the canal and present at the lumen as a purplish tumor. Periostitis of the surrounding parts might occur and extend along the surfaces of the canal, and inflammation might spread to the atrium; but, so long as this did not occur and the membrana tympani was unaffected, there might be little deafness, though autophonia might be present. In nearly all these cases inflammation in some degree extended into the antrum and mastoid cellules, or those overlying the external auditory canal, or those situated in the tegmen. If the escape of secretions into the atrium or Eustachian tube was prevented, the case was more severe and extension to the cranial cavity more to be feared.

The proper treatment was to effect drainage and employ such constitutional remedies as tended to check the inflammation and prevent the formation of pus, such as aconite, calx sulphurata, etc. It was impossible to make an accurate differential diagnosis between the pains of pachymeningitis and the neuralgic pains of otitis media. The surgeon should therefore be cautious about trephining the mastoid where pain was the only symptom. After pachymeningitis had set in, it was manifestly useless to perform this operation.

Dr. D. B. ST. JOHN ROOSA, of New York, thought that the remedies mentioned, mercury and calcium sulphide, were not in common use in the way recommended by the author. He had used them without any favorable effect. A warm room, a good nurse, taking care of the bowels, and local measures were the most important. The internal treatment should be expectant. He would like Dr. Sexton to describe a case indicating the manner in which he would use these remedies.

Dr. SEXTON stated that the particular point of his paper was

in regard to the inflammation of the attic, and not the use of remedies. The moment there were symptoms of purulency he administered the calcium sulphide.

Dr. J. A. Andrews, of New York, referred to a case in which the inflammation was most intense in the upper part of the tympanic cavity, and a perforation was established between the mastoid antrum and the external auditory canal. There was a great deal of swelling of the external auditory canal. Examination under ether showed a fluctuating swelling in the superior-posterior part of the canal, which was incised, and considerable blood and pus escaped.

Dr. O. D. Pomeroy, of New York, asked if Dr. Sexton believed that mercury relieved the pain.

Dr. Sexton had never used it exclusively to relieve pain, and had not recommended it for that purpose. For the relief of pain he would recommend the use of aconite and pulsatilla, the latter especially.

Dr. C. R. Agnew, of New York, said that when there was acute otitis media it was desirable to cut it short as soon as possible. If a patient came to him with the symptoms of beginning otitis media he would give him fifteen grains of calomel and order a Turkish bath if that was accessible. With children there was always a certain amount of indefiniteness in the symptoms. He asked Dr. Sexton what he would do in a case of acute otitis media catarrhalis in an infant six months old.

Dr. Sexton would examine the history. If there was an accumulation he would let it out. In the majority of cases at this age the membrane had already ruptured when the case came under observation. If there was suppuration, he would give calcium sulphide. If there was simply catarrh, he would give mercury.

Dr. Kipp spoke of the value of inflation of the middle ear. This relieved the pain. Where there was protrusion in front of the membrane, incision gave relief.

Dr. Theobald, of Baltimore, had found the instillation of a warm solution of atropine of great service, a solution of the strength of four grains to the ounce. He had used pyrophosphate of sodium in fifteen-grain doses in inflammation of the middle ear with threatened mastoid implication, and was convinced that it was of real value.

Dr. C. J. Blake, of Boston, referred to a reduplication of the mucous membrane in the upper portion of the tympanic cavity, which he had found in fifteen or twenty per cent. of two hundred specimens examined. This served to separate the upper portion of the tympanic cavity from the lower. It became an important element in inflammation of this part, and might tend to retain secretions.

Dr. Sexton had used mercury and sulphide of calcium for the last ten years in many cases, and was convinced that they were beneficial in a certain number.

The Treatment of Chronic Otitis Media.—Dr. W. W. Seely, of Cincinnati, read a paper with this title, which closed with the following conclusions: 1. Only long observation (often lasting over months) in each case could determine whether treatment should be continuous (daily) or interrupted—*i. e.*, perhaps daily for a week, followed by an interruption of some weeks or months. 2. Only experience in each case could inform us whether treatment was to be entirely directed to the middle ear, or entirely to the naso-pharynx, or combined against both. 3. Only experience in each case could inform us whether injections into the cavitas tympani were called for. Under this head it was stated that direct medication, either of the middle ear or the naso-pharynx, as routine treatment, was unwise till simple inflation had failed. 4. Mechanical dilatation of the tubes was rarely necessary or advisable; only in extremely dry states of the tube was dilatation followed by much success. 5. Hearing-tests were not reliable, and hence patients with great deafness, great loss of bone conduction, etc., should not be sent away till the test by trial had been gone through with. 6. Simple inflation failing, the greatest attention should be given to the naso-pharynx, even though it was apparently in a fair condition. 7. Syringing, douching, and swabbing the naso-pharynx should be abandoned.

The Relations between Chronic Catarrhal Otitis Media and Chronic Rhinitis.—The President read a paper in which he stated that he had found a constant causal relation between chronic catarrh of the middle ear and chronic rhinitis and rhinopharyngitis. The latter was chiefly of the hypertrophic form. The atrophic form constituted about fourteen and a half per cent. The appearances of the membrana tympani in the first class were very diversified—so much so as to preclude a determination of the state of the middle ear and hearing from them alone. In the atrophic class, the symptoms presented by the membrana tympani were more uniform and consistent, and the surgeon was able to determine from them more precisely concerning the aural disease. Yet, on the whole, the appearances of the drum, taken by themselves, could not aid greatly in the diagnosis of chronic aural catarrh. Tinnitus aurium was, as a rule, more marked in the atrophic class than in the hypertrophic. There was also a greater patency of the Eustachian tube in the atrophic forms than in the hypertrophic. It was most relieved by treatment of the nares and naso-pharynx. The treatment in the first class should be by cleansing and astringent sprays, with applications of preparations of iodine never stronger than half-and-half. Nitrate of silver was not to be used at all in hypertrophic rhinitis. In the atrophic form, the treatment was cleansing, the removal of inspissations if they occurred, and the application of stimulant sprays, preferably of nitrate of silver, not stronger than four grains to the ounce of water. Where the hypertrophies had become dense and large, requiring surgical removal, the case should pass into the hands of the rhinologist. A word of caution was given in regard to the use of the galvanic cautery in the nares, since, like the nasal douche, it might lead to inflammation in the naso-pharynx and middle ear.

Dr. Agnew thought there was an anatomical objection to the use of salves, and that was the impossibility of applying them to the whole of the diseased surface by means of Bowman's probe. He was not prepared to accept the law that the nasal syringe should be abandoned. He thought more stress should have been laid on hygiene, which was the most important element in the treatment.

Dr. Roosa also considered that the principal and only benefit to be obtained in the majority of these cases was from proper hygiene; it was not necessary to continue examinations very long or repeat them very often to determine whether or not relief might be expected. If there was diminished bone conduction, it was useless to go on and treat the patient.

Dr. H. Knapp, of New York, had employed in his own person a salve of iodoform with vaseline with considerable advantage.

Dr. Seely had had more satisfaction from salves than from any other treatment. They remained longer in contact with the affected part than solutions, thus giving a more decided effect.

Afternoon Session.

Dr. Sexton presented a conversation tube for the aural instruction of deaf-mutes. By means of this tube the patient was able to hear his own voice and compare it with the voice of his teacher.

Professor Graham Bell called attention to the great number of children classed as deaf-mutes who, under proper education, could be made simply hard-hearing members of society.

A Case of Fatal Ear Disease beginning as a Circumscribed Inflammation of the External Auditory Canal.—Dr. Kipp read the history of the case of a married woman, aged twenty-eight years, who was first seen nine months before her death. Since a confinement, four months before, she had suffered occasionally with severe pain in and about the left ear. There were swelling and redness of the posterior upper wall of the external canal. There was no perforation and no otorrhœa. Under the use of leeches, instillations of morphine, and inflation of the middle ear, there was decided improvement in the course of a month, when she passed from under observation. Eight or nine months later the pain again appeared, shortly after a confinement. Examination of the ear showed great swelling of the external canal, but the tympanic membrane and the middle ear appeared to be normal, and there was no tenderness over the mastoid. The patient recovered from this attack, but the pain in the head continued, and she finally died. At the autopsy there was found evidence of intense inflammation over the entire extent of the arachnoid and pia mater. There was a collection of pus immediately over the posterior surface of the petrous portion of the temporal bone. Pus was also found on the pons Varolii. A small abscess was found in the anterior part of the left lobe of the cerebellum, near its junction with the pons. The mastoid cells were filled with pus. There was only a thin exudation in the middle ear.

The President reported a case similar in many respects, in which the patient died from what was diagnosticated as cerebral abscess, but no autopsy could be obtained.

Dr. E. E. Holt, of Portland, Me., reported the present condition of a patient from whom teratoid tumors had been removed two years ago, and in whom the disease had returned in one year.

The Local Use of Cocaine and Brucine in Diseases of the Ear.—The President read a paper in which he said that he had used the sulphate and the hydrochlorate of cocaine to produce anæsthesia in painful affections of the ear. Neither was efficient when the pain was due to inflammation of the dense tissues of the external auditory canal, nor when acute inflammation occurred in chronically thickened periosteal and mucous tissues in the tympanic cavity. A four-per-cent. solution of the hydrochlorate induced anæsthesia in congestion of the skin of the fundus of the auditory canal and in the membrana flaccida where the pain was not too intense and continuous. The solution was applied directly to the affected part, while the canal was illuminated by the head-mirror. The anæsthesia of the external auditory canal produced by cocaine was not profound enough to permit of painless incision into it. He had also used brucine in a five-per-cent. solution with success in producing local anæsthesia.

Does Cocaine Hydrochlorate, while relieving the Pain in Acute Otitis Media, prolong the Congestion?—Dr. Holt read a paper with this title. This question had occurred to him several times where he had used the remedy for the relief of pain in the middle ear. He was satisfied that, while cocaine relieved the pain, and for the time held the inflammation in check, yet, after the effect of the remedy passed off, the inflammation went on unaffected.

On the Desirability of adopting a Uniform Method of expressing the Results of testing the Acuteness of Hearing was the title of a paper read by Dr. Knapp, in which the following method of record was suggested:

H $= \frac{24}{24}$, normal hearing for a watch.

H $= \frac{20}{20}$, normal hearing for the whispered voice.

H $= \frac{20}{60}$, normal hearing for conversational speech.

H $= \frac{20}{\infty}$, whisper or speech heard, but not understood (qualitative perception of sound).

H 60′ = O, voice not heard at all.

H = O, complete deafness for all sounds.

H $= \frac{C}{24}$, a watch of 24″ hearing distance heard on contact with ear.

H $= \frac{Pr.}{24}$, a watch of 24″ hearing distance heard when pressed on ear.

H $= \frac{M}{24}$, a watch of 24″ hearing distance heard when applied to mastoid.

H $= \frac{T}{24}$, a watch of 24″ hearing distance heard when applied to temple.

H $= \frac{O}{24}$, a watch of 24″ hearing distance heard when applied to teeth.

H $= \frac{Gl.}{24}$, a watch of 24″ hearing distance heard when applied to forehead (*glabella*).

H $= \frac{V}{24}$, a watch of 24″ hearing distance heard when applied to vertex.

H $= \frac{Ub.}{24}$, a watch of 24″ hearing distance heard when applied anywhere (*ubique*).

To indicate that the watch was not heard at the places enumerated, the following were used: H $\frac{C}{24}$ = O, H $\frac{M}{24}$ = O, etc. H $\frac{Ub.}{24}$ = O would mean that bone-conduction for the watch was lost.

Presbykusis.—In a paper with this title, Dr. Roosa applied the term to the failure of hearing incident to old age and not dependent upon inflammatory affections. It came on after the age of forty or fifty years. Such persons heard badly in a noisy room. They heard the watch badly, but in a quiet room they could hear quite well. This was characteristic of the affection. In inflammatory troubles with the ear, the person often could hear pretty well in a noise, while in a quiet room he heard badly. These three symptoms went together: diminished bone-conduction, difficulty of hearing in a noise, and disproportion between ability to hear the voice and ability to hear the watch. The conditions on which presbykusis depended had not been determined, for as yet there had been no opportunities for post-mortem examinations.

Dr. Sexton exhibited a glass ear-syringe and an ear forceps with several attachments.

Dr. E. Dyer, of Newport, R. I., reported on a case of fistula of the helix, in a girl of fourteen, which he had greatly benefited by the application of the galvanic cautery.

The following papers were read by title: "A Case of Chronic Otitis Media Suppurativa, resulting in Cerebellar Abscess, with the Autopsy," by Dr. O. D. Pomeroy, of New York; "Otitis Media Suppurativa, Mastoid Disease, Pyæmia, Mastoid Operation, Recovery," by Dr. G. Bacon, of New York.

Officers for the Ensuing Year were then elected as follows: President, Dr. J. S. Prout; Vice-president, Dr. S. Sexton; Secretary and Treasurer, Dr. J. J. B. Vermyne; Publication Committee, Dr. Vermyne, Dr. Blake, and Dr. J. O. Green; Committee on Membership, Dr. Carmalt, Dr. Kipp, and Dr. Theobald.

Dr. F. L. Capron, of Providence, R. I., was elected to membership.

NEW YORK OBSTETRICAL SOCIETY.

Meeting of February 3, 1885.

The President, Dr. William M. Polk, in the Chair.

Placenta Prævia and Twin Pregnancy.—Dr. H. T. Hanks had recently been requested by Dr. Bull to see a patient with placenta prævia, who, after the seventh month, had lost so much blood that it was decided to effect an early delivery. After giving ether, Dr. Bull introduced his hand into the uterus, seized the foot of the child, and extracted it, not waiting, on account of the amount of blood which had been lost, for uterine contractions. The placenta did not come away at once, and it was found that there was a second child, which also was extracted by the feet. The placenta was double. Very little blood was lost after the extraction of the first child. Both children were living, but one, being quite weakly, died within a few days.

Dr. R. A. Murray inquired whether there had been repeated hæmorrhages, or only a single severe one.

Dr. Hanks replied that there had been slight attacks of hæmorrhage for a few weeks before delivery.

Dr. Murray had made the inquiry because, in his experience, cases of placenta prævia, so far as hæmorrhage was concerned, fell into two classes; those in which there was a slight dribbling of blood for some time before term, and those in which there was but a single attack of hæmorrhage, which was severe and occurred at the onset of labor. In the latter class the hæmorrhage would almost certainly prove fatal to the child. He referred to two instances which could be attested by certain members of the society. In one the woman was in perfect health, and had been out driving the day before an extremely severe hæmorrhage took place, which rendered her pulseless at the wrist and in the femorals, and caused the death of the child.

Sarcoma of the Abdominal Wall and Peritonæum.—Dr. J. B. Hunter related the case of a woman of stout build, forty-five years of age, who, about a year ago, noticed what she called a small lump, just above the umbilicus, which was increasing in size. A month ago the tumor appeared to be about four inches in length and two and a half in breadth, irregular in outline, and situated just above the umbilicus. At the latter point there was an ulceration, which gave forth an offensive discharge. The diagnosis lay between sarcoma and fibroma. An incision having been made across the tumor and the finger introduced, the growth began to shell out like a fibroid from its capsule, but at its lower border, while scarcely any effort was being made, the finger entered the peritoneal cavity, and it was found that the growth was attached to the omentum. It was removed with very little difficulty. The peritonæum was then found to have on its surface little masses of epithelioma which bled easily. Further exploration revealed a second tumor, similar to the one removed, extending from the umbilicus nearly down to the pubes, and apparently covering the greater part of the interior of the abdomen with its flattened surface. It had had no connection with the first tumor. The peritoneal opening made during the removal of the upper growth was two inches and a half in length, and was closed with difficulty on account of the degenerated condition of the membrane. A drainage-tube was inserted into the wound and an iodoform dressing applied. Unexpectedly the patient survived, and had no bad symptoms whatever. The drainage-tube was still *in situ*, and from it some offensive pus had been withdrawn by aspiration. The patient would be able to return to her home, although the malignant disease would remain uncured. Dr. Hunter was disposed to think the growth originated in the abdominal wall.

Ovulation in One Ovary at a Time.—Dr. H. C. Coe referred to an idea which had been termed rather fanciful, viz., that ovulation took place in but one ovary at a time. He had recently observed a few cases which seemed to confirm that view. In three or four instances the patients suffered no pain at one menstrual period, while at the next there was always severe dysmenorrhœa, and in all but one of the patients the ovary on the side to which the pain was referred, the left, was enlarged and prolapsed.

Dr. Hanks asked Dr. Coe if he had observed whether the corpora lutea in the two ovaries were apparently of the same or of different dates.

Dr. Coe replied in the negative.

Dr. Hunter said that in one case of intense dysmenorrhœa, referred to the right ovary, which was enlarged, he removed the ovary and the symptoms disappeared for a year. The left ovary was closely adherent, and was not removed. With the return of the symptoms he attempted to remove the other ovary, but gave up the operation on account of the extent of the adhesions. This case seemed to support the theory mentioned by Dr. Coe.

Dr. Hanks had two patients under observation whose sufferings were much more severe at alternate menstrual periods.

Vaginal Hysterectomy.—Dr. P. F. Mundé presented a uterus and related the following history: About two months ago the woman was sent from the out-door department of Mt. Sinai Hospital to his clinic, and her case was found to be a typical one of epithelioma confined to the lips of a lacerated cervix. Apparently the disease did not extend a line beyond the lips, and, as the case seemed to be a very favorable one for hysterectomy, he advised the patient to have the operation done without delay. But she did not return for two months, and at that time desired to have the operation performed. The lips of the cervix were then much more infiltrated, but the disease had not extended into the parametrium. The uterus was still perfectly movable. The greatest obstacle in the operation was the narrowness of the vagina; it was difficult to expose the cervix in the vaginal vault. The operation was performed on the afternoon of the fourth day before the meeting. As in two former cases he had experienced some difficulty in reaching the broad ligaments and introducing ligatures with the patient upon the side, in the present instance he undertook Martin's method, with the patient upon the back. In this position, however, he found it almost impossible to reach Douglas's pouch, and, on account of the presence of the specula, it was with the greatest difficulty that he was enabled to lift the peritonæum with the finger. In the other cases, with the patient on the side, and using Sims's speculum, this step in the operation was attended by no difficulty whatever. Having finally brought the fundus of the uterus outside the vulva, he was able to pass the ligatures and separate the side attachments with ease. The elastic ligature having broken, he was obliged to use silk upon the left side. Each vessel was ligated separately and little blood was lost—perhaps as much as twelve ounces in all. There was a slight amount of oozing from the posterior incision, between the peritonæum and the vaginal wall, which might have been avoided had he been able to pass sutures as he had tried to do. The operation consumed about an hour and a half. It would have been shortened had the first part been performed with the patient upon the side, turning her upon the back to evert the uterus and ligate the ligaments. The patient remained pulseless at the wrist, and died thirty hours after the operation.

The lessons which the case taught were, first, those concerning the technicalities of the operation, and, second, those relat-

ing to its justifiability. As bearing on the indications of the operation, he referred to a paper which he read at the last meeting of the American Gynæcological Society. The oftener we performed an operation the more dexterous would we become, and the more successful would be the results. In the paper referred to he had maintained that hysterectomy ought to be performed in suitable cases of cancer of the uterus, and he was of the same opinion still, although he might hesitate longer before undertaking it.

Dr. Hanks said he had never removed the uterus, but he had often used the galvanic or Paquelin's cautery in cancerous cases, and he would ask Dr. Mundé whether he would not have been justified in first giving the patient the benefit of a trial of that method of treatment. Was it not just one of those cases in which this form of treatment would have been indicated? If the cautery did not cure the disease, it certainly arrested its progress, and afterward, if necessary, removal of the entire uterus might be resorted to. He had witnessed the hysterectomy in several cases, and he believed that in the majority of instances in this city the result had been unsatisfactory. If, then, we could prolong life six months or a year, or even a longer time, by the old method of partial removal of the uterus, should it not be preferred to entire removal of the organ? He doubted if we were justified in removing the uterus in cases in which the cervix alone was involved; the risk was too great.

Dr. Mundé asked Dr. Hanks in what manner he would operate.

Dr. Hanks replied that he would destroy the diseased tissue by means of the galvanic tip.

Dr. Mundé said he might have done too much, but he thought Dr. Hanks would have done too little. If the patient had declined to have hysterectomy performed, he would then have drawn the cervix down to the vulva, made a circular incision through the vaginal vault all round, and amputated the cervix with the galvanic cautery as high as possible without touching the peritonæum or bladder. He thought this method better than Schröder's, in which the cervix was amputated with the knife and the raw surfaces were united with sutures.

Dr. Hanks had no particular choice as to the manner in which the cervical tissue was removed by the cautery, but the point was that partial removal of the uterus was preferable to hysterectomy. He knew of at least six women who had lived a year, eighteen months, or two years after the use of the cautery.

Dr. Mundé said, in reply to a question, that in thirty-nine per cent. of the cases of removal of the uterus the women had remained well two years after the operation. Seventy-two per cent. recovered from the operation. Those were better figures than could be shown for any palliative treatment.

Dr. Hunter had a patient who had lived nine or ten years after the removal of undoubted epithelioma of the cervix. He thought hysterectomy would ultimately be limited to sarcoma of the fundus.

Dr. Coe had seen Braun undertake to remove the uterus with the patient upon the back, and fail because of the want of room within the vagina.

A Large Hæmatoma.—Dr. Mundé said that two weeks ago a woman came to Mt. Sinai Hospital with the history that six weeks before she had had a miscarriage, and afterward had had fever and a great deal of abdominal pain, and she gave an indistinct history of diffuse cellulitis. By gaslight her complexion was waxy yellow or cachectic. A tumor was found occupying the whole of the posterior portion of the pelvic cavity, the cervix being pushed against the pubic symphysis. It apparently contained fluid, and was supposed to be a pelvic abscess of very large size. The next morning the patient was seen by daylight, and her complexion was less yellow, and this fact, with that of the withdrawal of only blood by aspiration, led to the diagnosis of hæmatoma. The patient's condition was not favorable, but it was believed that absorption of so large a quantity of blood would not take place, and he therefore proceeded at once to make an incision, two inches in length, at the point of greatest tension in the posterior vaginal wall. Eighteen ounces of coagulated blood escaped. A tumor was then recognized within the cavity, of the size, form, and consistence of the human heart. The patient's condition did not seem to justify him in manipulating the tumor to discover its exact nature, but it was thought it might be a sarcoma. The cavity was washed out with a solution of corrosive sublimate, 1 to 5,000, a drainage-tube was introduced, and also iodoform gauze. Within a day or two frequent irrigations with the disinfectant were begun, but the temperature rose to 103° to 104° F., falling after each irrigation. As it was evident that the rise of temperature was of septic origin, the cavity of the hæmatoma was explored, and the tumor referred to, composed of coagulated blood, was found to be breaking down. It was scraped out, and weighed eight ounces; the cavity from which it came measured five inches in diameter. The irrigations had been kept up, the temperature had fallen, and the patient was doing well. He did not think absorption of the fluid would have taken place had it been allowed to remain; the largest hæmatocele which he had known to be absorbed was not larger than his two fists. In this case it was extra-peritoneal.

Perforation of the Cervix Uteri by a Laminaria Tent.—Dr. C. C. Lee related a case which suggested the advisability of caution in using laminaria tents for dilating the cervix uteri. The patient, a middle-aged single woman, entered his service at the Woman's Hospital with what was believed to be a submucous fibroid attached to the anterior wall of the uterus a short distance above the internal os. The vagina was narrow and the cervix long, making it difficult to outline the growth with the finger, and, as frequent hæmorrhages pointed to the necessity of adopting some efficient mode of treatment, it was decided to dilate the cervical canal. Laminaria tents were introduced, carefully watched, and changed sufficiently often. They were held in position by carefully adjusted vaginal tampons, which were never very tightly packed. The uterus was slightly anteverted. On the removal of the tents on the last occasion—they had not been put in by himself, but by a careful and experienced house surgeon—he was astonished to find a large perforation on the anterior surface of the cervix at the internal os. It was evident that these tents, of which two were then in the canal, had, by their expansion and by the pressure of the tampon, perforated the anterior side of the cervix at the vaginal junction. This was the first time he had known the accident to occur, but, on inquiry among his friends, he had learned of two other similar cases, the tents used being of laminaria. In his case, instead of making the usual incision, he divided the cervix posteriorly up to the internal os, and anteriorly up to the perforation, and was then able to reach the greater portion of the tumor. Carbolized cotton was applied to the cervix, and the patient, notwithstanding her reduced condition, recovered. The result of the granulating surfaces was such as to call for trachelorrhaphy, after which the cervix was left in a pretty fair condition.

Dr. Mundé had met with cases in which an ulcer in the wall of a long cervix had been formed by stem pessaries and tents which the physician had failed to introduce through the internal os. In some cases a little force was required to push the instrument through the internal os, and he had no doubt that inexperienced or careless persons might make a mistake and cause an injury of the cervical wall. A laminaria tent would be more likely to cause ulceration than one of tupelo.

Dr. Lee remarked that it was possible the tent used in this case was a tupelo instead of laminaria, but he thought it was the latter. The accident could not have arisen from the cause spoken of by Dr. Mundé, because the internal os was well dilated when the last tent was removed. He could readily understand, however, that, if a tent was not made to pass the internal os, it might press against the solid tissue of the wall and cause ulceration.

Exfoliation of the Mucous Membrane of the Rectum.—Dr. Mundé had recently performed Emmet's operation upon the prolapsed vagina in two cases, the immediate result in both being perfectly satisfactory. In one there was a temperature of from 101° to 102° F., which was not regarded as having any special significance. On the tenth day, when he was about to remove some of the stitches, the house surgeon called his attention to a slough protruding from the rectum. He then examined the patient, and removed fully six inches of the mucous membrane of the rectum, which was gangrenous and very offensive. He supposed there would finally be stricture of the rectum. Was it possible that narrowing of the posterior vaginal wall could have interfered with the rectal circulation and produced the result? In reply to a question, he said rectal etherization had not been employed.

Dr. Hanks referred to a case in which there was discharge of a part of the mucous membrane of the rectum every few weeks, and asked what the treatment should be. This patient had retroversion, and formerly casts of the lining membrane of the uterus were discharged.

Dr. Mundé further remarked that he believed this condition was called exfoliative colitis. About ten years ago Dr. Peaslee presented long casts of the mucous membrane of the bowel. Dr. Mundé had seen two instances, in one of which there was retroversion of the uterus, and in the other chronic oöphoritis. He did not have an opportunity to institute treatment for the rectal trouble.

Dr. C. Mackenzie inquired whether any of the patients had suffered from diarrhœa. He had seen a case in which there was morning diarrhœa, with marked retroversion of the uterus, and more recently a fissure of the anus had been discovered.

Henry J. Garrigues, M. D.,
B. F. Dawson, M. D.,
Frank P. Foster, M. D., *ex officio*,
Committee on Publication.

Miscellany.

The Failure of the American Medical Association to organize the Ninth International Medical Congress.—The following appeared in the editorial columns of the "Maryland Medical Journal" for July 18th: "Those members of the medical profession who have an earnest and abiding interest in the growth of scientific medicine and in the development of the highest aims of the profession in this country can not but feel the need of a national organization thoroughly capable of meeting the highest purposes of a scientific body. The American Medical Association has undertaken for some years past to represent the real wants of the American profession. It is, however, a delegated body, and in the very nature of its structure contains such inherent weakness that it has not been able to grapple with the serious questions which have been propounded to it. The membership of the association is as fluctuating as its actions, and it has so controlled the interests of the profession as to forfeit the right of respect to which the organization is entitled from the leading minds in the profession. The association has never been able to do the highest order of scientific work, and from year to year has so constructed its offices and committees in the interests of its floating membership that it was not capable of drawing into its ranks the full force and strength of the profession in this country. The association has shown itself totally incapable of dealing with serious and important scientific interests, as has been most conspicuously demonstrated by its recent action at New Orleans in reference to the Ninth International Medical Congress, which it proposed to hold under its auspices. It was shown at New Orleans that a few determined and bold men were capable of capturing its membership and of upturning all of the work delegated to an important committee at its previous meeting in Washington. The result of this action of the association has cast a shame and a blot upon the good name of the entire profession in this country, and it has forfeited all the reputation the association may have had as a fair, liberal, and high-toned scientific body. Under the leadership of a few malcontents the association has degenerated to the level of a ridiculous and pharisaical institution, utterly unworthy of confidence and respect. So far as the fortunes of the International Medical Congress are concerned, it is now evident that the association is wholly incapable of conducting the Congress under its auspices. The withdrawal of the leading members of the profession from all connection with the present organization tells its own story, and very plainly says the Congress must be re-organized on some other basis than the one proposed by the American Medical Association, if it is to be a success. In other words, the association has so seriously blundered in this affair that it must resign its authority as a leading spirit in the re-organization of the Congress. Indeed, it seems to us that the only course now left open to the association is to abstain from further participation in the arrangements for the Congress, and that it leave this matter in the hands of the medical profession at large, which can be depended upon to re-organize the Congress on a successful basis. We have no doubt that the profession at large can move intelligently in this matter. If representative men from all sections of the country can be brought together to confer upon the present outlook of the Congress, arrangements can be made which will bring order out of chaos, and set the affairs of the Congress on a sure and influential footing."

The Missouri State Board of Health announces the appointment of committees to make special investigations as follows:

Prevailing diseases among live stock in Missouri; also condition and care of stock-yards, cars, etc., at points of concentration or distribution—Committee: Mr. Gentry and Mr. Prather. The influential factors in the causation of endemic or local epidemic diseases—Committee: Dr. Griffith and Dr. Homan. The sources, quality, means of distribution, etc., of public water supplies in Missouri—Committee: Dr. Merrell and Dr. Cox. The sanitary care of railway and river transportation lines, including depots, landings, stations, wharf-boats, round-houses, and passenger and sleeping coaches—Committee: Dr. Homan and Mr. Gentry. Domestic and general sanitation in towns, villages, and country-homes—Committee: Dr. Goben and Dr. Griffith. The condition of asylums, poorhouses, jails, workhouses, and other charitable or penal institutions with reference to the health of the inmates—Committee: Mr. Prather and Dr. Merrell. The hygienic care of the school population and of public-school buildings and premises—Committee: Dr. Cox and Dr. Goben.

The Western Society for Psychical Research has been organized in Chicago, the purpose of which is to be commended, since it proposes to investigate certain matters most of which are usually left to enthusiasts and charlatans. From an excellent address by the president, Dr. A. Reeves Jackson, we learn that the work of the society has been divided among five sections: 1. Thought-transference. 2. Hypnotism, clairvoyance, and somnambulism. 3. Apparitions and haunted houses. 4. Physical phenomena. 5. Psychopathy (including what is popularly known as mind-cure, faith-cure, metaphysical treatment, magnetic healing, etc.).

The Nomenclature of Auscultation and Percussion Signs.—The "Glasgow Medical Journal" publishes the following tabular list of terms proposed by the British members and the American member of the committee appointed at the meeting of the International Congress

in 1881 to report on a uniform nomenclature of physical signs which occur in connection with the respiratory system:

PALPATION.

BRITISH LIST. *Dr. Powell and Dr. Mahomed.*	AMERICAN LIST. *Dr. Austin Flint.*
1. Vocal fremitus.	Vocal fremitus.
2. Rhonchal fremitus.	Rhonchal fremitus.
3. Fremitus.	Friction fremitus.

PERCUSSION.

1. Tympanitic resonance.	Tympanitic resonance.
2. Amphoric resonance.	Amphoric resonance.
3. Diminished resonance. Dullness.	Diminished resonance. Dullness.
4. Absence of resonance. Flatness.	Absence of resonance. Flatness.
5. Increased resonance.	Increased or vesiculo-tympanitic resonance.
6. Bell sound. ["This term," says the reporter, "is applied, by some English writers, to a sound produced by percussion, a coin being used as a pleximeter, and the ear applied to the chest. It is supposed to be characteristic of pneumothorax."]	Not included.

AUSCULTATION.

First Group. Varieties of Breath Sounds.

1. Exaggerated. Syn. Puerile. Compensatory. Supplementary.	Exaggerated, etc.
2. Diminished. Syn. Feeble. Weakened vesicular murmur.	Diminished, etc.
3. Suppressed. Syn. Absence of breath sound.	Suppressed, etc.
4. Prolonged expiration. General or local.	Prolonged expiration. High or low in pitch.
5. Interrupted respiration. Syn. Jerking, wavy, cog-wheeled.	Interrupted inspiration, etc.
6. Tubular. Syn. Bronchial. High-pitched blowing.	Tubular. Bronchial.
7. Vesiculo-tubular. Syn. Broncho-vesicular. Harsh, coarse, sub-tubular.	Broncho-vesicular. Syn. Vesiculo-tubular.
8. Amphoric.	Amphoric.
9. Cavernous.	Cavernous.

Second Group. Adventitious Sounds.

1. Rhonchi. Dry musical sounds, (*a*) Sonorous, (*b*) Sibilant.	Rhonchi, or dry bronchial râles. (*a*) Sonorous, (*b*) Sibilant.
2. Stridor.	Stridor.
3. Râles. Syn. Bubbling râles, etc. (*a*) Medium, (*b*) Large. High or low in pitch.	Moist or bubbling râles. (*a*) Medium, (*b*) Large, (*c*) Small. High or low in pitch.
4. Gurgling.	Gurgling.
5. Clicking.	Clicking.
6. Crepitation. Syn. Crepitant râle.	Crepitant râle, or crepitation.
7. Metallic tinkling.	Metallic tinkling.
8. Splash.	Splash.
9. Friction. (*a*) Dry, (*b*) Moist.	Friction.

Third Group. Varieties of Voice Sounds.

1. Increase of vocal resonance.	Increase of vocal resonance.
2. Diminution or absence of vocal resonance.	Diminution or absence of vocal resonance.
3. Bronchophony.	Bronchophony.
4. Pectoriloquy.	Pectoriloquy.
5. Ægophony.	Ægophony.

The Sanitary Convention at Ypsilanti, Michigan, held June 30th and July 1st, was attended by about twenty physicians and health officers from other places, besides the physicians of Ypsilanti, the officers of the State board of health, and a number of prominent citizens. Among the physicians who took part in the proceedings were Dr. Avery, of Greenville; Dr. Vaughan, of Ann Arbor; Dr. Whelan, of Hillsdale, Dr. Kellogg, of Battle Creek; Dr. Palmer, of Ann Arbor; Dr. Kinne, Dr. Wight, and Dr. Lyster, of Detroit; and Dr. French, of Ypsilanti. Much interest was manifested in the proceedings by the citizens of Ypsilanti. These periodical semi-popular conferences seem to be a happy device of the State board of health.

The Editor of the "British Medical Journal," Mr. Ernest Hart, is reported to be a candidate for a seat in Parliament, and to have promised that, in case he is elected, he will vote for the unconditional repeal of the Contagious Diseases Acts (referring to venereal diseases). The "Medical Times and Gazette" remarks that "there is a great excuse for medical men, worried by the everlasting opposition to their benevolent intentions, throwing up the sponge and saying, as Mr. Hart practically does, 'Well, have your own way, but don't blame me if it turns out badly.'"

Boston and the International Medical Congress.—The "Medical News" learns that the following-named gentlemen have asked to have their names added to the list of signers of the resolutions adopted in Boston declining to hold office in the proposed Congress as now organized: O. W. Holmes, William H. Baker, David W. Cheever, James C. White, and William F. Whitney, of Boston; G. P. Conn, of Concord, N. H.; F. H. Gerrish and S. C. Gordon, of Portland, Me.; E. P. Hurd, of Newburyport, Mass.; and Nathan Allen, of Lowell, Mass.

The New York Polyclinic.—We congratulate the faculty of the Polyclinic upon the continued prosperity of the institution. It appears by the annual announcement for the session of 1885 to 1886 that the session which opened September 22, 1884, was attended by two hundred and twenty-nine practitioners. From the beginning the Polyclinic has been under excellent management, and there can be no doubt of its enduring success.

The International Medical Congress.—Dr. W. A. Hardaway, of St. Louis, asks us to state that he has sent in his resignation as president of the Section in Dermatology and Syphilis of the Ninth International Medical Congress. We learn that Dr. Thomas T. Sabine, of New York, and Dr. Thad. A. Reamy, of Cincinnati, have declined to serve in the positions to which they were appointed by the new committee. The "Medical News" announces that Dr. George J. Engelmann, of St. Louis, has resigned from the committee.

The Capias served on Dr. Shoemaker in Chicago has, as we learn from the "Philadelphia Press," been quashed. It was in an action brought against him by a Mr. Merritt, of Troy, N. Y.

THERAPEUTICAL NOTES.

An Untoward Effect of Arsenic on the Skin in Children.—Guaita ("Arch. di Patol. Infantil."; "Dtsch. Med.-Ztg."), who seems to use Fowler's solution freely in the treatment of children's diseases, continuing its administration for four or five months, and increasing the daily amount given from two drops to eighteen or twenty, reports that, in fourteen out of eighty cases, he has observed a peculiar blackish discoloration of the skin as a consequence. It appears either toward the close of the arsenical course or, more rarely, about a month after its completion. It shows itself at first on the neck, and then on the breast, the abdomen, and the hands, while it either spares the face, the lower limbs, and the back altogether or is less pronounced on those parts. It is never accompanied by other disturbances, and it disappears in at least a month, with marked desquamation. It appears from citations in the same journal that a dusky discoloration of the skin was long ago noticed as one of the effects of the prolonged use of arsenic, even in the form of baths of arsenical mineral waters.

Old and New Methods of treating Congenital Syphilis.—Professor Monti, of Vienna, contributes to the "Archiv für Kinderheil-

kunde" an article which the "Deutsche Medizinal-Zeitung" thus summarizes: In the inunction treatment, use has been made of mercurial ointment, oleate of mercury, Beyersdorf and Unna's mercurial-plaster preparation, and mercurial soap. All these substances are very prompt in their action, and, used in proper quantities, never give rise to salivation or signs of irritation of the mucous membrane of the mouth, but they are not suitable for sucklings, for, besides their irritating the skin and producing erythema, eczema, and boils, the too rapid and extensive absorption of the mercury may lead to a quickly developed anæmia, often resulting in cerebral or pulmonary œdema and putting a stop to the child's increase in weight, in spite of judicious feeding. Since the inunction treatment, moreover, neither shortens the duration of the disease nor diminishes the frequency of relapses and sequelæ, the use of calomel associated with iron is much more to be recommended, for instance after this formula:

Calomel	1½ grain;
Lactate of iron	3 grains;
White sugar	45 "

Divide into ten powders.

From one to four are to be given daily, according to the weight of the child.

Calomel may be given continuously, without deranging the digestive apparatus, until all the syphilitic manifestations have disappeared. If, however, in spite of the minuteness of the dose, anæmia shows itself, the treatment must be interrupted at once, and lactate of iron given, or, in case of cerebral anæmia, the ethereal tincture of chloride of iron. After every course of treatment with calomel, Monti uses the following:

Saccharated iodide of iron	15 grains;
White sugar	30 "

Divide into ten powders, from one to three of which are to be given daily, according to the child's age, their use being kept up until there is no longer any enlargement of the spleen and the skin has regained its healthy tint. Monti has observed that, under this method of treatment, relapses are less common and less severe, sequelæ, especially rickets, are lighter, and the children gain in weight.

If intestinal disturbances contra-indicate the internal administration of calomel, or if threatening symptoms seem to call for more energetic treatment, the drug may be used subcutaneously, after this formula:

Calomel	8 to 15 grains;
Gum mixture, Glycerin, each	75 minims.

From half a syringeful to a syringeful to be injected every second or third day, preferably over the chest-wall. Abscesses will often form, in spite of the utmost care in the use of the injections.

Van Swieten's solution (a one-to-one-thousand solution of corrosive sublimate) was used by that author in doses of ten drops, in milk, three times a day, the dose being gradually increased until a hundred drops were taken daily; or he prescribed:

Corrosive sublimate	¼ grain;
Distilled water	10 drachms;
Syrup	2½ "

From two to four teaspoonfuls to be taken daily, after eating.

In the form of baths, corrosive sublimate is very slow in its action, and is employed only when the internal administration of mercury is inadmissible. The following formula is given:

Corrosive sublimate	15 grains;
Chloride of ammonium	2½ drachms;
Distilled water	6 ounces.

To be added to two baths.

Corrosive sublimate is most adapted to injections. [The formula which follows this statement seems to contain a dangerous error; we therefore do not reproduce it.] The injections are generally well borne, although not so well as by adults, and they do their work more speedily than other methods of treatment. Abscesses and indurations of the subcutaneous cellular tissue occur. The duration of the disease and the occurrence of relapses and sequelæ are not affected by the injections; within the first two years of life the treatment should be repeated from four to eight times (being continued from five to twenty days each time), in order to effect a radical cure.

Albuminate of mercury is equally efficient in the form of injections, but the solution does not keep well; it is apt to become turbid, and then it causes abscesses, etc. Peptonate of mercury keeps better, but it has no advantages, and the same is true of formamide of mercury, injections of which are very painful.

Protiodide of mercury is very serviceable, especially in affections of the bones:

Protiodide of mercury	1½ grain;
Lactate of iron	3 grains;
White sugar	45 "

Divide into ten powders; from one to three to be taken daily.

Severe colic and intestinal catarrh are commonly produced by this drug, even when opium is used with it.

Henoch often employs black oxide of mercury, in the form of powders, carrying the dose up to a seventh of a grain, twice a day; but Monti has found that it frequently causes vomiting.

Tannate of mercury, from one seventh to half a grain, from two to four times a day, is very well borne and is quite as rapid and favorable in its action as calomel.

As regards the iodine treatment, Monti gives from three to six pap-spoonfuls [? daily] of a one-per-cent. solution of iodide of potassium, and adds from three to eight drachms of the iodide to the bath. The tardy action of the drug and its interference with the nutrition when its use is long continued have led the author to prefer the saccharated iodide of iron, which is especially well borne by children, never causes iodism, and corrects anæmia; but it is suitable only in cases where energetic treatment is not indicated. For children between three and twelve months old, it is sufficient to give from a third to half a grain, in milk, three or four times a day; children from a year to two years of age may take from four grains and a half to six grains daily.

Silk-worm Gut as a Material for Ligatures.—Guermonprez and Bigo lately submitted a communication to the Paris *Société de thérapeutique* ("Gaz. hebdom. de méd. et de chir.") on the use of *crin de Florence* in surgery. They conclude that, if its ends are cut off and it is macerated for at least a month in a watery antiseptic solution (it must not be boiled), it is the best thread for sutures. It is tenacious, pliable, and better borne by the tissues than either hemp, linen, or silk. For ligatures applied to small vessels it is not so good as catgut, but for large vessels and the pedicles of tumors it is to be preferred.

The Paradoxical Action of Quinine.—Merkel ("Dtsch. Arch. f. klin. Med."; "Ctrlbl. f. klin. Med.") relates the case of a woman who had fever which was taken to be malarial. She was given three grains of hydrochlorate of quinine, and in an hour she showed faintness, weakness, and stupor. She then had a chill, and her rectal temperature rose to 104·6° F. The temperature fell gradually without the occurrence of sweating. The same effects were produced whenever a small dose of quinine was given.

A Dressing for Phagedenic Chancre.—The "Union médicale" attributes the following formula to Terrillon:

Pyrogallic acid	1 part;
Powdered starch	4 parts.

Mix carefully. In cases of ragged phagedenic chancres, with multiple prolongations, the powder is to be blown into the deep parts with a bellows. The application should be repeated twice a day. The preparation should be freshly made and preserved against moisture in a well-corked bottle.

A Diuretic Mixture.—The same journal credits Billroth with the following formula:

Acetate of potassium, Nitrate of potassium, each	5 parts;
Distilled water	200 "
Syrup of raspberry	20 "

A teaspoonful to be given night and morning in cases of acute articular rheumatism. The affected joints are to be painted with tincture of iodine, covered with cotton, and kept absolutely motionless. If pericarditis occurs, a blister is to be applied over the precordial region.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON,

BY AMBROSE L. RANNEY, M. D., NEW YORK.

(*Continued from page 87.*)

GALVANIZATION OF THE CERVICAL SYMPATHETIC.—This method has afforded relief, according to published cases, in vaso-motor and trophic disturbances of the nerve-centers, the eye, viscera, muscles, joints, and skin. Thus, for example, cases of cure of epilepsy, atrophy of the optic nerve, Basedow's disease, progressive muscular atrophy, lead-palsy, scleroderma, chronic rheumatic arthritis, bulbar paralysis, neuralgias of various types, and many other conditions have been reported by means of this method. Respecting this step, Erb wisely remarks as follows: "There can probably be no doubt of the correctness of a part of these observations, but this does not by any means imply that the cervical sympathetic is responsible for such results."

When we review the structures which compose the neck and recall the numerous connections which exist between the sympathetic cords, the pneumogastric nerve, the brain and cervical segments of the cord, the medulla oblongata, the brachial and cervical plexuses of nerves, etc., it becomes clear why De Watteville applies the term "sub-aural galvanization" and Erb the term "galvanization of the neck" to this special proecdure.

The steps required to influence these parts by Meyer's method consist in the application of a small electrode (cathode) under the angle of the jaw and adjacent to the hyoid bone, and then crowding it backward and upward against the vertebral column, the positive electrode (of larger size) being placed over the seventh cervical spine. The current may be stabile, labile, or interrupted; or the polarity may be changed from time to time during the sitting of from one to three minutes. Six to ten galvanic cells of the Grenet variety are sufficient. The application may be unilateral or bilateral, according to the demands of the case.

Corning has devised an instrument which insures carotid compression with galvanization of the neck for the treatment of cerebral hyperæmia and some other morbid conditions.

Benedict places the positive pole in the jugular fossa, and the negative pole upon the superior cervical ganglion.

GENERAL FARADIZATION.—This method of administering electricity was first employed by Beard and Rockwell. By this procedure the entire body is subjected to secondary faradaic currents of varying intensity. It is applicable chiefly to those forms of nervous disturbance which are associated with general debility, poverty of the blood, special diatheses and cachexiæ, hysterical affections, skin diseases, persistent chronic inflammations, and other results of low vitality or functional derangements of the organs.

To apply this method, the patient must be undressed or very loosely clothed. The feet are immersed in a bowl of tepid water with a little salt added, in which the cathode is also placed after being connected by means of a rheophore to the binding-post of the secondary coil of a faradaic machine. The anode is held in one hand of the physician, and his other hand (well moistened in salt water) is applied to all parts of the surface of the patient's body. If the subject can bear it, a large electrode covered with absorbent cotton and flannel, or with a soft sponge, is employed in place of the hand. The application should begin at the head and terminate at the feet—the strength of the current being modified from time to time as the feelings of the patient may demand. The extremities and back should have vigorous stimulation, the nerves of the neck should be influenced by a much weaker current, and the cœliac plexus should be influenced by a stabile application of a few minutes over the epigastrium. The entire duration of the application occupies from ten to twenty-five minutes. It may be applied as often as three times a week if necessary.

Personally, I can attest the efficacy of this treatment as a general tonic. I have witnessed immediate effects from it in a large number of my cases, and I employ it constantly in a modified form.

In case the hand of the attendant is to be employed as an electrode, I would advise you to use the instrument which I now show you as a great improvement over the way described by the inventors of this method. It is called the electric bracelet. It is placed upon the right wrist of the attendant over a pad of wet absorbent cotton, and the rheophore is screwed into the binding-post upon it. The right hand is then wet in salt water and used as previously described. By this instrument the hand of the attendant is alone subjected to the current, and the fingers can detect muscular contraction in the patient even when too feeble to be seen easily. As an adjunct to massage, I employ this useful instrument with decided benefit.

GENERAL GALVANIZATION.—The steps required by this method are similar to those previously described, except that the constant-current battery is employed in place of a faradaic machine.

CENTRAL GALVANIZATION.—The cathode is placed over the epigastrium. This electrode should be of large size. The anode is stroked over the forehead, with a current of about two milliampères, for two minutes; then made stabile over the cranium for about two minutes; then moved up and down the neck on each side for the same duration; finally it should be moved along the length of the spine for about five minutes. This method was a favorite one with the late Dr. Beard, who reported cures of gastralgia, hysteria, hypochondriasis, nervous dyspepsia, and many of the symptoms of cerebral and spinal neurasthenia by its continued use. In two cases of gastralgia in which I personally employed it for some time I obtained an absolute recovery.

THE ELECTRICAL BATH.—This method of administration of electricity to a patient may be accomplished by using a metal tub, or one which is composed of a non-conductor. If a metal tub is employed, the patient must be protected

from actual contact with it. This is usually accomplished by means of wooden slats or some other medium of support for the patient when immersed. If the bath-tub is of metal, one rheophore of the battery employed is attached to the tub, while the other is attached to an electrode held by the patient or placed in contact with his body. If the tub is of a non-conducting material, both electrodes may be placed in the water. The electrodes employed should be very large (often running the entire length of the tub), in order to allow of as great a diffusion of the electricity as possible. The fluid in the tub may be simple water, or, preferable, a solution of salt, soda, or an acid.

Personally, I am not a strong advocate of this method of treatment. It violates one of the fundamental principles of electrical treatment of localized affections in that it does not confine the polar action to the part or parts diseased. In the second place, I have not found its tonic action to equal that of general faradization or general galvanization.

Strong claims have been made in its favor as a remedy for tremor (especially of the alcoholic and mercurial varieties) and for chronic articular rheumatism, but I am not yet convinced that they are to be regarded as well-established.

If you desire to try this method of treatment in any case, it is well to know that the temperature of the bath, as well as the strength of the current employed, should be modified by the condition of your patient. The duration of the bath should never exceed thirty minutes, and ten minutes will generally suffice. The current should be strong enough to be perceived by the patient in all cases.

The Relief of Painful Points.—One of the most generally useful effects of electricity is the relief which it affords in many cases to pain. Of all the methods of treatment of neuralgia now employed, I consider electricity, in some of its various forms of application, by far the most efficacious. Personally, I have almost discarded internal medication for the relief of this class of sufferers. You have personally witnessed in one or two cases brought before you the immediate relief which follows the application of electricity to painful points, and you have seen neuralgia cured at one sitting by the same agent. Do not understand me, however, as maintaining that this can be accomplished in all cases. Repeated applications are demanded, as a rule, and, in some instances, months of treatment are required to insure a cure of this distressing malady.

In the majority of subjects afflicted with neuralgia, painful points may be detected along the course of the affected nerve or its branches. These are situated, as a rule, where the nerve gives off a branch or bifureates, and also where it passes through a foramen. Sometimes it is necessary to make pressure along the course of the nerve to detect the existence and seat of these points.

Now, it should be remembered by each of you that the successful treatment of neuralgia depends largely in some cases upon the *direct treatment of these painful points.* They seem in some way to have a relationship with both the production and cure of neuralgia, as well as spasm of the muscles, ataxic symptoms, and other forms of nervous diseases. These points may be the seat of a localized periostitis, a circumscribed inflammatory exudation, a neuritis, an enlarged gland, and many other conditions which create nervous phenomena. In a few instances the symptoms even of ataxia have been relieved, by the electrical treatment of painful points in the region of the spinous and transverse processes of the vertebræ, by men of note, among whom may be mentioned Brenner, Remak, Meyer, Legros, and others.

The steps which you should employ in the treatment of painful points are as follows: 1. Use the galvanic current, employing from three to eight Grenet cells. 2. Apply the anode to the painful spot, and keep it stationary at that point. 3. Place the cathode at some indifferent point, preferably the sternum. 4. Do not use a current which will be excessively painful to the patient, nor exceed five minutes in the application. I frequently do not allow the duration of the current to exceed two minutes at a sitting. It is advisable, in persistent cases, to make the applications daily.

Of late some experiments have been made, with apparent benefit, by having patients of this class wear over the painful points *a piece of metal*, connected with another piece of metal (which is also in contact with the skin) by an insulated wire. The best metals are zinc and copper. They should be brightly polished before the application, and should have a piece of dampened linen between them and the skin. They may be worn continuously for weeks, or changed each day on retiring and rising.

Some authors recommend the employment of *very feeble galvanic currents for an hour or two at each sitting*, the anode being placed over the painful point. Le Fort goes so far as to suggest the propriety of applying such currents continuously for weeks, by means of ordinary rheophores and electrodes, when fatty changes, contractures, or reflex paralyses are to be combated.

(To be continued.)

Original Communications.

OBSERVATIONS ON
PHTHISIS AND PNEUMONIA
IN THEIR RELATION TO SYPHILIS.

A STUDY OF ONE HUNDRED CASES IN WHICH THESE AFFECTIONS WERE ASSOCIATED.

By WILLIAM H. PORTER, M. D.,

PROFESSOR OF CLINICAL MEDICINE AND PATHOLOGY IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; CURATOR OF THE PRESBYTERIAN HOSPITAL, ETC.

Most of the clinical data used in the preparation of this paper have been taken from the records of one hundred unselected cases recorded at the author's medical clinic at the New York Post-Graduate Medical School and Hospital; the pathological data from the post-mortem records of the Presbyterian Hospital.

Syphilitic pneumonia in children has long been recognized as a distinct and common lesion, but in adults it is

either entirely ignored or given but a passing notice by the writers on clinical medicine.*

Latent syphilis, both of the acquired and congenital variety, as an ætiological factor in disease, has occupied the attention of the author for a number of years past, and he has collected much pathological material bearing not alone upon its influence upon the pulmonary tissue, but upon every organ and tissue of the body. Pulmonary syphilis is best defined as a condition of the lungs in which there is a progressive thickening of the walls of the vesicles; this change is often associated with inflammatory deposits, gummy formations, which, degenerated into cheesy masses, become encapsulated or liquefy, and give rise to cavities. The first is best classified as syphilitic pneumonia, the second as syphilitic phthisis.

The primary origin can only be settled by accepting the terms syphilitic pneumonia and phthisis.

The first necropsy in connection with a typical clinical history was made in 1878, and in this instance there was no question of the existence of acquired syphilis, and the exemption from inherited phthisis was equally positive. The clinical history and the results of the autopsy evidenced a syphilitic instead of a tubercular origin for the pulmonary lesion, and since this time a number of similar instances have been noted.

The lungs removed from a diabetic subject † are interesting, as illustrating several important points:

1. Pulmonary consolidation and softening, with the formation of cavities, may occur in diabetic patients independently of any tubercular phthisical process, which strongly suggests a similar development under other circumstances.

2. Consolidation, softening, and the formation of cavities may occur without the formation of tubercles, as shown by the fact that no tubercle tissue, in the instance quoted, could be made out by the microscope, as well as by the fact of the absence of the *Bacillus tuberculosis*, which corresponds to Koch's theory.

3. Taken together with a number of other necropsies, this one establishes, from a pathological standpoint, the existence of a syphilitic lesion with the formation of cavities at the apex of the lung.

4. It substantiates the clinical observation that syphilitic lesions of the lungs frequently commence and are most marked at the apex, and diminish from apex to base.

5. Both lungs are involved, one usually more than the other. The base and anterior portions of the lungs are rarely involved at first.‡

Every day cases present themselves at the clinic which might be diagnosticated as an ordinary disease and passed by, but a careful investigation invariably reveals a hidden syphilitic taint, which has evidently excited and has served to keep the disease in motion. This assertion may appear dogmatic, but careful investigation leads to but one result. If the rules for diagnosis to be laid down are found sufficiently strong to warrant an inflexible opinion, the main question is settled. From the histories of the first thousand cases treated at my clinic, one hundred, or ten per cent., were taken as the basis of this paper. Of the remaining nine hundred, many had pulmonary lesions and diseases of the various organs, which, in my opinion, were of syphilitic origin, and which, as a rule, responded to a certain line of treatment. This ten per cent. of all the cases is a large proportion; but, if the pulmonary cases alone be taken, fifty per cent. or more would be traceable to the same cause. These facts are sufficient to attract attention, and to indicate how frequently syphilis may figure as a cause of disease.

Of the one hundred patients, fifty-two were males and forty-eight females; but, while these figures are true of this particular one hundred, they do not give the relative frequency among patients at large, for, when the whole number treated was taken into consideration, it was found to be more frequent in females.

The youngest recorded was sixteen years, the oldest sixty-six. The cases taken as a basis for this paper were arranged in ten decades, beginning at ten years, and it was found that six and twenty-two hundredths per cent. occurred in the first, eleven and thirty-three hundredths in the second, twelve and ten hundredths in the third, eleven and twenty-five hundredths in the fourth, seven and seventy-seven hundredths in the fifth, and three and sixty-eight hundredths in the sixth, which shows that its greatest frequency is between the ages of twenty and fifty, with a slight liability of the maximum occurring between thirty and forty.

The question of the disease being an acquired or an inherited vice is one of unquestionable importance. A careful study of this point, for a number of years, has led the writer to believe that pulmonary syphilis in adults is a very common disease, and that it is due to either an acquired or inherited taint, the latter being nearly, if not quite, as frequent as the former. The ground for the belief that the disease is frequently inherited is shown by the number of cases in which it appears in young persons under ten or twenty years of age, whose chastity can not be doubted, and in whom no primary symptoms have ever appeared. In opposition to this view may be urged a primary contagion, passing unnoticed, or a direct transmission by kissing some

* "Dictionary of Medicine," Quain, American Edition, New York, 1883, p. 900.

† "New York Medical Journal," January 31, 1885, p. 139; Ibid., April 11, 1885.

‡ This form of pulmonary lesion has been quite extensively described by:

Greenfield, W. S.—On Visceral Syphilis. London "Pathological Transactions," pp. 249, 208. London, 1877.

Goodhard, J. F.—Phthisis of Fibroid Forms; History of Syphilis. *Op. citat.*, p. 313.

Green, T. Henry.—Syphilitic Disease of the Lung. *Op. citat.*, p. 331.

Pye-Smith.—Tertiary Syphilis affecting Lung, p. 334.

Mohamed, F. A.—Two Cases of Syphilitic Disease of the Lung (early fibroid). *Op. citat.*, p. 339.

Godhart, J. F.—Syphilitic Disease of the Lung. London, 1874.

Frouenier.—"Gaz. hebd. de méd. et de chir.," 48, 49, 51. Paris, 1875.

Thompson, E. Reginald.—Pulmonary Syphilis. "British Medical Journal," Aug. 28, 1880.

This disease has been recognized and described from Morgagni's time to the present. A much more extended bibliography could be appended, but this is sufficient to show that the lesion has been recognized by eminent pathologists.

older infected person; these are outweighed, however, by the absence of primary and secondary symptoms.

Dr. John Ferguson, of Toronto, reported a number of cases * where the disease occurred in young children, and where, all other treatment having failed, the symptoms yielded to an anti-syphilitic *régime*, and where the father, at a later period, inquired if his children's condition could have been influenced by his having had syphilis.

This is proof positive of the transmission of syphilis during its latent period from a father to his offspring without the mother showing any signs of the disease. The latent period of syphilis, which lasts from ten to twenty years, during which there may or may not be exacerbations, succeeds to the active state, and usually occupies that period of life in which the larger number of children are generated, thus probably accounting for the number of cases where positive symptoms are present without any evidence of primary contagion. A positive proof of the occurrence of this disease in the form of a pneumonia or phthisis may be found in the fact that these complications yield quickly and favorably to anti-syphilitic treatment. The larger percentage among females, especially among the unmarried and virtuous, seems to favor inheritance. These views are those of a clinician and pathologist, and vary considerably from those advanced by syphilologists. The clinical history of a case of this character is explained by the pathological lesion, and *vice versa*. Whether it be of the acquired or inherited variety may be in doubt, but inheritance from the father's side is in keeping with the biblical prophecy of descent even to the third and fourth generations. The recognition of syphilis in causing and maintaining disease, especially when the pulmonary organs are the point of attack, would indicate that a large number were syphilitic and not tubercular in origin.

In many instances patients have come to the clinic with the statement that some competent observer had diagnosticated an incipient phthisis, accompanying it with an unfavorable prognosis. A careful interrogation usually revealed a specific taint, however, and, when the syphilitic pneumonia or phthisis had received anti-syphilitic treatment, they resolved, so that to-day these patients would pass the most critical physical examination. Is there any direct relation between syphilis and tuberculosis? Decidedly not, although clinically and pathologically closely allied, therapeutically they differ decidedly.

The changes found in the lungs are somewhat similar to those of tubercular phthisis, and caused Niemeyer to remark: † "It may be difficult to decide whether the lesion be of a syphilitic origin or not." The lungs may be free, but, as a rule, they are more or less bound to the chest-walls and diaphragm by newly formed connective tissue, so that the pleural space may be completely obliterated. The pleura itself may vary from one eighth to one half of an inch (three and one hundred and twenty-five thousandths millimetres to three and a half millimetres) in thickness. The greatest thickening is at the apices. After bisecting the lung the following changes are found: the main lobes, and often the lobules, are separated by distinct bands of newly formed fibrillated connective tissue, which is not the case in a normal lung. The bronchi, particularly the smaller ones, undergo the same change, while the bronchial glands are indurated and pigmented; the latter, however, is only a coincident lesion. There are numerous cheesy-looking masses which are recognized by a trained eye as gummy formations. Their cut surfaces have a sticky feel and a laminated capsule, which, when they have attained considerable size, is quite distinct. The smaller granules have a similar appearance, and often look as though they could be readily shelled out. These neoplasms may vary, both in size and shape, sometimes occurring as large as a hen's egg, and sometimes so small that they look like the miliary tubercle. They may occur in masses forming cheesy-looking patches, or they may occur in single round and isolated bodies. These masses are separated by degenerated pneumonia or by an interstitial thickening of the pulmonary substance. The early stage is characterized by a diffuse interstitial thickening of the pulmonary tissue, often associated with a degenerative pneumonia peculiar to this disease. In the latter stages cavities are not infrequent, and these are also found in the apex or high in the superior lobe.

The advanced cases are the ones that are usually found on the necropsy table, while the earlier types are not infrequently associated with intercurrent disease or surgical conditions; but here the histories are very incomplete, often being passed without attracting any attention. A striking illustration of this was found in the diabetic case already published, where, in looking for a tubercular process, a typical pulmonary syphilitic lesion was found. These pathological proofs of the apex—rather than the base, and anterior portion of the lung—being the point of invasion are contrary to the ideas of some previous writers, but it has been invariably so in all the cases examined by the writer, both in the post-mortem room and at the clinic. These facts also explain the physical signs which are so marked during life, and substantiate their truthfulness. Macroscopically, this lesion is differentiated from the tubercular by the peculiar cheesy and granular gummy formations which have a tendency to encapsulation, and look as though they could be readily shelled out and easily separated from the surrounding pulmonary tissue.

The microscopic appearances are varied and numerous, and the first thing that attracts the attention is the extensive new formation of connective tissue. In many places broad bands are found closely resembling tendon tissue, and intervening between these tense layers there is a universal thickening of the pulmonary tissue, which also involves the vascular walls. The yellow elastic fibers are larger, and consequently appear more abundant. In many of the cases there is little or no pigmentation found which can be traceable to inorganic substances or to blood. The absence of the first, of course, is indicative of the fact that the interstitial thickening is not due to the irritation of carbon, iron, stone, or any of the other inorganic substances, as in the case of some varieties of fibroid induration. The absence

* Phila. "Med. News," January 17, 1885, p. 66.

† Niemeyer's "Text-book of Practical Medicine," New York, 1881, vol. ii, p. 771.

of blood pigment, on the other hand, is positive proof that it is not due to chronic congestion or impeded blood flow. This also dispenses with the idea that the dyspnœa must be due to the stagnation of the blood.

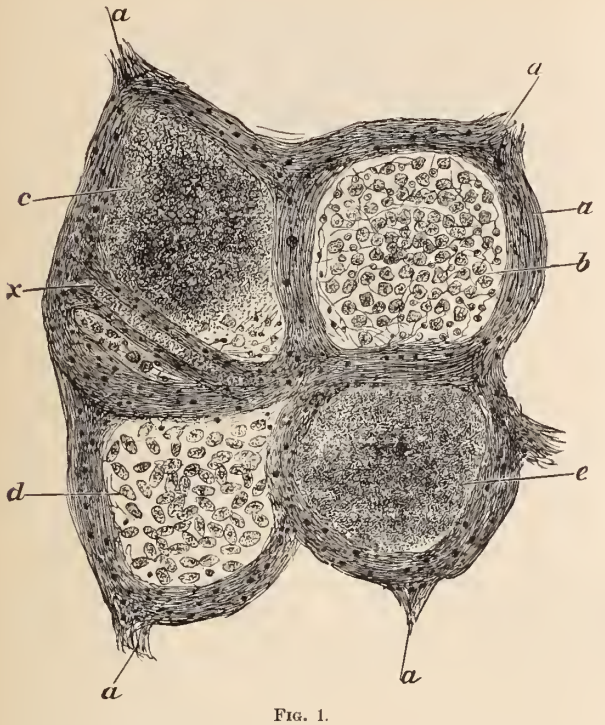


Fig. 1.

The thickness of the vascular walls varies from one twelve hundredth of an inch (20·833 m. m. m.) to one two hundredth (24·999 m. m. m.), but in the majority of the cases they are one eight hundredth to one six hundredth of an inch (31·250 m. m. m. to 41·666 m. m. m). (See Fig. 1, *a*.) In a number of instances the capillaries were seen in the center of these thickened bands (Fig. 1, *x*), the walls of which were thickened independently of the vascular tissue. When the vessels were distended with blood, as in Fig. 1, *x*, the thickness of the tissue intervening between the lumen of the blood capillary and the wall of the air-sac could be measured, and was found to be from one twelve hundredth to one four hundredth of an inch (20·833 to 62·500 m. m. m.).

This would naturally impede the free and easy interchange of gases between the two cavities, and would explain why the dyspnœa in this disease was so profound.

In addition, the connective tissue presents four characteristics microscopically:

1. Dense bands of white fibrous tissue with few corpuscular elements.

2. A less dense tissue studded with numerous small, round inflammatory corpuscles, having an average diameter of one one hundredth of an inch (4·166 m. m. m.). At other points, this same connective tissue was thickly set with oat-shaped corpuscles one thirteen hundredth of an inch (19·230 m. m. m.) long and one eight thousandth of an inch (3·002 m. m. m.) broad.

3. The same inflammatory basement substance, interspersed with round nucleated corpuscles, one forty-five hundredth of an inch (4·166 m. m. m.) in diameter, which, taken alone, looked not unlike a round-cell sarcoma.

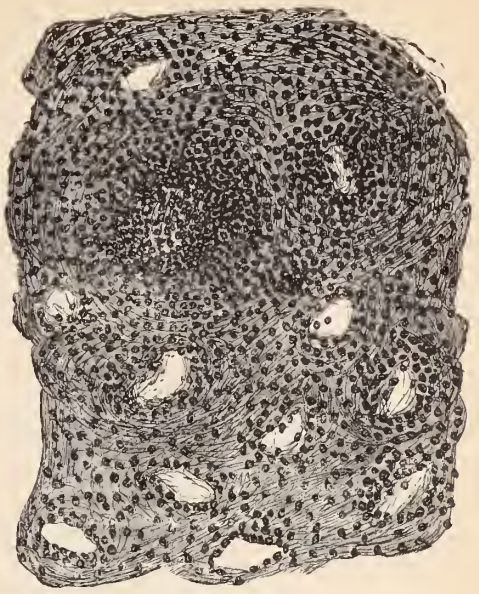


Fig. 2.

4. The thickened bands had a granular and degenerated appearance.

In many of the ultimate bronchi there was marked fibroid thickening, and many of the vesicular spaces were filled with an inflammatory exudation which presented a variety of appearances:

1. The air-spaces were filled with red-blood disks, leucocytes, desquamated epithelium, and fibrillated fibrin identical with that found in the second stage of a lobar pneumonia. (Fig. 1, *b*.)

2. Others were filled with decolorized round cells, as in gray hepatization of lobar pneumonia. (Fig. 1, *c*.)

3. Others were filled with large, round, distinctly nucleated epithelium cells, with a diameter varying from one fifteen hundredth to one two thousandth. (Fig. 1, *d*.)

4. Others contained a granular degenerating material which would not stain. (Fig. 1, *e*.)

The marked feature of this change was that all four conditions were irregularly intermingled as though in each air-sac it ran its course independently of all the rest, going regularly through the red and gray hepatization; at this point degeneration, rather than resolution, set in. The thickened walls prevent absorption, and the degenerating inflammatory products probably account for the copious expectoration.

This process is best classed as a degenerative pneumonia and one peculiar to syphilis. This peculiar pneumonia, associated as it is with diminished elasticity, and with dilatation of the bronchial tubes and loss of resilience on the part of the lungs, explains the absence of both dry and moist râles. The dilated and moist condition of the bronchi accounts for the absence of sibilant or sonorous sounds which are so common in the ordinary forms of interstitial pneumonia. This same condition of affairs accounts for the absence of the crepitant and subcrepitant râles, because the walls of the bronchi are not able to approximate each other and cause the sounds.

My opinion has always been that these râles were due to the opening and shutting of the ultimate bronchi, and a careful study of the physical signs and of a number of sections has still further convinced me that this is the way in which these sounds are produced. But I do not care to say that this is the only way in which they are produced, as they are often heard in certain stages of pleuritic inflammations, and there is no point of diagnosis between the two that is practical. The pleuritic râle, however, is very much less frequent.

It is well known that there is no tidal motion to the air beyond the third division of the bronchi. Beyond this point the air is changed by diffusion and by an anatomico-physiological law.

The trachea and bronchi are lined throughout with columnar ciliated epithelium, and the current of motion produced by these cilia is from within outward at the periphery of the lumen, while the central column of air is constantly moving downward.

It is by this action of the epithelium that the major part, if not the whole, of all inflammatory exudations into the air-sacs and smaller bronchi are brought up to the larger bronchi, where they can be influenced by the tidal air. The mass of sputum is pushed up until it reaches the under surface of the true vocal cords, where it irritates the peripheral sensory filaments of the superior laryngeal nerve, through which it is reflected back to the cough center, when a deep inspiration and a spasmodic or complete closure of the chink of the glottis follow. This is in turn followed by a forced inspiration with the glottis closed, during which the glottis opens, allowing a sudden escape of a large quantity of air under a very high pressure. The result of this is that the mass of sputum is driven through the rima glottidis into the larynx, mouth, or outside world, according to the force of the inspiratory act. This constitutes what is known as coughing, and is simply a dislodgment of the contents of the superior portion of the trachea. Irritation of the peripheral fibers of the pneumogastric in the pleura or bronchi will produce a dry or hacking cough. A thorough appreciation of these anatomico-physiological laws and their application to pathological conditions is absolutely essential for the selection of proper therapeutic agents.

Professor Thomas E. Satterthwaite first called my attention to the true value of the ciliated epithelium. The large gummata have a peculiar laminated, fibro-vascular, connective-tissue periphery which tends to encapsulate and isolate their granular centers. The surrounding pulmonary substance is the seat of a peculiar fibro- and degenerative pneumonia. The capsules are highly vascular, the small vessels having thickened walls from hyaline transformation (Fig. 3, *d*); the center often liquefies, the contents being discharged through a bronchus, leaving a smooth cavity in the pulmonary tissue. These cavities may contract and form a cicatricial "pock-mark," or they may remain stationary for months. On the other hand, they may ulcerate and extend, so that at the necropsy we would find small smooth-walled cavities, together with larger ones with ragged walls, or sometimes with walls similar to those occurring with a tubercular phthisis.

Throughout lungs affected in this way small miliary bodies closely resembling miliary tubercle are abundant, but they are not opaque or transparent. These bodies I have called miliary gummata. These gummata sometimes

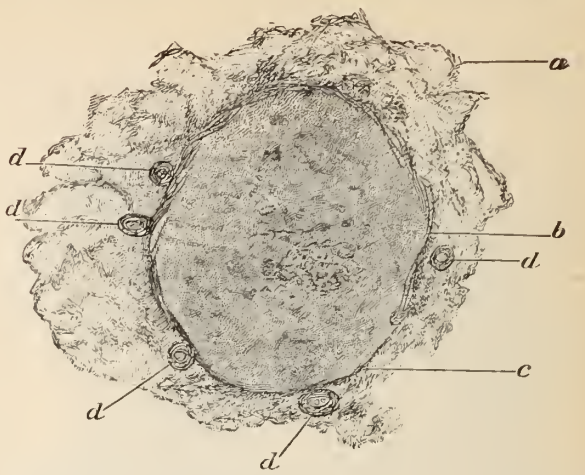


Fig. 3.—Gummy Tubercle showing Cheesy Center, Fibrillated Connective-Tissue Capsule, and Hyaline Thickening of Blood-Vessels. *a*, surrounding pulmonary tissue; *b*, cheesy center; *c*, sharply defined fibrillated connective-tissue capsule; *d*, thickened capillaries showing hyaline metamorphosis.

coalesce, but at first they are round and isolated. A close study of these, in comparison with miliary tubercle, shows that there is a vast difference between the two. The periphery of the gumma somewhat resembles the adenoid tissue of miliary tubercle, but a high power distinctly shows that its periphery is composed of concentrically arranged fibrillated connective tissue in which numerous blood-vessels ramify. (Fig. 3, *b*, *c*.) The walls of these vessels, owing to a hyaline transformation, are invariably thickened. (Fig. 3, *d*.) As a rule, no giant-cells are found in the gumma.

In miliary tubercle the adenoid tissue is more delicate and less perfectly fibrillated; it is full of small-round cells and often contains giant-cells; the capsules are less vascular and the blood-vessels do not present the hyaline transformation.

Taking the definition of Ziegler as the standard for miliary tubercle—i. e., "a non-vascular nodule (*Knötchen*) which does not grow beyond a certain size, and which, having attained a certain stage of development, undergoes cheesy degeneration"—gummy tubercles tend to become encapsulated, miliary to soften and diffuse. Such a striking analogy between these two forms of tubercles naturally suggests the following queries:

1. Is not tuberculosis superinduced by syphilis?

2. In the late stages of a syphilitic lung, may we not also have miliary tuberculosis?

3. Have not gumma tubercles been frequently mistaken for miliary tubercles?

The first two must be answered in the negative on account of the absence of temperature and of the Koch *Bacillus tuberculosis*. There is, however, no good reason why a tuberculosis should not be developed on a syphilitic lesion, but the writer has not found a single instance where the post mortem has revealed this.

Before answering the next question definitely, more data are required to prevent confounding the two.

The rational signs in many respects resemble those of a tubercular phthisis. The patients complain of having had a heavy cold with incomplete recovery, followed by a dry, hacking cough, or one with an abundant muco-purulent expectoration. The sputum is either white and frothy or thick, purulent, and of a greenish or yellow tinge, as in a true pulmonary tuberculosis. Early hæmorrhages are frequent and often copious, while the dyspnœa is an early and pronounced symptom. Pleuritic pains are common, and there is often great weakness while the general physique remains fairly good—in fact, the emaciation is not at all in proportion to the weakness, and is nothing like that of the tubercular variety. The skin is warm and moist, but there is little or no elevation of the bodily temperature. Night-sweats are frequent and distressing, and the patient complains of cephalalgia and of indefinite and wandering pains in the bones and tissues, which increase at night. Dyspepsia and slight jaundice are not infrequent. The urine has a characteristic pale, limpid appearance, which, together with the sallow complexion, often leads to the suspicion of a nephritic lesion. The urinary examination is usually negative unless there happens to be a coincident renal lesion.

Married females abort without any apparent exciting cause further than the syphilitic taint. Their children, if born, are often plump, but soon die of marasmus. The first child is often healthy, but the subsequent children are delicate. Frequently patients complain of sore throat and of an early loss of hair.

The physical signs are peculiar and diagnostic; the respiratory act is labored and all the accessory muscles of respiration are brought into play, but there is little or no expansion of the chest. Early in the disease palpation reveals increased fremitus, but in the advanced cases it is diminished, owing to the small volume of air entering the lung.

Percussion gives varying degrees of dullness, which is most marked at the apex but diminishes toward the base. The percussion-note is dull and of "wooden quality," and localized areas of dullness are found. Owing to the fact that small cavities have thin walls and contain considerable air, the dullness is not so great as would be expected, but, compared with a sound chest, it is decided.

Auscultation yields most positive and peculiar evidence when the rational history is taken into consideration. The inspiratory and expiratory murmurs are prolonged and harsh, especially the former, with a decided intermission between the two. Broncho-vesicular breathing is frequent at the apex. When the amphoric whisper is absent the presence of a cavity is eliminated. As a rule, crepitant and subcrepitant râles are absent, thus eliminating chronic bronchitis. It is differentiated from asthma by the absence of the sibilant and sonorous sounds. The vocal resonance is exaggerated over the consolidated portions. Another very strong and pathognomonic sign is a peculiar pain and œdema of the sternum and of the tibial crests. Pressure over these regions produces a very peculiar pain, which is quite intense and accompanied by a recoil not easily forgotten when once recognized. Patients often try to avoid giving evidence of this, but as surely fail as though trying to resist the muscular reaction to the electric current. A noticeable feature is that when the sternum is excessively sensitive the tibial crests are less so, and *vice versa*. There is no other disease in which this localized tenderness in œdema of the periosteum is met with. It is never found accompanying a true miliary tuberculosis, but it is exceedingly common in connection with syphilis, and, from this absence in cases of tuberculosis where the diagnosis was confirmed by the necropsy and its almost universal presence in cases of syphilis, it may be regarded as pathognomonic of a specific taint. In addition to this, it is always found to yield when the patient is under an anti-syphilitic *régime*.

The diagnosis is based upon five principal signs and symptoms:

1. The abundant expectoration without any signs of softening of the pulmonary tissue.

2. The weak and debilitated condition without marked emaciation and the good rational history of phthisis.

3. Pronounced dyspnœa without any evidence of a cardiac or pulmonary obstruction to the circulation.

4. The peculiar pain and the reaction to pressure upon the sternum and tibial crests.

5. The ready response to treatment is another element in the diagnosis.

The prognosis depends upon the early recognition and treatment. Syphilitic phthisis may run a very rapid course, but, as a rule, it is quite chronic. Dissipation hastens its progress, especially when alcoholic stimulants are used to excess.

In treating this affection, the liver should first be freely acted upon by cathartic doses of calomel or podophyllin, which in some cases should be frequently repeated. Experience has shown that the mixed treatment yielded better results than when mercury or iodide of potassium alone was used. The combination most successful is one sixteenth of a grain of the biniodide of mercury, from five to ten grains of the iodide of ammonium, and ten to twenty grains of the iodide of potassium in a drachm of the compound tincture of gentian, three times a day after meals.

Great reliance is placed on the ammonium salt, not perhaps on account of its intrinsic action in syphilis, but from the action which it has in rendering the two others more soluble, capable of easier absorption and assimilation, and in increasing their solvent action upon these newly formed gummatous elements—in fact, its action may be compared to that of trituration on calomel.

This is, of course, only theoretical, although it was taught by the late Dr. Van Buren, and may not be in keeping with the experience of other observers, but there can be no question of its efficacy in the cases in which it has been tried. Patients have repeatedly come under observation in whom one hundred grains of the saturated solution of the iodide of potassium produced no effect, but who showed rapid improvement after a free catharsis and a maximum dose of thirty grains of the combined salts. It may be argued that recovery under the iodide is no sure proof of the existence of syphilis, as these drugs only prevent a waste of tissue and thus might retard an ordinary phthisis. It is, however, pretty generally acknowledged by writers on therapeutics that the chief potency of the potas-

sium salts and iodine is due to their power of increasing oxidation. Upon this property our theory of their action has been based. Turkish and Russian baths are also of great service. It is quite essential to prescribe expectorants which will render the inflammatory exudation as watery and free from mucus as possible, at the same time stimulating the ciliated epithelium-cells, and thus freeing the air-passages of inflammatory products which tend to decompose, act as irritants, and interfere with the aërating space.

The best of food, air, and a total abstinence from all forms of dissipation must be insisted upon. The inherited cases are the more intractable, and will not yield to the iodide of potassium alone.

The conclusions may be summed up as follows:

1. *Ætiology.*—Pulmonary lesions attributable to syphilis are very common, more so in females than in males, with the maximum number of cases occurring between thirty and forty years of age; it is as frequently, if not more frequently, inherited than acquired.

2. *Pathology.*—Is most frequent at the apex; usually involves both lungs; is a peculiar pneumonic process in the early stages, while later cavities are formed, and it becomes phthisical in the sense of progressive consolidation, followed by softening and the formation of cavities. There is a strong resemblance, but a positive difference, between syphilitic and tubercular phthisis, and a positive anatomical difference between a syphilitic and a miliary tubercle.

3. *Symptoms.*—These are peculiar and diagnostic.

4. *Diagnosis.*—This rests mainly upon the rational history and physical signs, the extreme dyspnœa, the periosteal tenderness, and the absence of an increased bodily temperature.

5. *Prognosis.*—This depends upon an early recognition of the trouble.

6. *Treatment.*—It must be anti-syphilitic to be of any avail. Many cases are unaffected by iodide of potassium alone, unless under enormous doses, but a rapid improvement follows upon the use of the biniodide of mercury, iodide of ammonium, and the iodide of potassium.

In conclusion, thanks must be extended to Dr. George R. Elliot for his pains in examining the specimens for the bacilli, to Dr. George G. Van Schaick for the drawings, and to Dr. E. B. Brunn, one of the laboratory students, for preparing the specimens and examining for the bacilli.

Note.—In addition to the foregoing, I would like to state that, from October 1, 1884, to May 15, 1885, I made forty-two necropsies. In eleven of the cases, or 26·19 per cent., there was, in my opinion, a syphilitic condition of the lung—either gummata or cavities. Each was put to the test for the bacilli of tuberculosis, and in every instance they were found to be absent. The last three of the eleven were also put to the double test for the bacilli of tuberculosis and those of syphilis, and in all of them the latter were found in abundance, but none of the former. One case of the forty-two, or 2·35 per cent., had been diagnosticated as tuberculosis. The sputum was found to contain the bacilli of tuberculosis, and the diagnosis was confirmed by the necropsy.

102 East Thirty-first Street.

"**Bartholow's Materia Medica and Therapeutics**" is, we are informed, to be translated into French by Dr. Henri Huchard and Dr. Lucien Denian, of Paris.

SYPHILIS.*

By F. R. STURGIS, M. D.,

PROFESSOR OF THE DISEASES OF THE GENITO-URINARY ORGANS, AND OF VENEREAL DISEASES, IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; SURGEON TO CHARITY HOSPITAL.

The treatment of this affection should be considered both constitutionally and locally. In the old routine of constitutional treatment with mercury for one period, succeeded by another of treatment with the iodide of potassium, the development of the symptoms was so interfered with that the surgeon was left in the dark with regard to the stage and tendencies of the disease. This method fully justified Voltaire's satire: "The practice of medicine was like the pursuit of an imaginary enemy by a blind man armed with a club." Present methods, however, were not open to such a criticism.

Syphilis is a complex disease, which runs a definite course, but which has been subjected to an arbitrary and misleading classification by its division into the primary, secondary, and tertiary stages. It would have been better at the first if it had been divided into the early and the late periods, making the division, not according to the chronological order, but according to pathological phenomena; then the early manifestations would be those where there was no ulceration, while the appearance of an ulcerating process would be indicative of the later period.

The train of symptoms in this disease is usually progressive: first, the chancre and the non-ulcerative lesions of the skin, followed by the destructive processes, with, once in a while, cases where the whole course of the disease is malignant.

In these later cases the chancre becomes phagedenic, and the ulceration, instead of being macular, is pustular and ulcerating, as in the so-called tertiary stage, with which it should be classed. There is no specific treatment for this affection. Although a believer in the use of mercury, I consider its efficacy dependent upon physiological rather than specific reasons; and then we must remember that mercury is not always indicated in syphilis, and is useful in some conditions, but harmful or useless in others. It should not be used in the initial stage. As a rule, the primary sore, *per se*, is of but slight importance, and is serious only on account of its sequelæ. If it is not complicated by improper treatment and dirt, and remains free from phagedenic ulceration and of diphtheritic inflammation, it would get well of itself without recourse to any treatment, and therefore it is best to confine ourselves at this stage to the simplest things possible. Although the books make the diagnosis between the chancroid and the initial lesion an easy matter, in reality it is frequently quite difficult, especially in the mixed sore, where, as is often the case, we have to deal with both the chancre and the chancroid; and, until we are quite sure of the true character of the affection, we should abstain from the administration of mercury, for in the chancroid it causes more or less irritation, and is of no benefit to the patient. Even when the diagnosis of the initial lesion is certain, it is

* Read before the Clinical Society of the New York Post-Graduate Medical School and Hospital, March 7, 1885.

best not to commence the administration of mercury for some little time, as it prevents the subsequent development of the disease, and the maculæ do not appear at the end of the sixth to the eighth week, or at the end of the forty-two days, and the surgeon is consequently left in doubt as to the correctness of his diagnosis. Delay in the administration of the mercury is not detrimental to the patient's future progress, and therefore, unless he be married and rapid healing a necessity, only the simplest treatment for the initial lesion should be employed. Water, lycopodium powder, bismuth, or even a piece of cotton or charpie, to prevent the friction of the mucous surfaces, is all that is required. When further symptoms develop, however, mercury should be resorted to, and its use should be continued through each successive stage. The iodide of potassium is useless at the beginning of the disease, and, in fact, its use only grew up from an effort to compromise between doing nothing and the administration of mercury, which, from its abuse in past years, had fallen into disrepute; but it can only be useful as an adjuvant, and not as a substitute.

That form of mercury should be used which is the simplest and which produces the least disturbance in the system. The chlorides and the iodides are more apt to produce toxic symptoms than other forms. It was observed, during my service in the Charity Hospital, that the patients who were taking the simple blue pill showed a tendency to ptyalism after a meal of salt meat, the salt apparently serving to form the chloride. It is no longer considered necessary to touch the gums, and any symptoms of its toxic effects upon the salivary glands, the gastro-intestinal tract, or other portions of the body, should be avoided, and, before their appearance, the treatment should be suspended or changed.

The simplest form of mercury is the blue mass, two grains of which can be advantageously combined with one grain of iron or quinine, thereby producing a tonic effect. In truth, mercury is itself tonic when administered in small doses, as it increases the number of the red blood-corpuscles; and in syphilis we have to deal with both physical and mental anæmia, the number of the red corpuscles being diminished while the number of the white is increased. Although mercury in small doses increases the richness as well as the number of the red corpuscles, in large doses the effect is quite the opposite. While the administration of the mercury by the simple blue pill is probably the best, we must not discard the iodides and the chlorides entirely, as the former is quite useful in the latter stages of the disease. Where there is a tendency to ulceration of the throat the bichloride is of use, but the gastric and salivary symptoms must be carefully watched during its administration. Calomel is a treacherous preparation, for often, when the patient seems to be doing well under its administration, there is a sudden and unexpected explosion of hydrargyrismus.

The administration of the mercury should be continued until the symptoms have entirely disappeared, when it may be suspended until the development of some fresh complication; hence the treatment of the affection under consideration is largely on the expectant plan. Relapses often occur, but, if treatment is immediately resumed, they become milder and milder until they cease entirely and the patient may be pronounced cured; but whether the disease is entirely eradicated the future only can decide.

This is not very satisfactory, it is true, but, in the present state of our knowledge, nothing more definite can be stated. If, however, I were to be asked whether the condition was curable, I should reply in the affirmative.

The iodide of potassium should be given, owing to its prompt action, whenever there is ulceration about the mouth, nose, throat, or parts of the body where there is danger of any disfigurement; but we should not depend entirely upon this drug to effect the cure, as it is not so positive or so well borne as the mercury. It will often be noticed that, when the iodide has been given to promote cicatrization, while the process will proceed rapidly for a time it will at last be arrested, and the mercury will have to be resorted to to complete the process. Small doses of the iodide are useless, and when it is indicated it should be given promptly and in increasing doses, until the disappearance of the symptoms or the advent of toxic conditions compels its abandonment. It is very readily absorbed and as readily eliminated, and we have no knowledge of its action which can account for its rapid passage through the blood. We do know that while a dose of ten or fifteen grains will do little or no good, one of forty or fifty grains will be followed by an amelioration of the symptoms; yet so rapid is the elimination that it is not likely that more is absorbed in the one case than in the other.

The treatment in skin lesions must be continued until not only the eruption but the staining has entirely disappeared, leaving only the scar, which is indelible, and is one of the few results of this disease that can not be removed.

The initial lesion sometimes leaves a scar, and atrophy, with a depression and whitish scar, often occurs after gummous infiltrations, whether in the bone or elsewhere. Some cases do not tolerate either mercury or the iodide, and this is notably true of those cases which are phagedenic from the beginning. Sometimes it is best, owing to the constitutional debility from excesses of various kinds with which these patients suffer, to institute a tonic and hygienic treatment before having recourse to the mercury or the iodide. The iodide of iron is especially useful in these cases, although the citrate and potassio-tartrate are well borne. Cod-liver oil may also be administered.

Some patients may recover without the use of mercury, but it is not safe to omit its administration, for we can never tell how the disease will end. Mercury, too, is our best remedy for this condition, and it would therefore be indefensible to withhold it and to subject the patient to the consequent risk, especially as the dangers from its effects are less than from the effects of the disease, and the number of recoveries without the mercurial treatment is too small to build a theory upon. Besides being given internally, mercury may be administered by inunction, fumigation, the bath, subcutaneous injection, and by suppositories. The results of the inunction are comparatively favorable, and it has the advantage of leaving the stomach for what it is intended—namely, food and drinks, and not for drugs;

but is uncleanly, and, while it is used quite extensively in foreign countries, Americans will not stand it—they prefer to drench their stomachs rather than soil their skin for five minutes. The old method was to rub in the ointment in different parts of the body consecutively, first the arms, then the legs, and then the back. An objection to this method is that in delicate skins it will produce an eczema, and that it soils the linen beyond redemption, so that in private practice it can scarcely ever be used. A method which is not so objectionable is, after a hot foot-bath, to apply the ointment to the soles of the feet; woolen stockings should then be worn, and then every step will rub the ointment in. There is no discomfort, the feet are not cold, there is no blistering of the skin, and absorption readily occurs. It should be applied every alternate night for a week or ten days; then it should be suspended for a like period. Iodide of potassium should be given when needed, thus constituting the mixed treatment.

The two remedies combined in the same prescription are given by some practitioners, but this is not advisable, as it prevents the increase of one of the ingredients without the increase of the other. It is better to give them separately—the iodide in the saturated solution, which contains about three fourths of a grain, or practically one grain to the minim, largely diluted with an alkaline mineral water, after meals, never on an empty stomach. The proto-iodide or the biniodide may be given in pill form.

A mercurial bath may be given once or twice a week, according to the strength of the patient. Lamps are sold for this purpose. The patient is placed on a cane-bottomed chair, stripped, and covered with a blanket, outside of which is a macintosh. A lamp, having a gutter for water and a cup containing mercury, is placed under the chair. The patient is left in this vapor until after the mercury is completely volatilized and he has had an opportunity to cool off somewhat, when he should be wiped off and put to bed for two or three hours, as in the Turkish bath. The best time for the administration of these baths is at night.

The hypodermic administration of mercury is now about abandoned. When it is employed, a combination of corrosive sublimate or of calomel and albumin is used. It is very inconvenient, however, as it necessitates frequent visits to the physician, and the pain and discomfort to the patient are very considerable. In large bodies of men, as in an army or navy, the first objection would not be applicable, and the method might be found of use.

The treatment by syphilization remains to be considered. This method depends upon the same theory as vaccination, but is subject to the difficulty of the absence of a dilute virus, and that we are not able to predict the future of the syphilized person. The most recent prominent advocates of this theory were Bœck and Ewre, of Christiania. When Dr. Bœck was in this country, Dr. Bumstead allowed him to use the wards of Charity Hospital for the demonstration of the theory, and I had an opportunity of personally observing the method, but I received an unfavorable impression from the start, from the fact that the doctor made no distinction between the chancroid and the syphilitic sore. Both were syphilis to him, while to me they were two very different things, and so I concluded that something was "rotten in the state of Denmark." The method of treatment was extremely disagreeable, and the fact that many of the patients who were subjected to it ran away—which was remarkable, as the class that frequent Charity look upon it as a summer home—attests how much they must have disliked the application. Three sets of inoculations were made each time: first, in the right breast, and from these matter was taken for another set, which were called the daughter sores, and then matter was taken from the last to form the granddaughter set, and then still another group, called the great-granddaughters, beyond which he did not go. There were usually six or seven of these open at a time, and the discomfort was very considerable, so that many said they would rather have the disease than be subjected to the cure, and left the hospital. From this circumstance it may perhaps be said that the trial was not complete, but the non-discrimination between the chancre and the chancroid would have entirely vitiated the result.

As at present all diseases are being caused by bacilli, syphilographers are looking for the discovery of such a cause for this disease. No tissue is exempt from the inroads of the disease. When it attacks the eye, the result may be very serious, and we can not be sure that it will not invade the deep parts and result in blindness. The earlier eye affections are not so serious as the later, for in this disease there is a tendency toward resolution, while in the later affections this tendency does not exist. Atropine is the great remedy in syphilitic iritis, and at one time the ophthalmologists relied upon it alone for the treatment; this is, however, a mistake, for, while the mild case of iritis, like the mild case of syphilis in other tissues, will get well without recourse to mercury, the surgeon should not submit his patient to the risk of treatment without this drug. Where the choroid or the retina is affected, the bichloride is better than calomel or blue pill. The ulcerative throat lesions are coincident with those of the skin, and, where the skin is non-ulcerative, the same is true of the throat. When the throat is affected, the bichloride is the best preparation for use; locally, a solution of the nitrate of silver should be applied for its stimulating and astringent effects. It can not be said to be caustic, even when applied in the solid stick, as its action is so superficial. The sulphate of copper may be used for the same purpose, or the parts may be dusted with calomel. Iodoform is good, but the odor is so intolerable that private patients will not allow it to be used.

The affections of the bones and the nervous system are pathologically the same as the initial lesion, but the one tends to resolution while the others do not. When nodes become soft, resist the temptation to put in the knife, for, while it is good for an abscess to be opened, it is bad for a gumma, as it admits the air to the bone and necrosis ensues, for which operation is hopeless, as no proper sequestrum is formed. In the affections of the nervous system the remedy should be given promptly and with a free hand. The most unpromising cases get well when properly treated, but the iodide must be given in doses which seem appalling when compared with those beyond which we were warned

never to go when we first began to use this drug. One ounce per diem, in divided doses, has to be given frequently. Bumstead reports the case of a patient who took his iodide *ad lib.* He became, in fact, an iodide eater. The rule may be relied upon that no toxic results will occur until the symptoms yield. The remedy should therefore be carried to that point and then dropped. Symptoms that laugh at fifty will yield to one hundred grains, and the necessity for one hundred and fifty or one hundred and eighty grains need cause no alarm. Many physicians will refer to fifteen grains as a large dose, and look incredulous when a dose of fifty or one hundred is mentioned. All practitioners should be prepared for the treatment of syphilis, for it often plays a not unimportant part where not expected, and is an important factor in the diseases of children. In every department of medicine we must be ready to meet it and to expect a cure.

THE USE OF OSMIC ACID IN PERIPHERAL NEURALGIAS.*

By GEORGE W. JACOBY, M. D.,
PHYSICIAN TO THE CLASS OF NERVOUS DISEASES OF THE GERMAN DISPENSARY OF THE CITY OF NEW YORK.

When, in 1883, Neuber (G. Neuber, "Ueber Osmiumsäure-Injectionen bei periphäre Neuralgien," "Mittheilungen aus der chirurgischen Klinik zu Kiel," i) published the results of the treatment of peripheral neuralgias by hypodermic injections of osmic acid, it was to be foreseen that, owing to the good results obtained, other observers would take up the remedy and investigate its action in this regard. Such an inquiry was all the more necessary as the number of Neuber's cases was so small. The cases were old and obstinate ones, and consisted of two cases of sciatica and one of trigeminal neuralgia, which were all cured after ten to twenty-four injections. Only in one case was there a return of the pain, and this was again relieved by the same mode of treatment. The treatment of neuralgias is frequently so unsatisfactory that it is well to have at our command a great many remedies, any of which offer a hope of success. For this reason it becomes our duty to examine into remedies which are supposed to exert an influence upon this affection, whether that remedy *a priori* seems rational or not. Notwithstanding the small number of cases detailed by Neuber, the result attained was so good that Eulenburg ("Die Osmiumsäure-Behandlung bei periphären Neuralgien," "Berliner klinische Wochenschrift," 1884, p. 99) put the remedy to a fair test. He reports and tabulates twelve cases upon which he tried the remedy. The nerves affected were various ones of the upper and lower extremities of the body and of the head. He chose the fresh and not extraordinarily severe cases. The duration of treatment varied from one to six weeks, and the number of injections in the different cases was from three to sixteen.

In a foot-note to his article he says that since then he has treated seventeen more cases, and of these four were cured—two sciaticas, one lumbar, and one intercostal neuralgia. The twelve tabulated cases are as follows:

No.	Sex, age, etc.	Disease.	Total no. of injections.	Result of treatment.
1	35 y., male, machinist.	Right-sided sciatica; fresh case.	8	Cure.
2	43 y., male, merchant.	Right lumbo-sacral neuralgia (affection of n. cutan. femor. ext. and post.), to a slight extent also left-sided.	6	Improvement, but no cure; therefore, galvanic treatment employed.
3	65 y., female.	Left neuralgia brachialis ("neuritis" of single arm nerve-trunks); fresh case.	10	Cure.
4	44 y., female	Right sciatica.	7	Cure.
5	32 y., female.	(Epilepsy) right brachial neuralgia.	4	Only slight improvement; bromides and galvanism.
6	29 y., female.	Left trigeminal and occipital neuralgia.	3	No change; therefore change of treatm'nt
7	49 y., female.	Left trigeminal (Ramus I).	2	No change; therefore change of treatm'nt
8	30 y., female.	Bilateral neuralgia of the (lower) intercostal nerves; fresh case.	5	Improvement slight, result not satisfactory.
9	47 y., female.	Left occipital and cervico-brachial; fresh case.	9	Improvement; later, galvanism.
10	40 y., male, laborer.	Bilateral sciatica; old case, recidiv.	4	No change; change of treatment.
11	53 y., female.	Right lumbo-sacral neuralgia; old case.	10	No change; morphine injections also had no effect.
12	49 y., female.	Multiple (universal) neuralgias, gouty rheumatic basis.	14	No change; other modes of treatment also without effect.

According to this set of cases, then, the result is not very encouraging. In twelve cases there were only three cures, four cases were more or less improved, and five cases were not influenced at all by the treatment. The three cured cases were fresh ones; the unaffected ones were old, complicated or multiple. After this publication I began to make use of this remedy, and should not now publish my observations were it not for reports which have since then appeared, and which certainly show us that we have in osmic acid a valuable remedy for the treatment of certain cases of neuralgia.

Dr. A. Wölfler, in a report from the surgical clinic of Professor Billroth ("Wiener medizinische Wochenschrift," 1884, p. 1495), reports eight cases, which may be tabulated as follows:

No.	Sex, age, etc.	Disease.	Total no. of injections.	Result of treatment.
1	Male, 42 y.	Right sciatica, three years' standing.	16	Cure; no relapse after four months.
2	Male, 50 y.	Sciatica, ten years.	6	Very much improved.
3	Male, 21 y.	Sciatica; fresh case, three weeks.	1	Cure; no relapse after three months.
4	Male, 42 y.	Sciatica, since one month.	5	Cured, with exception of a small painful point in calf of leg.
5	F'male, 56 y.	Left sciatica, one year.	13	Cure.
6	F'male, 62 y.	Trigeminal neuralgia, all three branches.	2	Cure; no attack in four months.
7	Male, 67 y.	Trigeminal neuralgia.	10	Improvem't; relapse after a few months.
8	Female.	Trigeminal neuralgia, Ramus III.		Improved; still under treatment.

This report is so encouraging, and in such contrast to Eulenburg's, that it necessarily requires confirmation by other observers. Of eight cases reported, we have five

* Read before the American Neurological Association, June 17, 1885.

cured, one improved but relapsed, one improved very much, and one improved but still under treatment. In eight cases not a single absolute failure.

James Merces ("Osmic Acid in Sciatica," "Lancet," 1885, p. 58) seems to have had just as much success. He does not give any details of his cases, but says that he has tried osmic acid in eighteen cases "which have resisted all other known methods of treatment." The ages of the patients varied from eighteen to sixty-five. In twelve cases he gave absolute relief for a period of three weeks, the patients then leaving the hospital. In these cases the number of injections varied from one to four. In six he gave temporary relief.

The manner in which I treated my cases was as follows: I made use of a 1-per-cent. solution of osmic acid in water, and of this 0·50 to 1·00, equal to 0·005 or 0·010, of the acid was injected. In a few cases less was used, but very rarely. The preparation was that known as osmium tetroxide, $OS\,O_4$, commonly known in histological research as osmic acid. The preparation known as hyperosmic acid, which was used by Neuber and others, is probably the same. According to the best treatises on chemistry, such a combination does not exist, as no mention is made of it. The solution, when exposed to the light, rapidly becomes decomposed, turning dark and ultimately quite black. Eulenburg says that it can nevertheless be used in this condition, but my experience has convinced me of the contrary. I consider it entirely inactive when in this state. For this reason it should be dispensed only from a dark bottle, and a small quantity only ordered at a time. I have never prescribed more than 20·00 of the solution, this quantity serving for about forty injections. The injections were always made as near as possible to the point of severest pain and into the connective tissue surrounding the affected nerve. The pain caused by the injection is in many cases exceedingly severe, producing a stinging, burning sensation which generally follows the course of the nerve. This pain, however, rarely lasts long, generally subsiding after a few seconds. Occasionally, also, local changes are produced, such as swelling and puffiness over the seat of puncture, and in many cases I have seen a hard, circumscribed thickening of the skin and connective tissue produced in consequence of repeated injections, which only disappeared after days. There is no discoloration produced by the acid except, perhaps, a single black spot where the needle was introduced. The action is a purely local one, no constitutional symptoms whatever being produced. The experiments of Dr. E. Fraenkel ("Ueber parenchymatöse Ueberosmiumsäure-Injectionen," "Berliner klin. Wochenschrift," p. 234, 1884) cast some light upon the action of osmic acid upon living tissues. In three animals he made injections of a 1-per-cent. aqueous solution of the acid, injecting 0·50 to 1·00. The point of injection was, in all three animals, the thigh, as near as possible to the point of exit of the sciatic nerve through the foramen. The number of injections made was, upon the first animal, four; upon the second, six; and upon the third, seven. Upon the second animal after death, which took place twelve days after the last injection, and sixteen days after the first one, the condition found was as follows: Upon removal of the skin, the superficial fascia and the perivascular and intermuscular connective tissue were found to be the seat of diffuse black discoloration. The muscles upon the back of the leg and thigh were atrophied. The sciatic nerve was found to have retained its normal appearance for only half a centimetre below its exit from the pelvis. Below this point it was colored black, imbedded and intimately adherent to the connective tissue.

This condition is found as far as the knee, from where the peroneal nerve may be followed as a clear white cord. Microscopically, the sciatic nerve above the seat of lesion showed normal fibers. A piece of nerve taken from below this point showed nerve-fibers distinctly colored black, their structure being completely retained. The fibers situated more internally, which were not discolored by the acid, were mostly changed, the myelin balled up and granular, and, in another branch, fatty degeneration was noticeable. In those parts of the muscle which were directly affected by the acid an exceedingly severe interstitial myositis was developed. The condition found was, in general terms, a parenchymatous degeneration of many nerve-fibers, and in the muscles a parenchymatous inflammation of the contractile substance, with atrophy. It is very interesting in this experiment to know that osmic acid produces the same discoloration upon the living nerve-fibers as it does upon the dead ones. Whether this discoloration can have any influence upon the action of the nerve can not be answered until our knowledge of the transmission of nerve-force is more positive than it now is.

If various branches of a nerve are affected, it is necessary to inject over each painful branch. These cases will, however, be found to be mostly intractable ones. Certainly the results are better in those cases in which the pain is localized over a single branch. The nerves of the skin do not appear to be at all affected by the injections, and no anæsthetic action was discernible in any of my cases. Of the cases under my treatment, and of which I have made notes, I shall only give three in detail. The first two, corresponding to Nos. 1 and 2 of the table, are taken as examples of the mode of treatment. The third, which is No. 8 in the table, is given for reasons which will become evident when the case is read.

Case I.—A. S., aged twenty-six years. Had been suffering for two years, and had been under my treatment for a right sciatica since February, 1883. The pain started from the upper part of the thigh and radiated downward to the heel. Pain upon pressure over the entire course of the nerve. The pain was so intense when he first came to me that he was unable to sleep at night, and could obtain a little rest only when under the influence of morphine. After six months' galvanic treatment he felt well enough to discontinue treatment, but, after a lapse of two weeks, the pain was as severe as ever, and he again came for relief. This time galvanism, massage, morphine, and the actual cautery were all tried, but in vain. Thus, six more months were passed, until I read Eulenburg's article in the "Berliner klinische Wochenschrift." I then made an injection parenchymatously over the sciatic nerve, between the trochanter and tuber ischii, injecting half a grain of the solution. These injections were repeated three times a week. The first injection was so painful that, notwithstanding all he had already

undergone (actual cautery, etc.), he refused to continue the treatment. The injections were all attended with more or less pain. After the sixth injection the pain had ameliorated to such an extent that he was able to sleep the entire night. Injections kept up. After the sixteenth he was entirely free, and has remained so up to date.

Case II.—T. L., male, aged forty-eight years. Came under treatment in May, 1884. Right sciatica, since six years. Had undergone, besides the usual modes of treatment, also an operation for stretching of the sciatic, but all without relief. Injections were made in the same manner as in the preceding case. The injections always caused considerable pain, but at no time were they unendurable. A translation of parts of a very long letter, written in German and dated April 1, 1885, will give a good idea of the result attained. He begins: "After I had spent months at a time in hospitals during the last six years, and had ultimately sacrificed everything in order to regain my health, a physician in Newark, after a thorough examination of my case, gave me the following advice."

The essence of this advice was that, as a last resort, he should try the osmic-acid injections, for which purpose he was referred to me. He then goes on to say:

"The result of the two to three weekly injections is a remarkable one. I can walk very well, but not for a long period of time. I can sit, lie down, sleep—all without any pain whatsoever; but, on the other hand, I can not stand still. This causes pain. But I believe that this also will change in time."

This patient received in all twenty injections. He had been suffering from a sciatica which disabled him from performing any of the necessary acts of life. He could not sleep, he could not stand, he could not walk or sit. The only position in which he enjoyed comparative ease was stretched out upon his back, and thus he spent the greater part of six years. The result, to say the least, was certainly encouraging.

Case III.—Female, aged forty-five years. Seen in consultation April 12, 1884. Left cervico-brachial neuralgia. Principal seat of pain over the radial in the arm. The pain had existed for two years, and was probably the result of a periarthritis of the shoulder. Every remedy that had been suggested had been tried, but without result. I recommended a trial of osmic-acid injection, and made one myself over the musculospiral nerve. I heard nothing more of the case for a fortnight, the attending physician having promised to continue the suggested plan of treatment. After the lapse of that period of time, on April 26th, the physician called upon me and told me that the case had progressed favorably until three days prior to his visit. The pain had gradually decreased, and prospects of entire recovery were fair.

At the time mentioned he made the sixth injection in the usual place. The patient complained at once of intense pain radiating downward into the thumb and forefinger. The pain at previous injections had been merely nominal. A few hours after that she called again and said that she had a feeling of numbness in the first fingers and along the outer border of the arm. The following morning the physician called upon her and found a well-marked classic, radial paralysis. The patient had during the night slept with her arm thrown backward under her head, and the doctor concluded that he had to deal with a common case of radial paralysis due to pressure.

To me the case was not so clear. The sudden severe pain along the course of the radial after the injection, and the advent of anæsthesia soon after, inclined me to think that the paralysis was due to the injection itself. This view has since then been strengthened in my mind through the publication of Arnozan ("Des névrites consécutives aux injections hypodermiques d'éther," "Gazette hebdomadaire de méd. et de chirurgie," January 9, 1885).

In this article Arnozan calls attention to the occurrence of neuritis following hypodermic injections of ether. He says that in 1881 he accidentally produced paralysis in four cases after injections of ether. In 1883 he saw another case together with M. Salvat, and in 1884 M. Charpentier and M. Barbier published a case of neuritis of the sciatic due to the same cause. In all he publishes seven cases. Of these, six are paralyses of the extensors of one or both hands, due to injections into one or both forearms. The advent of paralysis was immediately consecutive to the injection except in one case, in which the interval between the last ether injection and the occurrence of the paralysis was nine days. Fränkel, in the article already referred to, in the clinical part, says of the experiment upon the second animal: "*After the third injection a complete motor and sensory paralysis of the foot was developed, and upon the third animal a paresis also occurred.*"

In the case of our patient a doubt as to the cause of the paralysis is certainly permissible, especially as the paralysis was not noticeable until the day after the injection, and then may have been due to pressure during sleep. But, in view of these two publications of Arnozan and Fränkel, I feel more inclined to ascribe its production to the osmic acid.

My cases—eighteen in all, including the three already given—have been tabulated as follows:

No.	Sex, age, etc.	Disease.	Total no. of injections.	Result.
1	Male, 26 y.	Right sciatica, old case.	16	Cure.
2	Male, 48 y.	Right sciatica, old case.	20	Cure.
3	Female, 50 y.	Left trigeminal, three years' standing.	3	Improved, but gave up treatment.
4	Female, 35 y.	Left crural neuralgia, fresh case.	5	No change.
5	Female, 30 y.	Right brachial neuralgia, old case.	10	Cure.
6	Male, 37 y.	Bilateral sciatica, old case.	6	No change, examination of urine, sugar, diet and opium, relief.
7	Female, 60 y.	Left trigeminal, old case.	3	Improved.
8	Female, 45 y.	Cervico-brachial, old case.	6	None.
9	Female, 37 y.	Cervico-brachial, old case.	12	Cure.
10	Male, 29 y.	Right sciatica, old case.	18	Cure.
11	Male, 33 y.	Left sciatica, fresh case.	6	No change.
12	Female, 65 y.	Left cervico-occipital; also neuralgia of the III. br. of trigeminal.	5 ove each point.	No change.
13	Female, 40 y.	Occipital neuralgia, radiating pains to the shoulder and arm, old case.	18	Cure.
14	F'male, 45 y.	Right trigeminal, R. I.	4	No change.
15	Male, 30 y.	Right sciatica, fresh case.	6	No change; afterward galvanism; relief.
16	Male, 39 y.	Right sciatica, old case.	17	Cure.
17	Male, 37 y.	Left sciatica, old case.	18	Cure.
18	F'male, 44 y.	Left sciatica, old case.	12	No change.

These cases, then, analyzed, show us, of eighteen cases, eight cures, two improved, and eight unaffected. Of the eight cured cases, five were cases of sciatica. All the cured

cases, including the sciaticas, were old cases. Of the unimproved cases, eight in number, three were fresh cases and two were old. The case marked 8 can not be counted, and of 12 and 14 no note is made.

At any rate, it would seem from these cases that the sciatic nerve is the one which is most impressionable to the action of this remedy, and that old, inveterate cases present a greater chance of success than fresh ones. This is contrary to Eulenburg's experience, and in my cases may be misleading, as I used the remedy only exceptionally upon fresh cases, in the majority of instances using it only as an *ultimum refugium*.

The conclusions justifiable, then, are:

1. We have in osmic acid a remedy which is of service in the treatment of certain cases of peripheral neuralgias, and in some cases where every other remedy has failed.

2. Osmic acid is not an anti-neuralgic, its action is very localized, and it frequently fails where other remedies succeed.

3. Its employment is in most cases very painful and not altogether free from danger.

4. In view of Case 8, it is dangerous to implicate a motor nerve in the injection.

ANTISEPTIC INHALATIONS.

By BEVERLEY ROBINSON, M. D.

(*Concluded from page 65.*)

In my first trials of antiseptic inhalations I made use of Kinnicutt's inhaler, which, I believe, was patterned after that of Roberts. The inhaler I now employ is slightly modified by Ford from Yeo's inhaler, so that the sponge is held by two folds of the perforated zinc-wall, instead of by strings which originally held it in place. I believe the inhaler, as I am now using it, could be perfected in the following ways: 1. The holes in the zinc-plate to be made larger, and thus allow the air to pass through the sponge more freely. 2. The posterior half of the inhaler *not* to be perforated at all, but to consist of one uniform piece on either side. In this way there would be a stronger direct current through the sponge with each inspiratory effort of the person inhaling. 3. A double-valve arrangement, to be placed so as to allow the vapor to pass from the sponge into the respiratory tract during inspiration, and also to permit the expired air to pass directly out from the inhaler without repassing through the sponge. With these modifications properly made, I am satisfied, in certain cases, that the inhaler could be worn almost continuously day and night, and sometimes with great benefit to the patient. The general treatment followed by my phthisical patients was: 1. Malt and cod-liver oil. 2. Compound syrup of the hypophosphites. 3. Iron and arsenic. To the use of one of these mixtures, stimulants, powdered meat, digitalis, and quinine were occasionally added. Counter-irritation by means of iodine, Corson's paint (iodine, croton-oil, and ether), or fly-blisters, was made whenever it seemed indicated. In many cases one of these treatments had already been faithfully carried out before the patients came under my care, and ordinarily, I regret to add, with anything but promising results, in so far, at least, as the rational symptoms of disease were concerned. Of course, with respect to the physical conditions of the lungs previous to the time when I first saw them I could only form a probable judgment, and I inferred simply that as the symptoms of disease had not notably improved, so the alterations of structure had doubtless not retrograded to any marked degree. In more than one of my patients the inhalation used (fir-wood oil, combined or not with chloroform) eased the throat for a long while after using it. In spite of this ease to the throat, the cough was not always arrested; still, the inhalation gave a sort of renewed vigor, and the patient felt decidedly cheered and encouraged. Sometimes the inhalation brings on cough, but not even then does it appear to irritate the throat. Usually the expectoration was rendered much easier; it decreased often in quantity, and, consequently, there was less cough. While using the inhaler one of my patients had a slight hæmorrhage, and was disposed to believe at first that the inhalation occasioned it. Later, and in this same patient, the inhalation (creasote and alcohol) caused no irritation whatever of the throat, and was worn one hour at a time, and about three or four hours in the twenty-four. One patient notably gained several pounds in weight while using the inhaler, and stated that he felt stronger and better in every way than he had previously. When the inhaler was kept on too long, and in those patients who had functional disturbance already of the stomach, nausea was occasioned. No inhaling substance reduced the quantity of sputa to the same extent as turpentine, but this liquid was apt to cause dryness and irritation of the throat, and was frequently replaced on these accounts by creasote and alcohol. Not only were the sputa diminished, as a rule, by inhalation, but several times they showed manifest changes of color. They also became decidedly less thick and viscid, and, from being green-looking and tenacious, they soon were foamy, like soap-suds, and thinner, or showed the aspect of mingled mucus and pus. The breathing was also improved on many occasions, and the patient could make more exertion without becoming flushed and exhausted, or pale and panting. At times the improvement of breathing, of cough, in the amount and character of the sputa, in the appetite, in strength and feeling of more lightness and vigor, was accompanied by physical changes which seemed to indicate improvement in the local condition at the apex, or apices. In one instance, for example, I made a note to the effect (and after three months' use of the inhaler) that the pleuritic râles which had previously existed at one apex during ordinary respiration had completely disappeared, and the breath-sounds had otherwise improved. In other words, they had become more vesicular and less harsh, and the expiratory murmur less prolonged.

Owing to the diminution of cough and the decrease in the abundance of the sputa, the patient's sleep was not so much disturbed—and thus I have found the use of the inhaler during the evening, and even at bed-time, was evidently a greater promoter of rest than cough-mixtures or anodynes. This was true even when direct examination with the mirror had shown that the larynx was red, swollen, and

inflamed, as indeed evidences were already present of incipient laryngeal phthisis. One of these patients stated in emphatic terms that, although she had taken all sorts of drugs for her cough, none of them helped her so much as the inhalation. I would not have my hearers misunderstand me and believe I am of the opinion that in the oro-nasal inhaler we have a panacea for *cough* and other distressing symptoms of phthisis at the first stage. Frequently patients will do well for a time with one kind of inhalation, and we shall feel greatly encouraged; and then, through some exposure or imprudence, or indeed by reason of the steady onward march of the disease, the cough again grows worse and other annoying symptoms return with full force—again and again to be relieved by some new form or combination of inhalation. In one case I employed at different times and during many weeks, extending in all over several months, the following inhalations: At first, inhalations of eucalyptus, then of carbolic acid, iodine and benzoin, later of creasote and alcohol, and finally of fir-wood oil, conium, and benzoin. Each one of these relieved for a time, and afterward lost its beneficial, soothing effect. Still, everything considered, I concluded I had a means which, contrary to Hassall's opinion, was powerful for good, and, despite regrettable failures, was more useful in many instances than steam inhalations or atomized fluids. In not a single instance was I satisfied that the metallic inhaler, when properly employed—and by this I mean when the quantity of fluid poured upon the sponge and the duration and frequency of the inhalation were judiciously regulated—increased the cough except in a very temporary manner, or was productive of any evident bad results. What I have written in regard to the effects of inhalation of vapors of antiseptic fluids in pulmonary phthisis at its first stage is almost, if not equally, true of phthisis at its second stage, and when the pulmonary apices give undisputable signs of softening and breaking down. Even under these circumstances cough becomes less, expectoration is soon more fluid, and, in consequence, more readily raised, and the patients speak of diminished difficulty of breathing and improved rest and sleep at night. In my cases of fibroid phthisis the patients, after a few weeks' use of the inhaler, felt much improved. They could use the inhaler half an hour to an hour at a time, and several times a day, without inconvenience, and stated that they thought the inhalations helped their cough very much. In these cases, also, the sputa diminished notably in quantity and became more frothy, and lost in great part their viscid character. From my limited experience with these cases, I am inclined to believe the fir-wood oil is more useful as an inhalation than any other liquid employed by me.

In laryngeal phthisis the cough in one instance was more frequent and troublesome at first; later it seemed to improve. Certainly the expectoration was looser, although more abundant, and no unpleasant sensations were experienced while inhaling. In one instance the patient increased several pounds in weight while under treatment by means of antiseptic inhalations. No visible changes in the intralaryngeal condition were noted, although repeated examinations were made with the mirror to detect, if possible, such modifications. The inhalation employed in these cases was a combination of one part of fir-wood oil with four parts of tincture of benzoin. A point to which I desire to direct attention in regard to the use of all inhalations is this: Frequently inhalations are useful in allaying cough and the symptoms dependent upon it, even though it is evident that the inhalation does not penetrate below, or even so far as, the larynx. This fact may be explained in two ways: First, as is well known, the cough may in reality be occasioned by a morbid condition in some part of the respiratory tract, preceding the lungs in location, and although the lungs or bronchial tubes may also be inflamed. This morbid condition may be an elongated uvula, post-nasal catarrh, follicular disease of the pharynx, acute or subacute laryngitis, etc. Again, in the use of all forms of inhalation, while the soothing and modifying effects of it are partly due to their direct local application, still there are similar effects produced by their absorption by and elimination through the mucous membrane lining the parts referred to. A final question in regard to phthisis and antiseptic inhalations should here be mentioned. Do they destroy the *Bacillus tuberculosis*, or do they affect notably its growth or vitality? *Personally*, I have never searched for tubercle bacilli after the oro-nasal inhaler had been worn a considerable time, and in which, previous to wearing it, these characteristic micro-organisms had been found. In one case, however, a careful microscopic examination of sputa was made by my house physician when the patient was known to have evident pulmonary phthisis as shown by indisputable physical signs. At the time the bacilli were first discovered, inhalation of antiseptic vapors had not been employed. Several months later, and when during the intervening period a metallic inhaler had been worn during several hours each day, a second microscopic examination of the sputa was made and still showed a large number of bacilli. The precise relative number of these organisms observed on each occasion is not mentioned in the history of the patient, nor is it stated whether there was any proof to show that the bacilli had less vigor than when first detected. What is known definitely is this, viz.: that, although bacilli were present in considerable numbers at the time of the second microscopic examination, the patient herself, both as regards her physical condition and her rational symptoms, had evidently much improved. How much the improvement was directly due to the use of continuous inhalations it was impossible to affirm positively. There was no doubt, however, as to the fact that they had been useful and comforting in allaying cough, diminishing faucial irritability, and promoting the ease of expectoration.

If other observers be consulted, I am not aware that, up to the time of writing, anything more definite can be obtained in regard to the mortuary effects of inhalation on tubercle bacilli than what I have stated.

Whether or not, therefore, dry-vapor inhalations in c on centrated form are able to destroy tubercle bacilli is not yet satisfactorily determined. That they are powerful to arrest or prevent fermentative and putrefactive changes of the sputa; that they can modify the terminal bronchi and lung-cells so that they will secrete less purulent matter for expectoration—so much at least results from direct clinical observation and

experience. It is also highly probable that continuous dry antiseptic inhalations are able to weaken and partly devitalize the infective germs upon which the origin and growth of pulmonary phthisis largely depend, according to the present state of our knowledge. The manner in which this is accomplished is apparently either by direct action upon these organisms or indirectly by rendering their surroundings and the location where they are deposited very unfavorable to their extension or propagation. It is perhaps true, and it is certainly conceivable—by reason of analogy with other means by which some organic germs are killed—that such an effect may be produced by prolonged or frequent inhalations of antiseptic volatile agents of moderate concentration, as well as by shorter inhalations of very strong vapors. This is a most fortunate circumstance, since it is proved that the continuous inhalation of concentrated vapors of antiseptic substances, in any notable quantity, is rendered impossible by the intolerance of the respiratory mucous membrane to their contact.

The power such inhalations may have will depend, in my opinion, upon several distinct factors: 1. Upon the form and efficacy of the inhaler itself. 2. Upon the substance which is used and its strength. 3. Upon the frequency and less or greater continuance of the inhalations. 4. Upon the stage which the pulmonary phthisis has reached, upon hereditary influences, hygienic surroundings, and individual vigor of constitution.

Having already taken up much of your time and attention, I shall be brief in my remarks about my other cases. In fact, I do not consider those in regard to which I have preserved notes as sufficiently numerous to warrant any strong affirmations. Still, as my memory serves me about several cases of each disease treated by inhalation, in some particulars at least, I trust that what I may say has more value than would be apparent but for this prefatory statement.

A. In *laryngitis*, acute and subacute, antiseptic inhalations are decidedly useful. They quiet irritation, lessen hoarseness, diminish cough, change the aspect of the inflamed mucous membrane, and, in certain cases at least, evidently hasten the disappearance of symptoms and the establishment of a cure. In one case, in which there were concomitant post-nasal catarrh, pharyngitis sicca, and paresis of the tensors of the vocal cords, producing hoarseness, there were also "a red, swollen epiglottis, arytenoid cartilages, and ventricular bands." In this case there was moderate cough. Still it persisted and caused much mental distress, despite various medications internally, and numerous local applications of pigments, sprays, and powders. One week after inhalation was begun the cough had disappeared completely. The larynx was less inflamed, the pharynx was not at all glazed, there were little or no frothy sputa, and, indeed, the patient was so far recovered that the remedy was stopped. This had consisted of ten drops of turpentine, used in Kinnicutt's inhaler, during five minutes every three hours.

B. In cases of *chronic nasal catarrh* the following effects were noted: A singer, having post-nasal catarrh, hypertrophy of the turbinated bodies, slight pharyngitis sicca, and catarrhal laryngitis, secondary to the other affections. This patient made use of inhalations of pine-needle oil, and soon remarked that these inhalations rendered the discharges from her nose, especially anteriorly, very much less. The breathing also became notably freer. In fact, after two months' use of the inhaler, she had very slight trouble, if any, with her anterior nasal cavities. There still remained, however, some discharge from the naso-pharyngeal cavity. It is only fair to state that in this case, as well as in my other cases of catarrh of the nose, I made use, concomitantly, of other local treatment as an adjunct. Still, by comparison between the cases of nasal catarrh in which dry-vapor inhalations were employed and those in which these inhalations were not used, although other remedies were made use of, I believe that the inhalations were undoubtedly beneficial in the manner stated above. In three cases, in which marked dysphonia was obviously caused by the catarrhal inflammation of the nose, inhalations of benzoin and of benzoin and fir-wood oil produced marked benefit to the voice and general condition of the throat and nose. In one case, where the nasal duct had become obstructed by reason of pituitary hypertrophy, and there was consequent epiphora, this symptom, among others, was apparently relieved *in a measure* by inhalations, and the swollen membrane was reduced in thickness.

C. *In subacute and chronic bronchitis*, inhalations of tincture of benzoin and fir-wood oil—one part of the latter to eight parts of the former—after one or several weeks, diminished the cough, expectoration, and hoarseness. In one instance the patient stated distinctly that the cough was stopped by the inhalation. The amount of fluid used was 10 to 15 drops, one or more times during the day, and the inhalation was repeated ten minutes every three hours.

In a case of chronic dry pleuritis the first few inhalations produced cough, with expectoration. After a time the patient felt convinced that the inhalation was of benefit to him. "He coughs less now than formerly, and there is much less expectoration."

In one case of chronic laryngitis there was decided improvement after only a few days' treatment.

In my case of paralysis of the tensors of the vocal cords, and in one also of chronic pharyngitis, decided amelioration was shown after a time, owing to the use of the perforated metallic inhaler.

DISCUSSION.

Dr. F. C. Shattuck, of Boston, said the paper confirmed him in certain views concerning antiseptic inhalations which were partly preconceived and partly based upon experience. Some years ago, when antiseptics first began to be used by inhalation, he administered them to certain patients. He found carbolic acid to be very disagreeable; it was difficult to induce patients to wear the inhaler containing it. He could not say whether or not they were of any benefit, but perhaps he employed the inhalations too strong, and possibly under other circumstances the results would have been better. Certainly it was very desirable to get something which would simply allay cough. If by means of such simple remedies as these inhalations we could diminish cough and irritation, we should certainly do our patients a great service, and the service was no less if it enabled

us to dispense, even only to a degree, with the use of opium. Dr. Hassall's book upon the subject of inhalations was a very interesting one, but his statement of the case seemed pretty strong. If one put a few drops of an antiseptic, say of carbolic acid, thymol, creasote, etc., on a sponge, and found at the end of two hours' inhalation that three quarters of the remedy could still be detected in the sponge, certainly the amount of the drug which could have effected an entrance into the lung must be very small. That, it would appear, was reasonable ground on which to distrust this method of treatment. Acting upon these observations, Dr. Hassall had constructed his inhalation chamber, and it would be interesting to see what would be the practical working of it.

Dr. Boardman Reed, of Atlantic City, inquired of Dr. Robinson whether he had used ether or cocaine by this method of inhalation. It had occurred to him that, inasmuch as these agents had been found so valuable in other directions, they might also prove valuable when inhaled in allaying cough, particularly laryngeal cough.

Dr. P. Kretzschmar, of Brooklyn, thought the tables referred to only went to show that there had been a change in the condition of the sputa after the use of the inhaler.

Dr. B. F. Westbrook, of Brooklyn, thought the benefit which Dr. Robinson had produced with this mode of treatment could be referred to two factors: First, the favorable influence upon the mucous membrane of the upper respiratory tract of an atmosphere kept constantly at the same temperature. This every one knew to be a very important matter in irritations of the respiratory apparatus. It was known that cough, especially when violent, almost always had its origin in the trachea or above it, although possibly in the bronchi, and a continuous supply of uniformly warm, moist air undoubtedly had a very soothing effect upon this part of the respiratory tract. Besides, balsamic vapors, which Dr. Robinson had employed, when inhaled even in very small quantities and for some time, had a very markedly soothing and beneficial effect upon the irritated membrane. It seemed to him that the allaying of the nasal and post-pharyngeal catarrh, the laryngitis, and the bronchitis, would account for all the good results which Dr. Robinson had observed. Anything which would give the consumptive rest would increase his appetite, improve sleep, and prove of benefit to his general bodily condition. Furthermore, Dr. Robinson had given his patients cod-liver oil, malt, and such agents as would improve general nutrition. Dr. Westbrook did not think that irritation at the apex of the lung would be more likely to produce cough than irritation of any other portion of the lung. At least he knew of no proof of it. Dr. Robinson had mentioned congestion and œdema of the base of the lung as not being accompanied by cough, but it was also very well known that pneumonia of the apex was not accompanied by cough, while the withdrawal of a sufficient amount of pleuritic effusion to exert considerable influence upon the lung usually led to violent coughing. He therefore thought it hardly warrantable to say that irritation at the apex was peculiarly liable to produce cough.

The President (Dr. A. L. Loomis) remarked that the element of cough in phthisis was a very large one, particularly in the third stage, violent paroxysms occurring as the result of pleuritic adhesions. One often saw cases in which the only evidence of phthisis was the presence of fine crepitation at the apex or some other portion of the lung, and yet the patient was a sufferer from the most violent paroxysms of coughing, without there being apparent physical signs in the bronchial tubes or upper air-passages. His experience with inhalations had led him to believe that they were of use only so far as they acted as anodynes to the upper air-passages. He, perhaps, was prejudiced against their use, for his experience with them had been somewhat unfortunate. Their use had in a few instances been followed by profuse hæmorrhage. He would not say that the inhalations caused the hæmorrhages; he would only say that two or three cases, occurring at short intervals, had led him to be careful.

Dr. Robinson, in closing the discussion, said, in reply to Dr. Reed's question, that on one or more occasions he had used a small quantity of ether as an inhalation, either alone or combined with balsamic vapors, and he thought it produced some irritation, although it was very volatile. Certainly ether very generally produced more or less irritation, and it was but natural that it should do so in these conditions. He therefore preferred chloroform to ether. As to cocaine, he had not supposed that it would be of any benefit inhaled, and had not employed it. He had, of course, used it as a spray or with the brush in troubles of the respiratory tract. As to the susceptibility of the upper portion of the lung to irritation and the production of cough, of course he could not prove the point positively. He had concluded, from examination of the sputa in these cases, that they had come at least as far as from the lung structure, and, with the physical conditions present, it seemed fair to suppose that they came from the air-cells. It had been stated in the discussion that benefit from the inhalations was due to allaying irritation in the nasal cavities, larynx, pharynx, and trachea. He too thought that we should seek to know the real source of benefit derived from our treatment. He had only stated that in the use of inhalations we should, as far as possible and without causing undue irritation of the respiratory tract, make the air inhaled as pure as we could. That was what he had endeavored to do, and he had employed small quantities of the drug because large amounts caused irritation. If wealthy persons went to pine regions and to the Adirondacks in search of pure air, with the expectation of being benefited thereby, it was but natural to suppose that the poor of New York city would be benefited by placing themselves in a condition approximating as nearly as possible the surroundings of such regions. While he agreed with the president that in a great many cases pleuritic adhesions might be the cause of cough in phthisis, yet his observation had not led him to believe that they occurred as frequently as many authorities had stated. He thought the irritation often centered in the lung itself, and was frequently allayed by favorable atmospheric conditions reaching the lungs themselves.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

The Climate of Canada, and its Relations to Life and Health. By W. H. Hingston, M. D., D. C. L., L. R. C. S. Edin., etc. Montreal: Dawson Brothers, 1884. Pp. 266.

The Middlesex Hospital. Reports of the Medical, Surgical, and Pathological Registrars, for the Year 1883. London: H. K. Lewis, 1885. Pp. 544.

Le Peronospora Ferrani, agent infectieux du choléra, et la vaccination cholérique. Par le Docteur Duhourcau (de Cauterets), etc. Avec planche gravée. Toulouse: Edouard Privat, 1885. Pp. 23.

Cholera and its Relations to State Medicine. By S. Oakley Van der Poel, M. D., LL. D., etc. New York: The Society of Medical Jurisprudence and State Medicine, 1885.

Miscellaneous Reprints. By James Craig, M. D., Jersey City, N. J.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.
NEW YORK, SATURDAY, AUGUST 1, 1885.

THE INTERNATIONAL MEDICAL CONGRESS.

With admirable self-control, the profession refrained until after the new committee had done its work from giving vent to the widespread indignation that the action of the American Medical Association at New Orleans gave rise to. In the same issue in which we gave the proceedings of the New Orleans meeting we sharply rebuked its course in the matter of the Congress, and shortly afterward the "Journal of the American Medical Association" characterized it as "of questionable propriety." We insisted at the time that the movement for a reorganization had its rise in the bitterness of personal disappointments, and not in any genuine feeling that the original committee had acted otherwise than in the true interest of the Congress. But, as we have said, the profession at large reserved its judgment until after the work of the new committee had been made known, although it had all along been difficult to see how that committee, practically only a ministerial body, could accomplish anything in palliation of the destructive course that had been entered upon at New Orleans. Any lurking hope of this sort that there may have been was seen to be groundless when the results of the Chicago meeting were learned, and the profession in most of the great cities were prompt to express their condemnation. So rapidly did the new nominees in one city after another—Philadelphia, Boston, Baltimore, Washington, and Cincinnati—declare that they would take no official part in the Congress under the new organization that it became evident that the undertaking was doomed to ignominious failure unless a complete reversal of the New Orleans action could be secured. We have for some time been convinced that nothing short of that would satisfy the profession and restore any reasonable hope for the success of the Congress. We have felt, too, that this end was most likely to be accomplished by getting as full and prompt an expression as possible of the feelings of the profession. Of late it has looked as if these withdrawals, which at first threatened to confirm the wreck of the Congress, would really lead to the radical remedy we have mentioned, and also to the far more important result of lifting the American Medical Association out of the low position it has brought itself to occupy.

The new organization still has its defenders, however. They are no longer confident, and they have been put on the defensive; but it is evident that they will not give up their undertaking until they are compelled to do so. The tenacity of their purpose is shown by their latest tactics. Realizing the effect that is sure to be produced by a continuance of such action as that taken in Philadelphia and the other cities that we have mentioned, and the informal action taken by individuals elsewhere, they are now trying to persuade those who have not yet declined not to do so. They hold out the consideration that it is unnecessary and quite out of character for a man to decline a position until he has been officially notified of his appointment. As the secretary can take his own time about notifying the appointees, it is evident that, in case he avoided sending out notices, and the appointees could be made to take the advice mentioned, they would have the game in their own hands. It is nearly a month since the appointments were made public, and it seems to us that any of the appointees who hesitate to declare their intentions, simply because they have not been officially notified, can only be compared to the man who, seeing a man drowning, refrained from interfering, on the ground that he had never been introduced to him.

Another device to which they are resorting is that of affecting to look upon the dissatisfaction that has been expressed as not really due to their revolutionary scheme of reorganization, but simply to the unpopularity of the secretary, Dr. Shoemaker, and it is hinted that that gentleman will be induced to resign, with the result of calling back those who have declined, and restoring harmony. It is needless to say that nothing could be more absurd than the pretense that Dr. Shoemaker's unpopularity, in case it exists, is at the bottom of the serious action that has been taken. It is little short of ridiculous to bring forward so paltry a matter as being the cause of so important a step. But, even if there were any truth in it, Dr. Shoemaker is not the man to allow himself to be cast overboard as a Jonah. We must conclude, therefore, that the petty nature of all that can be said in favor of the reorganization augurs well for the hopes of those who recognize that nothing but its overthrow can save the Congress.

DEMAND AND SUPPLY AS APPLIED TO PHYSICIANS.

The constant tendency of our teaching bodies, quite independently of the urging that has come from the profession at large, and the striving of the latter, wholly apart from any demand on the part of the community, toward improvement in medical instruction are as gratifying as they are evident. We believe that within certain limits the matter may safely be left to these agencies. Therefore we have never looked upon proposed legislative enactments bearing upon it as quite the panaceas that their authors have seemed to believe them. We have insisted that a uniform standard of the qualification to practice, whether high or low, was impracticable under existing circumstances. If too high, it would reduce the number of practitioners below the force needed in a sparsely settled country; if too low, it would not meet the fair demands of the older sections.

That the first of these contingencies is not altogether imaginary is beginning to be found out even in so compact a community as that of England. The "Medical Times and Gazette," of London, lately said: "Assuming for a moment, what might perhaps claim to be more than a mere assumption, that the well-meant strictness of the Medical Council is really cutting off

the supply of qualified practitioners in poor and distant neighborhoods, and throwing their inhabitants into the hands of quacks and herbalists, who is there to warn the Council of this result?" It is doubtless a source of annoyance to a man who has spent all the time and money that could be spent to advantage in attaining to a thorough mastery of the medicine of the present day to be classed by the community only as one among little short of a hundred thousand possessors of the degree of M. D., and it is no less an annoying and humiliating circumstance that foreign critics almost invariably hold up our weaker educational institutions as specimens of what we are able to produce. All this is inseparable from the young and undeveloped state of the country, and it should be endured with resignation, as a sort of sacrifice to "the greatest good of the greatest number."

It has often been said to our discredit, and often complained of by the unsuccessful among us, that the proportion of the medical body to the population was far in excess of what was to be found in other countries. We have before expressed the conviction that this excess had not the same significance that it would have in a densely peopled country, and we believe that the great numbers of "young doctors turned out" every year, as the phrase runs, are not an unmitigated evil.

MINOR PARAGRAPHS.

AN INJUSTICE TO A DISTINGUISHED PHYSICIAN.

The "Medical Times and Gazette" gives a summary of a statement by Professor Warlomont, of Brussels, a distinguished ophthalmologist, and a man well known for the energy and ingenuity he has displayed in the study of animal vaccination, as well as for his admirable report on the famous Louise Lateau case. The story was published in the "Presse médicale belge," and it sets forth the circumstances of an injustice to which Dr. Warlomont has been subjected. He has been dismissed arbitrarily from the post of director of the Ophthalmological Institute, the only reason given being the fact that the state of his health had made it necessary for him to go abroad for a few months during the past year, for which he had obtained the permission of the authorities. During the thirty years of his service he had never before been a week at a time away from his post. The managers superseded him by abolishing his office. The pension to which he was entitled was refused him on the ground that it could only be gained by a person who had attained the age of sixty-five years. He lacks less than a year of having arrived at that age, and it looks as if his dismissal had been abruptly and hastily brought about, as our contemporary intimates, with the intention of depriving him of this acknowledgment of his services.

NEWS ITEMS, ETC.

The Plymouth Epidemic.—The memorable epidemic of typhoid fever at Plymouth, Pa., is now announced to have so far subsided as to be practically at an end. The relief committee has discontinued its work, and the hospital was to have been closed yesterday.

Chicken-pox mistaken for Small-pox.—That unsavory suburb commonly known as Hunter's Point, but which rejoices in the high-sounding corporate name of Long Island City, seems likely to have a suit for damages to defend, according to the newspapers, as it is alleged that the authorities ordered the removal of a man who seemed to have small-pox to the hospital on North Brother Island, where it was discovered that he was only suffering from chicken-pox. He was kept in the hospital eleven days.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 28, 1885:

DISEASES.	Week ending July 21.		Week ending July 28.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	0	0	1
Typhoid fever	10	2	16	6
Scarlet fever	40	14	29	6
Cerebro-spinal meningitis	4	3	2	1
Measles	48	8	34	8
Diphtheria	59	23	34	21
Small-pox	2	0	1	1

The Health of Connecticut.—We learn from the June report of the secretary of the State Board of Health, Dr. C. A. Lindsley, that the death-rate of ten cities in the State was 16·6 in 1,000, against 18·6 for the month of May. Hartford and Norwich, however, showed 23·4 and 20·4 respectively. Dr. R. M. Griswold, of North Manchester, reports an endemic of quinsy, laryngitis, and bronchitis as manifestations of malarial poisoning.

Sir Guyer Hunter is reported, says the "Medical Times and Gazette," to have been selected as a candidate for a seat in Parliament.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 19, 1885, to July 25, 1885:*

Elbrey, F. W., Captain and Assistant Surgeon. Sick leave of absence further extended four months on surgeon's certificate of disability. S. O. 162, A. G. O., July 17, 1885.

Strong, Norton, Captain and Assistant Surgeon. Ordered for temporary field duty with battalion of 8th Cavalry at Hillsboro, N. M. S. O. 34, Headquarters District of New Mexico, June 27, 1885.

Everts, Edward, First Lieutenant and Assistant Surgeon. Ordered for duty as post surgeon, Benicia Barracks, Cal. Par. 3, S. O. 70, Department of California, July 15, 1885. (Modifies Par. 2, S. O. 68, C. S., Department of California.)

Winne, C. K., Captain and Assistant Surgeon. Ordered for duty at Benicia Arsenal, Cal. Par. 3, S. O. 70, Department of California, July 15, 1885. (Modifies Par. 2, S. O. 68, C. S., Department of California.)

Society Meetings for the Coming Week:

Monday, *August 3d:* Utica, N. Y., Medical Library Association; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Chicago Medical Society.

Tuesday, *August 4th:* Elmira, N. Y., Academy of Medicine; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Hudson County, N. J., Medical Society; Hampden District, Mass., Medical Society (Springfield); Androscoggin County, Me., Medical Association (Lewiston).

Thursday, *August 6th:* Society of Physicians of the Village of Canandaigua, N. Y.

Saturday, *August 8th:* Miller's River, Mass., Medical Society.

Letters to the Editor.

THE INTERNATIONAL MEDICAL CONGRESS.

University of Michigan, *July 27, 1885.*

To the Editor of the New York Medical Journal:

Sir: Please add our names to the list of those gentlemen who have already declined to serve as officers in the organization of the International Medical Congress as now arranged by the second enlarged committee of the American Medical Association at their recent meeting in Chicago. In taking this step we do not intend to criticise the committee for their action. On the contrary, we think that, handicapped as they were, they did their work remarkably well. But we do object to the action of the American Medical Association at the New Orleans meeting in introducing into the question of the organization of a congress for scientific work an element that has no more pertinency to such a purpose than the matter of a man's religion or his politics. Very respectfully, etc.,

E. S. Dunster, M. D.,
Henry Sewall, Ph. D.

THE INTERNATIONAL SANITARY CONFERENCE AND THE DISINFECTION OF RAGS.

To the Editor of the New York Medical Journal:

Sir: In justice to me, I trust that you will publish the following letter, which I have just written to the "New York Times," in your next issue.

"To the Editor of the 'Times':

"Sir: In your issue of July 22d, under the heading 'The Importation of Rags,' I find the following:

"'The frequency with which inaccurate statements have been made concerning the disinfection of imported rags is somewhat extraordinary. Several days ago the "Times" called attention to a letter from Rome, published in a Philadelphia medical magazine, which purported to give the report agreed to by the Committee on Disinfection appointed by the International Sanitary Conference. The letter in question contained the following clause:

"'"V. Disinfection of merchandise and of the mails is unnecessary (steam under pressure is the only reliable agent for the disinfection of rags—*les chiffons en gros*)."

"'The "Times" suggested that probably the words were interpolated by the writer of the letter. A few days thereafter Dr. George M. Sternberg, the American delegate to the conference, and the same gentleman who was employed as an expert by Health Officer Smith to make some tests of disinfecting processes in Brooklyn, sent a note to the "Times" denying that the writer of the letter had interpolated the words in question. A gentleman in this city who is interested in the importation of paper stock wrote to Dr. Koch at Berlin for definite information on this point, and yesterday he received a cablegram stating that no such words as those quoted in parentheses appear in the report of the committee.'

"The subscriber has nothing to do with the fight between the paper manufacturers and the health officers who insist upon the disinfection of rags from cholera-infected countries, but must request space in the 'Times' to defend himself from the grave charge made in the above-quoted paragraph.

"What the gentleman *interested in the importation of paper stock* wrote to Dr. Koch I do not know, but that Dr. Koch should deny that the words referred to are a part of the report of the Committee on Disinfectants is incomprehensible, and can only arise from some misunderstanding on his part.

"I inclose herewith a copy of the report of the Committee on Disinfectants which was printed in Rome and distributed to all of the members of the Conference. The correspondent of the Philadelphia medical journal referred to has given a very good translation of Article V, which in the original is as follows:

"'V. La désinfection des marchandises et des colis de poste est superflu (La vapeur sous pression serait le seul moyen si on voulait désinfecter les chiffons en gros.)'

"The same wording will be found in the report of the committee as adopted in *procès-verbal* No. 10, page 3; also in the *Relevé des conclusions*, page 16.

"A copy of the proceedings, printed in French and brought by myself from Rome, is on file in the office of the Hon. T. F. Bayard, Secretary of State, and another copy in that of the Surgeon-General, U. S. Army."

George M. Sternberg, *Major and Surgeon, U. S. Army, Delegate to International Sanitary Conference.*

Proceedings of Societies.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Twenty-first Annual Session, held at the Pequot House, New London, Conn., Wednesday and Thursday, July 15 and 16, 1885.

(*Concluded from page 105.*)

Two Cases of Congenital Paresis of the External Rectus were reported by Dr. Harlan, who also exhibited and described Borek's sphero-cylindrical lenses.

The Removal of a Piece of Steel from the Lens with the Electro-Magnet.—Dr. J. L. Minor, of New York, reported a case in which the shank of a strabismus-hook was touched to an electro-magnet, thus making it a magnet. The extremity of the hook was then carried into the lens, and the piece of steel at once attached itself to it and was removed. Thirteen days later the eye had recovered from the operation. The lens had not yet been removed.

Removal of an Epithelioma of the Eyelid by Applications of Benzol and Calomel.—Dr. A. Mathewson, of Brooklyn, reported the case of O. D., a laborer, fifty years of age, who was seen October 3, 1881, with a tumor on the right lower lid. This first appeared as a warty growth three years previously. Of late it had been rapidly growing, and presented a raw granulation surface. Careful examination by an expert showed it to be undoubted epithelioma. It was treated by frequent dustings of calomel, after brushing the surface with benzol. The tumor entirely disappeared until a few months ago, when a granular spot appeared at one edge of the site of the former growth. This disappeared under a renewal of the same treatment.

Lipomatous Ptosis.—Dr. H. S. Schell, of Philadelphia, reported four cases of ptosis from excessive accumulation of fat in the upper lids. The excessive fat was removed through a horizontal incision. The smallest amount taken away was thirty-five grains, the largest seventy-one grains. The levator regained power in from one to four weeks. In one case it was necessary to repeat the operation.

The Pulsating Variations of Intra-ocular Tension as measured by the Manometer.—Dr. Lucien Howe, of Buffalo, N. Y., exhibited the double manometer described by Grasser and Holzke. In this there was an imperfection in the trocar

which was rather complicated and liable to get out of order. An improvement was accordingly suggested in having a stop-cock attached to a needle of the hypodermic syringe, and this the writer found to serve the purpose much better than any other. The animal best adapted to this class of experiments was the cat, on account of the deep anterior chamber.

In the earlier experiments with the manometer it was noticed that the intra-ocular tension varied with the heart's action. In addition to this, the writer called attention to the fact that these variations in the pressure as indicated by the manometer corresponded to pulsations which could be seen with the ophthalmoscope in the vessels in the interior of the animal's eye. In other words, if the same thing held in the human subject, we must infer that, when pulsation was seen in the interior of the eye, there was also a variation of intra-ocular tension, although not enough to be detected by the touch or by an ordinary instrument. This connection between pulsation and pressure was a demonstration of the cause of venous pulse in the eye as explained by Donders. It was also observed that after the introduction of the needle there was at first considerable pulsation, but after a short time this ceased, the eye evidently adjusting itself to the unusual condition. The experiments referred to were made in the laboratory of Prof. Zunzt, of Berlin.

The Extraction of Chips of Iron from the Interior of the Eye.—Dr. H. Knapp reported nine successive cases in which the electro-magnet was used for this purpose.

These cases were operated on during the past three years and a half. In two the chip of iron was located in the iris, in one for two days, causing inflammation, and in the other for seventeen years, remaining quiet until recently. Both were successfully removed without injury to the eye.

In the seven remaining cases the foreign body was in the vitreous, had produced cataract, and could not be seen. In three cases the attempt to extract them with the magnet failed, and the eyes had to be enucleated. In four cases the chips of iron were brought forth at the first, second, or third introduction of the tip of the magnet. In all these four cases the recovery was uninterrupted. All four were still cataractous. In two the form, size, and tension of the globe were not changed, and the perception of light was good over the whole field. In the two others the globe was slightly smaller and softer and the field of vision defective, corresponding to the wound made for the extraction of the foreign body. There was no irritation in any of the four eyes as long as they were under observation.

The Actual Cautery in Destructive Corneal Processes.—Dr. Knapp cited a number of cases in which its use had been of service, and he considered it a valuable measure.

Thursday's Proceedings.

Pneumophthalmos, or Air in the Vitreous.—Dr. W. F. Mittendorf, of New York, reported two cases, the first of which was that of a young blacksmith who was wounded by a piece of iron penetrating the sclera and lodging in the vitreous. The foreign body, surrounded by a clot of blood, was found at the bottom of the eye. Behind the lens and a little above it, three air-bubbles were seen by means of the ophthalmoscope. These appeared to be of the size of a small pea, the smallest about as large as a rape-seed. They closely resembled the air-bubble as seen under the microscope, their centers being bright and the outlines well defined, and surrounded by a sharp, black border. Their recognition was not difficult. The foreign body could not be removed with the magnet, and it was decided to allow it to remain. The eye was carefully bandaged, and the day following it was found that the air-bubbles had united and were located at the posterior pole of the lens, the patient having remained quietly on his back some time before the examination. While he was in the upright position the air began to rise slowly until it reached the upper part of the vitreous chamber. During this trip the bubble looked oval and decidedly pointed at its lower portion, resembling oil-globules as they are seen ascending in water. Forty-eight hours after the accident every trace of the air-bubbles had disappeared.

The second case was the result of a drilling accident. Quite a large piece of stone or iron had perforated the sclera at the lower and outer part of the eye. In the semi-transparent vitreous an air-bubble of the size of a hemp-seed could be seen distinctly.

In order to determine the exact appearance of air in the vitreous, the writer experimented upon rabbits' eyes. Four of them had air introduced into the vitreous humor by means of a hypodermic syringe, and four were subjected to the introduction of oil, also by means of the hypodermic syringe. Nearly all these experiments were successful. The difference between the air- and the oil-bubble was so marked that they could be readily diagnosticated by means of the ophthalmoscope. The latter were more highly refractive, heavier in appearance, and the contour decidedly darker than the air-bubbles, which were entirely colorless.

The conclusions reached by the author were as follows: 1. The entrance of air into the vitreous body could occur only after a part of the contents of the vitreous chamber had escaped. 2. It was favored by the entrance of a foreign body, which made a large, gaping, irregular wound of the sclera. 3. In order to allow air to enter the vitreous, this must either be quite fluid or its anatomical arrangement must have been disturbed by the entrance of a foreign body, or the air must have been attached to the foreign body and carried with it into the eye. 4. The air in the vitreous humor appeared like an air-bubble as seen under the microscope; it was more or less round, highly refractive in the center, and had a sharply defined black outline. 5. Oil-globules in the vitreous presented a similar appearance, but they looked heavier and were not perfectly colorless, and their outlines were darker; they were also more glittering in the center. 6. Air-bubbles would be absorbed completely within two or three days; their presence was not a source of great danger to the eye. Oil-globules lasted longer, but they were likewise non-irritating.

A Case of Tubercle of the Iris.—Dr. Myles Standish, of Boston, reported the case of a girl, fourteen years of age, who came under his observation with an eye trouble which had existed four weeks. There had not been much pain or photophobia. No specific history could be elicited. During the past winter the patient had suffered with intense epigastric pain and ascites. The iris was attached by its pupillary margin to the capsule of the lens, and presented near its ciliary border a growth 2 mm. in diameter, pink in color, with small vessels on its surface. In the course of a month the growth had doubled its size, the conjunctiva and iris remaining perfectly clear. Other growths made their appearance, and, after consultation with Dr. Wadsworth, the eye was removed at the Massachusetts General Hospital. Examination after enucleation showed the vitreous, retina, and choroid to be normal. The lens was somewhat opaque. The iris was very adherent to the capsule of the lens along its pupillary border, and also beneath the entire area of the principal growth. The largest mass sprang from the surface of the iris near its ciliary border, and at its base was 2·5 mm. in diameter and 2 mm. in height. At the top its diameter was 4 mm. This was apparently due to the pressure of the growth against the cornea. There were three other growths, but none of them involved the ciliary body, or even the ciliary border of the iris. The microscopical examination showed the presence of giant cells and of tubercle bacilli.

Dr. Knapp had seen growths presenting exactly the same appearance which had disappeared under treatment with mercury, even where there was no evidence of syphilis. He had never felt warranted in making the diagnosis of tubercle in such cases, although the presence of the tubercle bacilli in this case would seem to confirm the diagnosis.

A Case of Congenital Coloboma of the Iris, Choroid, etc., was reported by Dr. C. J. Kipp. The patient was a woman sixty-nine years of age. She was first seen four years ago. There were at that time no inflammatory symptoms, but a small triangular coloboma of the iris was found exactly in the vertical meridian. The tension was above normal. The patient had never seen with this eye, but it had never given pain. Four years later the patient was again seen, and the eye presented the signs of inflammatory glaucoma. The pain had prevented sleep for many weeks. The eye was enucleated and healed promptly. There was also found a large ectasia of the sclerotic, and over this the choroid and retina were wanting. The ectasia extended close to the optic papule. There was also a deep, kettle-shaped excavation of the optic nerve.

Coloboma of the Choroid on the Temporal Side.—Dr. S. D. Risley, of Philadelphia, reported the case of a young physician who consulted him for asthenopia. There was a considerable degree of myopia in the left eye. In the right eye vision was much diminished. The ophthalmoscope showed a large hiatus in the choroid on the temporal side, the depth of which was 3 D. There had been no pain. The speaker thought that these cases were comparatively rare.

Gray Degeneration of the Optic Nerve with Abnormal Patella Tendon Reflex.—Dr. William F. Norris made an elaborate review of the literature of the subject, and gave the results of his observations in cases in which the patella tendon reflex was increased or diminished. He described three cases of gray degeneration associated with tabes dorsalis which had come under his observation. While he did not hold that this symptom indicated beginning tabes dorsalis, yet it was a danger signal calling for rest of the brain and cord, with attention to improvement of the general condition.

A Case of Double Optic Neuritis and Ophthalmoplegia from Lead Poisoning complicated with Typhoid Fever.—Dr. O. F. Wadsworth reported the case of a boy nine years of age who had suffered from obscure febrile symptoms for several weeks, and movements of the left eye had been observed to be imperfect. When first seen by Dr. Wadsworth there was pronounced optic neuritis in both eyes. The rest of the fundus was normal. Vision was much diminished. No lateral movements of the left eye could be made, and movement downward was impaired. The outward movement of the right eye was defective. The probable diagnosis was tumor in the region of the pons.

The movements of the eyes became still more impaired and vision sank. The boy developed distinct symptoms of typhoid fever. The spleen and liver were both enlarged. Lead was found in the urine, and the diagnosis of tumor was then abandoned. The treatment was with iodide of potassium. The general condition gradually improved; the neuritis passed into atrophy, leaving too little vision to count fingers. The movements of the eyes were completely restored, and the lead disappeared from the urine. The cause of the lead-poisoning was found to be the presence of a piece of lead pipe in the cistern from which the drinking water was obtained.

Olive-Oil as a Menstruum for Dissolving Cocaine for Application to the Eye.—Dr. Joseph A. Andrews said that the plan of dissolving cocaine in oil seemed to insure a longer contact of the remedy, and a smaller quantity was required to effect anæsthesia—two qualities of special advantage in operations on the eye. Neither the salts of cocaine nor those of atropine were soluble in olive-oil; but both alkaloids dissolved readily in the menstruum without the addition of an acid, it being only necessary to expose the solution for a few minutes to a gentle heat in a water bath.

Enucleation of the Eye for Glaucoma precipitating Glaucoma in the other Eye.—Dr. David Webster reported a case, the patient being a man of fifty-four, the subject of glaucoma absolutum. He complained of periodical obscurations of vision in the good eye, and there was no limitation of the visual field. As he was of dissipated habits, he was advised to live properly. A week or two later he returned, stating that he had had a worse attack. There was detected an excavation of the nerve in the good eye. The glaucomatous eye was now removed. Two days later acute glaucoma appeared. An iridectomy was performed, and he recovered in a week or two, with no cupping of the disc and no limitation of the field.

Quinine Amaurosis.—Dr. E. Williams reported two cases. In the first case a man took about one ounce in the course of four days. This produced total blindness and deafness, but in six weeks he could see as well as ever. The hearing had never completely returned, although the quinine was taken eight years ago. The field of vision was concentrically contracted in both eyes. The optic discs were very white, the caliber of the arteries and veins was reduced, and the smaller capillaries could not be seen.

The second case was that of a boy of fourteen, who had received large doses of quinine, the exact amount not being known. He was totally blind for four days. When examined, the sight was much diminished, the atrophy of the optic discs was extreme, and there was great contraction of the field of vision.

A Means of Measuring the Amount of Anæsthesia from Cocaine.—Dr. Lucien Howe exhibited the drawing of a kymograph, which he had used for this purpose. The use of the instrument was based on the fact that irritation of a sensory nerve was followed by a rise of blood-pressure. The instrument was connected with an artery, and the conjunctiva was irritated. Cocaine might then be applied, and the results on the blood-pressure compared.

Officers for the Ensuing Year.—President, Dr. W. F. Norris, Philadelphia; Vice-President, Dr. Hasket Derby, Boston; Secretary and Treasurer, Dr. O. F. Wadsworth, Boston; Corresponding Secretary, Dr. J. S. Prout, Brooklyn.

New Members were elected as follows: Dr. Charles A. Oliver, Dr. Edward Jackson, and Dr. B. Alexander Randall, Philadelphia; Dr. D. Pope Walker and Dr. William O. Moore, New York; Dr. Frank G. Capron, Providence; Dr. S. M. Burnett, Washington; and Dr. William T. Bacon, Hartford.

The next meeting will be held at New London, the third Wednesday in July, 1886.

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of March 7, 1885.

Dr. F. R. Sturgis in the Chair.

Syphilis.—The Chairman read a paper on this subject. [See page 120.]

Dr. G. H. Fox did not consider that syphilis was the frightful disease that the text-books would have us believe. He also thought the results of its treatment by mercury much overrated, and considered that this drug could be dispensed with without involving any risk to the patient. The value of a remedy in the treatment of any special disease could only be determined when

the opportunities of studying the natural history of the trouble had been taken advantage of, and he did not believe that this was the case with the mercurial treatment of syphilis. Many persons were, too, greatly adverse to mercury, and therefore it had been the custom for a number of years in the New York Dispensary to ask the patient if he objected to its use, and if the reply was in the affirmative, as it often was, they considered that they were authorized in omitting it altogether, taking the liberty of thus carrying out an experiment with the consent of the individual; and this practice in his hands had been free from bad results. He considered that the average case of syphilis was benignant in character, and, given average good health, previous to the inception of the disease, did not believe that it would produce the ravages ascribed to it. He did not care to say that mercury was useless in these cases, but thought it was better to rely upon tonic and hygienic measures than upon the drug alone, and he felt convinced that many patients recovered under this mode of treatment. He knew of several old men who had undoubtedly contracted the disease in their youth and who had completely recovered without the intervention of mercurial treatment. He also thought that when mercury was used the dose should be much smaller than the one usually employed, considering that half a grain of blue mass would accomplish all that could be gained with one to two grains. The treatment of syphilis should no more be based upon a routine plan than the treatment of scarlet fever, and, just as there were some cases of the latter affection so mild as to need no treatment, so there were cases of syphilis that could fall under the same category. It was absurd, in his opinion, to continue a mercurial treatment for two or three years in cases that were really so mild that, if left to themselves, they would end in recovery; but in deference to custom he usually did continue the treatment for six months after the symptoms had disappeared. His opinion was, however, that in the severer forms it was better simply to treat the symptoms as they arose. In the stage of efflorescence iodide of potassium had no curative value and should never be continued for a long period. He considered that great harm could be done by giving too much of this drug, as several physicians had reported cases where the symptoms of iodism were substituted for those of syphilis. Where no good results were noted from the use of this remedy harm was almost sure to follow, and then it would have been much better had the money thus thrown away been expended in beefsteak and country air.

Dr. William H. Porter remarked that his conclusions, deduced from both clinical observation and experience in the post-mortem room, were that, in a very much larger proportion than was commonly supposed to be the case, of the patients suffering from diseases of the viscera, an initial syphilitic lesion could be discovered. This was peculiarly the case with the cerebro-spinal system, lungs, liver, and kidneys. He was decidedly in favor of mercury in the treatment of this affection, but did not consider very large doses of the iodide necessary. It was very necessary to give calomel or podophyllin frequently, however, in order to have a free and frequent action upon the liver; he considered this particularly important in the inherited forms. He was in favor of combining the mercury and iodide of potassium, and had found that the iodide of ammonium had an effect, apparently not from any inherent curative power, but because it seemed to act in very much the same way as trituration did with calomel, increasing the power of the combined drugs so that the same result was obtained from smaller doses than when the ammonium was not employed. He had obtained quite as good results from one sixteenth of a grain of the biniodide of mercury, fifteen grains of the iodide of potassium, and five grains of the iodide of ammonium at a dose, when sixty, eighty, or even one hundred grains of the saturated solution of the iodide of potassium had failed. If by combining these substances a small dose would effect the same result as the larger one, it was of course better.

Dr. G. B. Hope had seen cases of so-called cured syphilis where the initial lesions had disappeared and the later symptoms had been absent for years, but where ulcerations of the throat and larynx existed of such a character as to be at once serious and dangerous. These cases yielded more readily to treatment when internal medication with mercury and the iodide of potassium rather than topical applications was employed. He had found that iodoform could be elegantly prepared, and, when combined with morphine powder and used as a local application, gave great relief.

Dr. D. B. St. J. Roosa remarked that, as his chief interest lay rather in general medicine and surgery than in the specialty into which the circumstances of his life had directed him, he preferred speaking on the subject from that standpoint. He had been particularly interested in the discussion because it indicated that the therapeutics of syphilis was approaching a standard of correctness which was hardly comparable with the iron-clad notions which formerly obtained regarding the efficacy of drugs in the treatment of this affection. If it should ever be his misfortune to be inoculated with this disease, he would prefer to put himself into the hands of a good cook and housekeeper, with country air and plenty of exercise, to trusting to the empirical remedies applied by many physicians whom he could designate. The homœopathic theory, which considered all disease a beast, to be hunted out by some other beast, was not even true in syphilis; neither was it true, on the other hand, that this affection could be successfully combated without recourse to drugs of any kind, for was it not apparent to every one what remarkable results were obtained by the use of iodide of potassium in the late ulcerations of the fauces and throat? In ophthalmology, however, if the patients were in an infirmary, where they could have good and nutritious diet and proper bathing facilities, drugs could be dispensed with, but even then we should not forget that the character of syphilis differed in different individuals. The late Dr. Willard Parker had been accustomed to say, "Study the history of a family before you say a patient is going to die."

The Chairman would recall the instance of a medical gentleman who, troubled with a recurring ulcer of the cornea, had consulted both of them as to whether or no he had syphilis, and it was well, perhaps, to remember that we never found this ulceration in the acquired, although it was very common in the hereditary form.

Dr. W. O. Moore said that at the New York Eye and Ear Infirmary during the past fifteen years one per cent. of all the eye diseases could be traced to a syphilitic origin. Iritis was the most common, forty-five per cent. of those inoculated being affected in this way. Next in the order of frequency was paresis of the ocular muscles, sixty-five per cent. of all these cases being of a specific origin. The muscles most commonly affected were those supplied by the third, sixth, fourth, and fifth cranial nerves. Thirteen per cent. of all the cases of retinitis were specific. The rarer forms in which this infection exhibited itself were: conjunctivitis, nine cases; ophthalmitis, three cases; chancre of the eyelid, two cases; mucous patch of the palpebral conjunctiva, two cases; condyloma of the lid, one case. Hereditary syphilis was the ætiological factor in forty-four per cent. of all the diseases of the cornea, and the clinical fact was well known that the cornea was not affected by the acquired variety except through ulceration propagated by contagious inflammation, as in mucous patches of the lids; but in the hereditary variety it was by far the most common eye lesion.

Dr. Culver considered the Turkish bath a very valuable ad-

juvant to mercurial treatment. In Vienna he had seen from eighteen to twenty-four inunctions effect a cure.

Dr. Porter said that he had never had any personal experience with the Turkish baths in the treatment of these disorders, but it was a well-known fact that all syphilitic processes were removed by increasing the oxidation which consequently caused the excretory organs to be overworked and their epithelium to become cloyed, so to speak. He thought the bath would tend to free them from this effete material, and would be of great aid to the system generally; for the same reason he considered free purgation essential.

Dr. J. M. W. Kitchen had a patient who refused to be treated with mercury internally, and asked the chairman by what method it could be applied by the spray.

The Chairman replied that the usual spray was a preparation of half a grain of the bichloride of mercury to four ounces of water. This was not irritating, but was not in general use, astringents being usually preferred.

Dr. W. N. Leszynsky had used the hypodermic injection of a solution of the corrosive sublimate in four cases, in doses of a thirty-second of a grain, with a little morphine, combined with glycerin and water. The injections were given in the muscles of the back once daily, and in one case thirty-two, in another twenty-four, and in the others between twenty and thirty punctures were made without the occurrence of a single abscess. In every instance there was some burning pain following the injection, but the discomfort was of but temporary duration, and in each instance care was had that the injection should be at least half an inch from the place where the preceding puncture had been made. In all the cases there was a clear syphilitic history, and two of the patients, while under observation, had an eruption, with the fever and headache of the secondary stage. He had never found that the iodide disagreed with an empty stomach, and had been in the habit for some years of giving it before meals, sometimes, however, dissolving it in a little milk. Where a tonic treatment was also necessary, he would give the iodide before and the tonic after meals.

Dr. Charles Henry Brown considered that in by far the largest number of cases the recoveries from syphilis took place in the primary or secondary stage, and that only in the minority of cases did it provoke destruction of tissue and proceed to the exhibition of late phenomena. He did not doubt that many a practitioner had seen suspicious sores that were indurated, accompanied with swollen inguinal glands and other suspicious circumstances, but where the history of contagion was absent, and yet the symptoms were strong enough to lead the ordinary observer to diagnosticate the affection and declare that the patient was suffering with the primary lesions, which diagnosis would not be doubted until the time for the appearance of the secondary lesion had passed without the vestige of any cutaneous blemish.

All writers upon this subject had so emphasized the fact that the secondary lesions had to appear, that, if for any reason they did not show themselves, the suspicious sore would be allowed to pass unchallenged and be considered as simply a local, unimportant affair. This might or might not be the case, for he considered that many primary lesions never went beyond the first stage and were not followed by any secondary phenomena. The chairman had laid it down as an axiom that the primary lesion required only local treatment, and that only after the appearance of the secondary symptoms were we to adopt heroic treatment. He did not doubt that many of those present had seen patients run through their secondary syphilide as easily and as unconcernedly as a child with chicken-pox, provided they did not know what they had and were in good physical condition. The vast majority of acute diseases were treated upon an expectant plan, and we all knew that we could not compete with Nature's modes of treatment; in fact, we could only hope to assist her in her plans. He had been in the habit for two years past of treating this affection, both in its primary and in its secondary stages, without recourse to mercury, simply keeping an eye upon its progress, and when disturbing elements, such as mucous patches, tonsillar or naso-pharyngeal inflammations, etc., appeared, he treated them with local applications, which in the vast majority of cases he found to be quite sufficient. He did not wish to be understood as deprecating the use of mercury, as he considered it one of the giants of the materia medica, and thought that it undoubtedly often did all that was alleged of it, but he was inclined to the belief that its action was often, in this complaint, confounded with the natural limitation of the disease. He also objected to the term specific as applied to the action of drugs, as he thought it implied something mysterious and something not fully understood; if it was necessary to make use of any term, he considered "unknown action" far preferable. The action of mercury was not, however, unknown, and its action in syphilis, as the chairman had remarked, was the same as in any other case. He fully agreed with all this, but thought that we should not stop without adding that it failed quite or nearly as often as it was successful. Was it not possible to call to mind case after case that had not been controlled by mercury? The severe types of this disease needed all that Dr. Roosa recommended, and, if possible, even more. The dietetics and hygiene of syphilis had never received the attention that they deserved, and yet we had to look in this direction for the cure of the severe and otherwise unmanageable cases oftener than to any other method of treatment. The use of the Turkish and Russian baths, electricity, exercise, and tonics should be encouraged in every case. The banishment of syphilophobia, which had as potent a power in retarding recovery as any other agent in the disease, should always engage the attention of the physician. The drug which the speaker preferred was iron. If pain, ulceration, etc., complicated the course of the disease, they should receive local treatment in the shape of oleates and plasters, and calomel dusted on the surface of the ulceration. He considered this method of administration preferable to giving the drug by the stomach, as its action was exerted directly upon the diseased structure. The late phenomena of syphilis were not so self-limited in duration, and demanded more vigorous methods of treatment than the primary, but care had to be exercised in these cases to improve the constitutional condition, and to place the surroundings in as perfect a hygienic condition as possible. He did not consider iodide of potassium capable of exerting any harmful influence upon the constitution, and, in his experience, although it did not work rapidly in lesions of the nervous system, it was wonderfully efficacious in dissipating the late lesions of the disease. Large doses, however, were essential, and he had frequently seen patients who took two hundred grains three times a day without discomfort. In giving such large doses it was necessary that it should be lavishly diluted, two hundred grains to the pint, and from fifteen to twenty minutes occupied in its consumption. Under these circumstances it mattered little whether or not it was taken on an empty stomach. He had never seen any bad effect from these doses, unless the patient refused to take a large amount of water. In the department of nervous diseases they were not in the habit of looking for much improvement until the patient reached one-hundred-grain doses. In cases where there was considerable sclerosis of nerve-tissue the iodide was alternated with nitrate of silver, and in such cases it was noticed that when the patients returned to the use of the iodide the effects were often more marked than in the first instance.

Dr. T. E. Satterthwaite then presented the histories of

three cases which illustrated some unusual symptoms following the internal administration of the iodide of potassium.

Case I. *Following the Administration of the Iodide of Potassium in Moderate Doses.*—On March 6, 1882, I was called to see J. C., who had previously been brought to me through my attendance upon members of his family. I found him suffering from agonizing headache, chiefly of the vortex, and that he had taken large doses of quinine, which had greatly aggravated the symptoms. It was known to me that he had acquired syphilis fully twenty-five years before, that he had contaminated his wife soon after marriage, and that, after many years, she had only succeeded in bringing into the world a delicate boy, who had now arrived at maturity, but was phthisical. I had also been informed a number of times previously that he had refused to take antisyphilitic remedies, because he disbelieved in doctors and medicines. In the present extremity, however, he consented to follow out my recommendations. He was immediately put upon the use of iodide of potassium, in thirty-grain doses, three times daily. After the third day an amelioration of the symptoms was noted, and, as the patient exhibited no phenomena of iodism, the doses were doubled, when almost immediately coma, with paralysis of the upper and lower extremities, set in. In fact, all the indications pointed to cerebral compression. The iodide was immediately stopped, consciousness returned, and with it the paralysis disappeared. With a view of ascertaining whether the iodide was to be credited with producing these remarkable conditions, it was again given in drachm doses, and was followed, as before, by coma, which also disappeared upon the discontinuance of the drug. The late Dr. J. L. Little saw the case with me in consultation during both attacks of coma. Under the iodide, in ninety-grain doses, daily, the patient fully recovered, and was able to resume his occupation.

Case II.—For the notes in this case I am indebted to my friend and colleague, Dr. Porter. J. N. P., thirty-three, England, contracted syphilis in 1870, eight years before the present attack. A year later he married, and his wife subsequently had several miscarriages in succession. The attack here described occurred in May, 1878, and began with a severe cephalalgia. On June 3d following he began to be aware of some paresis of the left side, and had left ptosis. His mental faculties began to deteriorate at the same time. A little later, June 13th, he was put upon the "mixed treatment," to which the iodide of ammonium was added; but, showing no improvement, he was given, June 24th, calomel, one forty-eighth of a grain, every fifteen minutes, which failing, the iodide of potassium, in fifteen-grain doses, was added on the 29th. Through some mistake it was taken at first every fifteen minutes, and how long it was continued at these intervals can not be judged; but two days later, July 1st, he became comatose, and when first seen could not be aroused. The pupils were contracted, sensation over the body was not abolished, the pulse was 80 and strong, and the respiration was 24. Subsequently the coma lightened slightly, and he could be aroused when shaken. Later on consciousness returned fully, and simultaneously there was dilatation of the pupils. As it was not known that he had taken a large amount of the iodide, it was again ordered, and was given, presumably, in fifteen-grain doses every fifteen minutes, in conjunction with the mixed solution before mentioned. On the following day the patient had another attack of coma, and then only was it discovered that these extraordinarily large doses had been given. They were immediately stopped, and the iodide was continued in moderate and gradually decreasing doses until July 7th. He received one sixteenth of a grain of the biniodide of mercury, with ninety grains of the combined potassium salts, six times a day. This amounted to a dosage of two hundred and eighty grains of the iodide of potassium, and the same number of grains of the iodide of ammonium per diem. This was continued without intermission until the 13th, when he was discharged from the hospital greatly improved. In this instance there was no renal lesion, nor was the coma attributable to anything but the potassium salts. It was impossible to determine the amount of the iodide given daily in this case, but it was evidently more than a drachm.

These two cases appeared to represent what had been called by Wunderlich the narcotic symptoms of iodism, among which he mentioned dizziness, diminution of intellectual power, incoherence of ideas, paresis, and even wild delirium, though neither he nor any other writer, so far as the speaker knew, had ever fully described the coma of iodism. The nearest approach to this condition appeared to have been noted by Sir Benjamin Brodie, who described the paralysis of iodism.

Stillé cited the example of a man aged fifty-five under the treatment of the iodide of potassium where trembling of the limbs, a feeling like intoxication, an irregularity of motion, and double vision were experienced. Bumsted and Taylor stated that sometimes the iodide caused an oppression in the head, muscular debility, and sluggishness of the intellect. Other symptoms of iodism had been frequently discussed by writers. The amount taken appeared not to be a matter of much consequence, for in certain persons and under certain conditions the iodide would prove poisonous even in very small doses; thus, Stephen McKenzie had known an infant die of purpura after taking two grains and a half of the iodide ("British Med. Journal," 1880, vol. i, p. 626), and the same fact had been noted by Little (*Ibid.*, April 24, 1880), while Phillips ("Mat. Med.," vol. i, p. 64) cited a case in which one grain administered to a syphilitic patient three times a day produced iodism.

Of a different nature is the following example of profuse salivation and respiratory embarrassment, following moderate doses of the iodide:

Case III.—A. J. N., a young man about thirty years of age, consulted me at my office, December 11, 1883. He was then suffering from supra-orbital, infra-orbital, and maxillary neuralgia, with some intra-cranial headache. For his relief I gave him morphine, the bromides, and chloral, but the removal of the pain was finally effected only by large doses of quinine (forty grains a day). In the following month he developed aphasia, difficulty in articulation of labials and sibilants, and loss of memory. On January 25, 1884, he was put upon the use of iodide of potassium, taking twenty minims of the saturated solution three times a day. Almost immediately he began to complain of a sore tongue, on which account the medicine was discontinued, but profuse salivation ensued and continued to the time of his death, February 4th, coma having set in after an apoplectiform seizure. It may be inferred that the cerebral symptoms in this case were not due to the iodide, from the fact that they developed fully a week after the suspension of the drug, while it is a matter of general belief, on the other hand, that these symptoms disappear on the withholding of the drug. It is equally true in this instance that the soreness of the mouth and salivation, the coryza, the swelling of the face, and the symptoms of obstruction of the larynx gained in intensity between the inception and death; and it is also noteworthy that the paralysis, at least from mercury, is not always arrested by the suspension of the remedy. There was also marked fœtor, as in mercurial salivation. The patient had no renal or cardiac disorder. Dr. J. A. Hegeman, Dr. H. B. McCarroll, and the late Dr. J. L. Little saw the case with me, and it was regarded as singular that the salivation was not arrested, as no mercury had been previously given. Claude Bernard, after taking iodide of potassium, failed to find it in the urine twenty-four hours after, while three weeks later it could be detected in the saliva (Phillips, "Mat. Med.," vol. i, p. 62). It may have been true, therefore, in this case, as it was agreed in consultation that death was due to causes independent of iodism.

During eighteen years of the practice of medicine, he had never before seen or known of such a case, although he was constantly using the iodide, often carrying the dose as high as six drachms per diem.

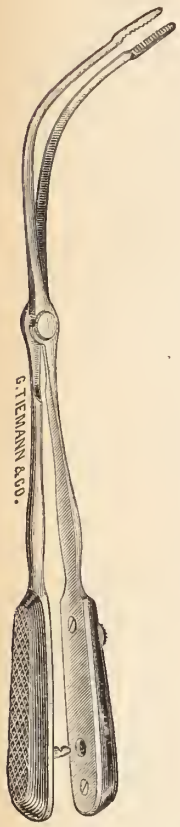
Dr. A. A. Altounyan said that in Turkey he had seen the Turkish bath used in the treatment of this affection. It was usually taken two or three times a week, the patient remaining in the bath for three or four hours at a time and drinking from seven to eight pints of water. Sometimes no medicine at al was used, but mercury was usually administered. Sarsaparilla also had a great reputation.

(*To be concluded.*)

New Inventions, etc.

A NEW UTERINE APPLICATOR AND DRESSING FORCEPS.

By C. N. Dixon Jones, M. D.,
BROOKLYN.



In certain cases in gynæcological practice the ordinary methods of cleaning the part and making application to diseased surfaces have proved so troublesome that I have devised the following-described instrument, which has been manufactured by Messrs. George Tiemann & Co., in order to facilitate the performance of the process.

The instrument is a modification of the well-known throat applicator devised by my friend and instructor, the late Dr. Elsberg. It is essentially a forceps provided with a lock similar to the lock of an obstetrical forceps, in order that the blades may be separated, to facilitate cleaning.

The method of using the instrument is as follows: A bit of cotton is rolled into a wad of the proper size, leaving a firmly twisted projecting portion, which is grasped between the teeth of the forceps without springing the blades; the cotton is then saturated with the appropriate medicament. Thus armed, the instrument is introduced through a speculum and the cotton-point passed through the os tincæ into the uterine cavity, and the medicament brought into contact with the parts to be operated upon.

By using a large wad of cotton, the instrument may be used to clean the vagina of mucus previous to intra-uterine medication, or for making application to the vaginal surface.

After using, the instrument is unlocked, the blades are separated, the cotton is shaken off, and the instrument cleaned.

The instrument in my hands has proved itself of great value, and I can confidently recommend it to the profession.

Miscellany.

Recovery after a Fall of nearly Two Hundred and Fifty Feet.—In the "Bristol Medico-Chirurgical Journal" for June, J. Fenton Evans, M. B., relates the remarkable case of a girl, twenty-two years old, who attempted suicide by throwing herself from the Clifton suspension bridge. After she had partially rallied from the shock, the manubrium of the sternum was found dislocated forward, and there were severe bruises of the buttocks and the back of the thighs. The respiration was feeble, and she vomited fluid containing streaks of blood. Albumin and blood casts appeared in the urine, and there was restless delirium for several days. In less than three weeks the girl had so far recovered as to be able to walk without pain, and there appeared to be no permanent injury beyond slight protrusion at the junction of the first and second pieces of the sternum. The author adds the following remarks:

"The height of Clifton Suspension Bridge above the river at low water is about 250 feet, and the time any weight takes to fall that distance is about four seconds (leaving the resistance of wind, etc., out of the question). The time taken by this girl to fall from the bridge was probably much longer, not only on account of the resistance offered by the 'rather high wind' blowing at the time, but also from the nature of her clothes, which are said to have been inflated from below, and thus delayed the descent. She was also reported to have fallen on the buttocks, which statement was supported by the condition of her clothes on admission and the bruises subsequently discovered. A point of some interest is that the patient's memory is now a complete blank as to what occurred after reaching the bridge, although she can remember setting out from home with the intention of destroying herself in this manner. Of the sixteen persons who have hitherto attempted suicide from this bridge this girl alone has survived the consequences of the act; one other was picked up alive and survived twenty or thirty minutes. As far as the writer knows, no case of survival after a fall from a height of 150 feet has hitherto been recorded; this instance of recovery, after a fall of nearly 250 feet, is probably unique."

Tyrotoxicon (Cheese Poison).—We are indebted to Dr. Henry B. Baker, the secretary of the Michigan State Board of Health, for the following abstract of an important paper read by Dr. V. C. Vaughan at the recent quarterly meeting of the board:

It was well known that cases of severe illness followed the eating of some cheese. Such instances were of frequent occurrence in the North German countries and in the United States. In England they were less frequently observed, while in France, where much cheese was made and eaten, these cases were said to occur very rarely. A few years ago the reputation of a large cheese factory in northern Ohio was destroyed by the great number of cases of alarming illness from eating its cheese. Dairymen knew this cheese as "sick" cheese.

A German author had said that the numerous kinds of soft cheese prepared in small families or on small farms were generally the cause of the symptoms, while it was quite exceptional to hear of symptoms arising from the use of cheese prepared in large quantities. Some two years ago a family in Alpene, Michigan, was poisoned by eating cottage cheese; the cheese which poisoned so many in the State last year was made at one of the largest factories in the State, and by an experienced cheese-maker. The old foul-smelling cheeses, such as Limburger and Schweitzer, had never been known to be poisonous.

The symptoms produced by "sick" cheese, as reported by German and American physicians, agreed quite closely, and were as follows: Dryness of the mouth and throat with a sense of constriction, nausea, vomiting, diarrhœa, headache, sometimes double vision, and marked nervous prostration. In rare instances the sufferer died from collapse. As a rule, recovery occurred in a few hours, or at most after a few days. The symptoms of cheese-poisoning and those of sausage, canned-meat, and fish-poisoning were very similar, though death resulted more frequently from the others mentioned than from cheese-poisoning.

The samples of cheese examined had no peculiarities of appearance, odor, or taste, by which they could be distinguished from good cheese. It was true that, if two pieces of cheese—one poisonous and the other wholesome—were offered to a dog or a cat, the animal would select the good cheese. But this was probably due to an acuteness of the sense of smell possessed by the animal and not belonging to man. Indeed, if a person tasted a cheese, knowing that it was poisonous, he might detect a sharpness of taste which would not ordinarily be noticed.

There was no certain means, aside from a chemical examination, by which a poisonous cheese could be distinguished from a wholesome one. The most reliable ready method was probably that proposed by Dr. Vaughan a year ago, and it was as follows: Press a small strip of blue litmus-paper (which can be obtained at any drug-store) against a freshly cut surface of the cheese. If the paper is reddened instantly and intensely, the cheese may be regarded with suspicion. When treated in this way, any green cheese would redden the litmus-paper, but ordinarily the reddening would be produced slowly and would be slight. If the piece of cheese was dry, a small bit should be rubbed up with an equal volume of water, and the paper should then be dipped in the water. Dr. Vaughan did not regard this test as free from error, but as the most reliable ready means now known. Every groceryman should apply this test to each fresh cheese which he cut. The depth of the reddening of the paper might be compared with that produced by cheese known to be wholesome.

Dogs and cats, at least, were not affected by eating poisonous cheese. This was probably due to the fact that they did not get enough of the poison from the amount of cheese which they ate. The pure isolated poison, in sufficient doses, would undoubtedly produce upon the lower animals effects similar to those produced on man.

Dr. Vaughan had succeeded in isolating the poison, to which he had

given the name tyrotoxicon (from two Greek words which meant cheese and poison). It was a product of slight putrefaction in the cheese, which probably occurred in the vat, as the curd had been known to poison a person. By this slight putrefaction, or excessive fermentation, as it might be called, a large amount of butyric acid was formed, and this, in the presence of the casein of the cheese, was capable of developing a poison. Different samples of poisonous cheese contained different amounts of the poison. The same weight of cheese from one cake furnished three times as much poison as that from another cake. The poison was obtained in long, needle-shaped crystals, which were freely soluble in water, in chloroform, in alcohol, and in ether. The smallest visible fragment of a crystal placed upon the end of the tongue caused a sharp, stinging pain at the point of application, and in a few minutes dryness and constriction of the throat. A slightly larger amount produced nausea, vomiting, and diarrhœa. The poison was volatile at the temperature of boiling water, and for this reason even poisonous cheese might be eaten with impunity after being cooked. The substance had also a marked pungent odor, and through the nose one could obtain sufficient of the volatile poison to produce dryness of the throat. This was true, however, only of the isolated poison. In the cheese the taste and odor of the poison were both modified to such an extent that they would not be recognized, as had already been stated.

The first step in the study of cheese poisoning had now been taken by finding out what the poison was. Efforts would be made to ascertain the means for preventing its formation.

Small-pox in Michigan.—At the same meeting of the Michigan State Board of Health at which Dr. Vaughan's report was read, the secretary submitted a summary of the work done during the quarter ending July 13th. Small-pox had broken out in several localities, among them South Haven, where there had been nine cases and one death. The infection had been brought by a German immigrant who sailed from Bremen on the 12th of April, on the Donau, of the North German Lloyd line. He was broken out with small-pox when he reached South Haven, April 27th, and might have been quarantined *en route*. This was another example of outbreaks which a faithfully executed immigrant inspection service, carried on by the general Government, would put an end to or greatly diminish.

The International Medical Congress and the Profession.—The "Medical News" publishes the following preamble and resolutions adopted in Cincinnati:

"*Whereas*, The recent action of the American Medical Association with reference to the organization of the proposed International Medical Congress was, we believe, detrimental to the best interests of the Congress, therefore,

"*Resolved*, That we, the undersigned, nominated members of the Congress, hereby decline to serve."

	P. S. Conner,	J. C. Reeve,
[Signed.]	F. Forcheimer,	W. W. Seely,
	S. Nickles,	J. T. Whittaker,
	Thad. A. Reamy,	E. Williams.

In addition to the declinations that we have before mentioned, the "News" announces those of the following-named gentlemen: Dr. J. Nevins Hyde, of Chicago; Dr. George M. Sternberg and Dr. R. W. Shufeldt, of the army; Dr. E. Van de Warker, of Syracuse; Dr. William Lee, of Washington; and Dr. J. M. Keating and Dr. George E. De Schweinitz, of Philadelphia.

The same journal publishes the following resolution as having been passed at the recent annual meeting of the American Ophthalmological Society:

"*Resolved*, That it is the sense of the American Ophthalmological Society that the action of the American Medical Association at its late meeting in New Orleans, and of the enlarged committee appointed at that time to make arrangements for the International Medical Congress in overturning much of the carefully planned work of the original committee appointed at Washington for the same purpose, was unwise and not to be defended, unless, possibly, upon technical grounds; and this Society hopes that none of its members will indorse the action of the enlarged committee by accepting official positions at its hands."

The "Pittsburgh Commercial Gazette" publishes the following preambles and resolutions recently adopted unanimously by the Allegheny County, Pa., Medical Society:

"*Whereas*, The American Medical Association, at its recent meeting at New Orleans, has seen fit to rescind the action of the original committee adopted at Washington, to arrange for the meet of the Ninth International Medical Congress, to be held in Washington in 1887, and

"*Whereas*, The new committee in its recent action at Chicago has so changed the arrangements for the meeting of the Congress as to insure its failure, therefore be it

"*Resolved*, That the Allegheny County Medical Society disapproves of the action of the Association at New Orleans and of the action of the new committee at Chicago; and further,

"*Resolved*, That the American Medical Association at its next meeting in St. Louis be advised to restore to the original committee, which was appointed at Washington, full power to make all the arrangements for the meeting of the Ninth International Medical Congress."

The Washington Congress in Danger.—Under this heading, the "Medical Times and Gazette," in its issue of July 18th, says: "Those who have looked forward to taking part in the next International Medical Congress, and have counted perhaps on making personal experience of that friendliness and hospitality of which every English doctor who has yet crossed the Atlantic has brought back such golden report—yes, and not only those, but every practitioner to whom the reputation of his profession is dear—will have read with intense surprise, if not distress, the intelligence we published last week, that the Washington Congress is in imminent danger of falling through. We are sorry to announce that our worst anticipations are in process of realization. The leading practitioners of Philadelphia, many of whom were to hold high office in the Congress according to the list distributed by Dr. Billings some months ago, met together on the 29th ultimo, and decided that, as the changes recently effected in the preliminary organization and rules for the International Medical Congress of 1887 'are inconsistent with the original plan and detrimental to the interests of the medical profession in America, and of the International Medical Congress,' they would decline 'to hold any office whatsoever in connection with the said Congress as now proposed to be organized.' This resolution was signed by thirty of the most distinguished practitioners in Philadelphia, including men like Weir Mitchell, Horatio Wood, Roberts Bartholow, Da Costa, Duhring, Goodell, Minis Hays, Leidy, Pepper, W. Osler, Stillé, Tyson, and Yandell. We hear that a similar movement is on foot in Boston, and that it is quite likely that the most distinguished practitioners in that hub of the universe will follow the lead of their Philadelphian *confrères*. And as some of the leading New York men, including Dr. Jacobi and Dr. Lefferts, who were to have presided over sections, have already been deposed from their places, as adherents of the New Code, while Dr. Bowditch, the most respected physician of Massachusetts, has been struck off the list of vice-presidents for his sympathy with that party, it must be admitted that the 'New York Medical Journal' is probably right in describing the outlook for the Congress as 'gloomy.' We can only hope that the sound sense for which our American cousins are so distinguished will prevail, and that the decisive action of the Philadelphia practitioners will rouse the mass of the profession in America to step in and to decide by overwhelming numbers before it is too late that old controversies shall be sunk, that old ill-feeling shall be buried, and that no one shall be allowed to turn partisan spirit into a ladder for his own elevation at the expense of the reputation and good fellowship of the profession to which he belongs.

"We do not wish, and we hope no one on this side the Atlantic will attempt, to revive the memories of the celebrated dispute on the Codes. We believe that the late Dr. Panum, the lamented President of the Copenhagen Congress, distinctly insisted, when the invitation to America was accepted, that the code question should not be raised; and we feel sure that a very large majority of English and Continental practitioners will refuse to cross the water if this understanding is not rigidly kept to. They will feel, too, that if they go to Washington they can only go as the guests of an undivided profession. A Congress from which the most distinguished representatives of American medicine

were excluded or had withdrawn would not be worth going to as a scientific meeting, while the remembrance of the bitterness and heart-burnings which had attended its organization would rob its social distractions of all their charm. It would be like feasting with a man, while his wife, unjustly divorced, stood in the street watching. We can assure our American readers that in the present case the best English sympathies will be with the wife. The men whom English visitors, if they go, will go to see and hear are the very men who have been elbowed out of the Congress. The scientific success of a Congress does not depend on numbers, but on quality. The profession in America is no doubt rich in numbers, as well as in scientific activity, but it is not so rich that it can afford to play all Europe with only pawns on its side of the board.

"We must add a few lines to explain to English readers how the matter lies. The American Medical Association, a body which includes some three thousand of the forty thousand practitioners in the States, appointed a committee of seven to go to Copenhagen in order to express the desire of the Association that the Congress of 1887 should be held at Washington. The invitation was given in the name of the whole American profession, the Association acting to this extent as its spokesman. It was accepted, and the committee were intrusted with full powers to organize and appoint officers of the Congress. They thereupon added to their original numbers some score of the leading practitioners of the States, and issued the programme which has been distributed far and wide. At a recent meeting of the American Medical Association at New Orleans, Dr. Billings reported on behalf of the committee, but a certain section refused to accept the work done, and claimed that the Association had power to revise it, inasmuch as the committee derived its commission from that body. They succeeded in getting a majority to indorse this claim, and induced the Association to strike off the names that had been added to the committee and to replace them by thirty-eight new men, elected with regard rather to their local distribution than to their scientific attainments. The new committee accordingly, with the exception of the original seven, contains scarcely a name that is familiar to English ears. The question of the competency of the Association to act as it had done was submitted to counsel, with the result that it was declared to have acted quite within its powers. The members of the original committee therefore decided to attend the meeting of the enlarged committee held on June 24th and 25th at Chicago, the reports of which have just reached us.

"At this meeting Dr. Beverley Cole, of San Francisco, was elected permanent chairman of the Organizing Committee, and Dr. Shoemaker, whose name is familiar to us as the active advocate of the use of the oleates known by his name, its permanent secretary. A sub-committee was appointed to revise the rules and preliminary organization of the Congress, published at Washington in 1884, and their report and list of officers was subsequently adopted by the committee. The rules, however, have not yet been published, and we can only say that the first rule was so amended by the committee as to guard against the participation of irregular practitioners in the meetings of the Congress. Besides this, the committee removed from their positions in the Congress some twenty-five men, including Jacobi, Loomis, and Lefferts, who have given up the code of the American Medical Association and retired from that body, but who are still met in consultation by the 'old-coders,' and are members of the New York Academy of Medicine. The committee also entirely changed the executive *personnel*, substituting for men whose names are household words with us others whose reputation has certainly not yet crossed the Atlantic, whatever it may do in the future. It also removed the chairmen of sections from membership in the executive committee, and restricted the membership of the Congress, so far as regards America, to members of the Association, or of State and County societies in affiliation with it, and to others nominated by the executive. After these achievements the committee adjourned to meet in St. Louis just before the next meeting of the Association. The above is a very brief abstract of intelligence derived from the American journals and from our correspondents in the States, and, no doubt, from its very brevity, it will appear somewhat confusing to the English reader. The whole affair will look to him, perhaps, very much like a storm in a teapot. He will perhaps, however, be able to realize the dispute a little more clearly if he can imagine the Committee of Council of the British Medical Association having taken the London Congress of 1881 under its entire control, removed all but a few of the leading London men from any share in organizing the meeting, and allowed no one to participate in the Congress but members of the Association. But even that comparison would be misleading, for the English Association represents at least fifty per cent. of the English profession, while the American Association only contains some seven per cent. of American practitioners."

The "Lancet" on the Congress.—In its issue for July 18th the "Lancet" says:

"The Committee of the American Medical Association, appointed to nominate the list of officers and make the arrangements for the Congress which is to meet in Washington in 1887, has made a preliminary report. It confirms the nomination of Dr. Austin Flint for the post of president. This, we imagine, was never for a moment doubtful, and, as the success of the Congress depends in no small measure upon its president, we are glad to know that this element of success will not be wanting at the Washington meeting. Among the vice-presidents we find the name of Dr. E. Oliver Wendell Holmes [*sic*]. We trust some arrangement will be made for him to give an address at the meeting. The Secretary-General is Dr. John Packard, of Philadelphia, and Prof. F. S. Dennis is nominated chairman of the Finance Committee; these also are excellent nominations. The scientific work of the Congress will be conducted in sixteen sections, one of which will devote attention to the work of Collective Investigation."

[When the foregoing was written the "Lancet" was of course not aware that Dr. Packard and Dr. Holmes had declined to serve.]

The Merritt H. Cash Prize.—The chairman of the Prize Essay Committee of the Medical Society of the State of New York, Dr. W. W. Potter, of Buffalo, writes to us that the committee desires to state that the society offers a prize of one hundred dollars, payable out of the Merritt H. Cash prize fund, for the best original essay on any medical or surgical subject. The conditions are: That the competitors shall reside in the State of New York; that all essays offered shall be either printed or type-written; that each essay shall be designated by a motto on the title-page; that in a sealed envelope, attached to the essay, shall be placed the name of the writer and the corresponding motto; and that all essays shall be sent to the chairman on or before January 1, 1886. Dr. Potter's address is 306 Franklin Street, Buffalo.

Dr. Homans's Laparotomies.—Dr. Homans, of Boston, informs us that, in our summary of the paper he lately read before the Massachusetts Medical Society, we were in error in stating the number of his laparotomies as two hundred and seven, the real number being two hundred and seventy.

The British Gynæcological Society.—Dr. R. Stansbury Sutton, of Pittsburgh, Pa., and Dr. F. C. Batchelor, of New York, have been elected to fellowship in the society.

THERAPEUTICAL NOTES.

Coniine in the Treatment of Cough.—The "Centralblatt für die gesammte Therapie" publishes the following formula:

Coniine hydrobromate, Sugar of milk, each..... 15 grains;
Mucilage of gum arabic, a sufficient quantity.

Divide into forty pills, from two to four of which are to be given daily for nocturnal convulsive cough.

Potassium Iodide for the Prevention of Habitual Abortion.—Goshkevich ("Wratsch;" "Brit. Med. Jour.,") remarks that, although the causes of habitual abortion are obscure, syphilis is the best known of them, and on that ground, notwithstanding the general belief that potassium iodide tends to cause abortion, he advises its employment even when no syphilitic manifestations have been recognized. He gives two cases to sustain his position. The fœtal heart-sounds and movements, which had become almost imperceptible, improved under the use of five grains three times a day, and diminished whenever the administration of the drug was stopped. In each case the full period of gestation was completed.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON,

BY AMBROSE L. RANNEY, M. D., NEW YORK.

(*Continued from page 114.*)

ELECTROLYSIS. — When a galvanic current is concentrated within animal tissue by a close approximation of the electrodes, or when, by means of the "polar method" and insulated needles, a galvanic current of high intensity is made to traverse some selected spot upon the human body, there is apt to be a chemical decomposition of the water and salts, and a coagulation of the albuminous elements of the tissue thus acted upon. The salts are then separated into their bases and acids, while the water is simultaneously decomposed into hydrogen and oxygen. The positive pole attracts to it the acids and the oxygen; the negative pole attracts to it the alkalies and the hydrogen. For this reason the insulated needles tend to become oxidized when they are connected with the positive rheophore. They do not become so when attached to the negative rheophore. The free alkalies deposited at the negative electrode are apt, on the other hand, to cause destructive effects upon adjacent tissues. These are greatly in excess of that produced by the oxidation of the metal points of the insulated needles when joined to the positive rheophore.

When we wish to test the strength of the current which we propose to employ for electrolysis, it may be easily done by sending the current through the white of an egg for twenty or thirty minutes. In that time it should coagulate the albumin.

In order to reach the parts upon which we most desire to perform electrolysis, it is often necessary to perforate the skin and the muscles. To do this, needles are employed. They should be insulated with hard rubber, collodion, or shellac, except at their point for one half-inch, and the uncovered part should be gilded, as a rule, in order to prevent its oxidation. They should be from two to five inches long; should be strong enough to penetrate tissues without a liability of breaking; should be as small as is consistent with the current-strength to be employed; and should be so arranged as to enable the operator to adjust them in a handle to which one of the rheophores of the battery may be attached. Ordinary sewing-needles strung on a wire may be employed in treating superficial nævi, tumors, etc., if you lack the instruments specially designed for the purpose. You may shellac them for insulation if deemed best.

It is very important, in some cases, that the insulation of the needles employed be as perfect as possible; and that the tips of the needles be triangular or lancet-shaped, in order that they may penetrate the skin with ease. The needles and handle required can be bought of any manufacturer of electrical appliances.

The battery employed for electrolysis need not be unlike that for ordinary medical purposes. Twenty-four of Grenet's cells will produce a sufficient intensity of current, provided they are freshly filled. Robin's statement that a current of forty-five milliampères is requisite must be based upon a very limited external resistance. It is well to use a battery of greater power than is actually required, so that fresh cells can be added, without breaking the current during the operation, when deemed necessary. Personally, I prefer insulated copper wire for rheophores when performing electrolysis, in preference to the tinsel cords commonly employed for electric applications. They are less flexible than the tinsel cords, but they are vastly superior to them as conductors.

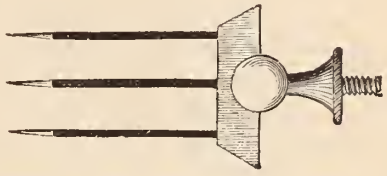


FIG. 37.—ELECTRODE FOR ELECTROLYSIS (with three insulated needles).

Electrolysis has been employed for the following purposes, with more or less success:

1. The coagulation of blood in aneurysmal sacs.
2. The relief of nævi and erectile tumors.
3. The cure of cystic tumors.
4. The cure of goître.
5. The cure of echinococci.
6. The cure of ovarian cysts, and those of the broad ligament.
7. The cure of urethral stricture.
8. The cure of malignant and fibroid growths.
9. The cure of hydrocele.
10. The destruction of the fœtus in extra-uterine pregnancy.
11. The removal of cicatrices, polypi, and other new formations.

Respecting the treatment of large aneurysmal sacs by this method, statistics show that the operation merits more general recognition, as a means of possible cure of intrathoracic and abdominal aneurysms which can not be safely treated by ligation, than it has received. Nine cures out of thirty-seven cases have been collected by Duncan from various sources; and Bartholow has since collected others which have been benefited by it, although not positively cured. In none of these cases, so far as I can ascertain, was the current-strength measured by a galvanometer. There is reason to hope that the operation may become more generally employed when the steps of the procedure necessary to its success are determined with greater exactness. There seems to be a doubt, as yet, regarding the best method both of generating and directing the current, so as to prevent suppuration and secondary hæmorrhage. In two cases of blood-sacs upon the face, intrusted to my care, I have succeeded in consolidating the tumor and effecting its radical cure by this means without suppuration or other complications. I employed the positive rheophore for the needles, and placed the cathode at the nape of the neck in both cases. The duration of the two sittings in each case was about ten

minutes, and twenty-four Grenet cells were employed. I believe that the anode produces the firmest clot; hence the danger of hæmorrhage on the withdrawal of the needles is less than when the cathode is employed. The risk of embolism, as a result of disintegration of the clot, does not seem to be so great as one might at first imagine.

(*a*) (*b*)

Fig. 38.—An Electrode for Electrolysis. The needles are fine and numerous, and are arranged as shown in (*b*). This is an excellent device for effecting the cure of diffused nævi, small glandular tumors, etc.

The employment of electrolysis in cystic tumors of the neck, the ovaries, and the thyroid gland, has been resorted to by many experimenters of note. Among these may be mentioned Althaus, Amussat, Ultzmann, Clemens, Semeleder, and others. Some of the cases reported seem to point toward this method of treatment of these diseased conditions as potent and comparatively devoid of danger if properly carried out.

The *treatment of urethral stricture* by electrolysis I have always heretofore combated—chiefly because I think it less safe and far less certain than gradual dilatation. I must confess, however, that I have had no personal experience in the electrical treatment of stricture; and that my prejudices may be more or less without foundation. My perusal of the reported cures by this method has not, as yet, carried to my mind a conviction of my error. The method seems to me to lack precision, which should, to my mind, form the basis of all surgical procedures within that canal. I am having made for me some modifications of urethral electrodes which I believe will insure greater precision than any yet devised; and I propose to give them a thorough trial.

Ordinary *cases of goître*, and the *enlargement of the thyroid gland which accompanies Basedow's disease*, have been cured by electrolysis. Rockwell and Butler have reported some astonishing results in the treatment of exophthalmic goître by galvanism of the thyroid gland. Rockwell places the cathode over that body and the anode over the solar plexus, combined with the employment of the anode in the auriculo-maxillary fossa and the cathode over the cilio-spinal center (cervical segments of the spinal cord) at each sitting. His cases of reported cure required from fifty to sixty-nine sittings. Needles were occasionally employed upon the goître. This treatment was supplemented by the use of iron, zinc, digitalis, and ergot; and a restricted diet, with instructions regarding the necessity of the repression of the emotions and passions, was enforced.

The *arrest of extra-uterine pregnancy* by electrolysis, and also by shocks transmitted through the sac from Leyden jars charged with static electricity, constitutes, perhaps, one of the most successful and remarkable contributions to medicine. The former method has proved the most reliable. Needles are inserted into the sac and a current is sent through the fœtus of sufficient intensity to destroy life.

The *treatment of cancer* by electrolysis has been followed by satisfactory results in some cases, according to the observations of Beard, Butler, Mussey, and Neftel. The question of accurate diagnosis of the cases reported as cured must still be considered as unsettled. The results apparently obtained should certainly awaken the profession to a trial of this method of treatment of a malady which internal medication, caustics, and the knife seem powerless to combat.

Bartholow reports a cure of four out of six cases of *fibroid tumors of the breast* by electrolysis. The remaining two patients failed to continue treatment for a sufficient length of time. He did not employ needles in any of these cases.

The *relief of hydrocele* by the introduction of two needles connected with the rheophores of a galvanic battery and brought within a half-inch of each other at their points has been reported by Rodolfi, Frank, Bartholow, and others. Some of the cases reported as cured required only one application.

In dismissing this subject it may be well to summarize the effects of electrolysis, as follows:

1. A feeble current tends to cause dilatation of the capillaries and the lymphatic vessels, and thus to aid in absorption.

2. A stronger current decomposes the salts and the water of tissues, and coagulates the albuminoid elements.

3. A disintegration of the tissues immediately adjacent to the pole which produces the effects previously described takes place, with an escape of bubbles of gas, when the decomposition of tissues is active.

4. As an eschar may be formed by a current of great intensity, it is maintained by some authors that the cicatrix which results from such a slough is soft and pliable if the eschar has been made by the anode, and dense, with a tendency to contract, when due to cathodal action. I am unable to confirm or deny this statement.

5. The danger in electrolysis is that of "doing too much" rather than too little. The former error can not be repaired; the latter can by repeated sittings.

6. When an escharotic effect is desired, it is well to have the needles made of zinc. The decomposition of the chloride salts forms indirectly the chloride of zinc, because the liberated chlorine attacks the needle. This is absorbed by the tissues adjacent to the needle, and an escharotic effect is thus produced. In the treatment of malignant growths such needles, with currents of weak intensity, and long sittings, seem particularly well adapted. This method is almost painless, and has produced excellent results in some cases reported.

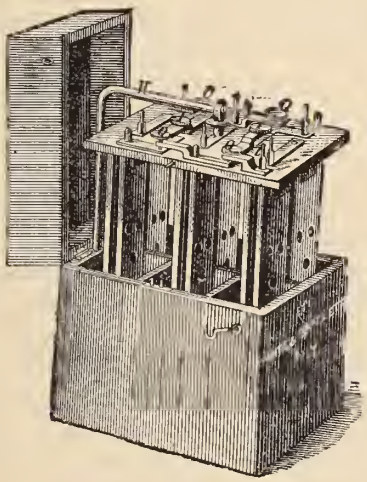
7. The introduction of needles into the tissues is not an absolute necessity when treatment by electrolysis is indicated. The same effects to a lesser degree may be obtained by placing the electrodes in contact with cutaneous or mucous surfaces.

8. The employment of iron needles has been suggested for the rapid coagulation of blood, on account of the styptic effect of the chloride of iron which tends to form by the liberation of chlorine from the chlorides of sodium, potassium, and calcium.

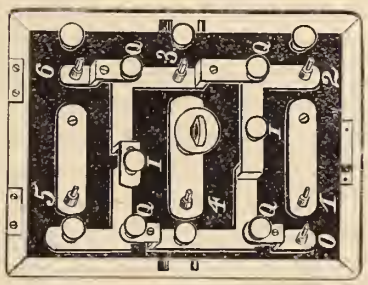
The Galvano-Cautery.—When a large quantity of elec-

tricity is forced through the resistance offered to its passage by a platinum wire or a strip of platinum (usually bent into the form of a knife), the heat produced causes the platinum to rapidly approach redness or whiteness. Such an arrangement is known as a "eautery-loop" or a "cautery-knife." The battery which is employed to generate electricity in sufficient quantity to accomplish such a result is known as a "eautery-battery." In cautery-batteries the plates are large and near together; henee unusual preeautions have to be taken to prevent "polarization," which takes place very rapidly on aecount of decomposition of the fluid in which the elements are immersed.

Of all the devices which have been suggested to overeome this difficulty, I prefer that of Dr. Piffard. In the battery devised by him the zine plates are perforated, so that the fluid can be forced through them upon the platinum plates by means of a rocking motion when the battery is in action. The assistant who operates the battery can produce any degree of heat required by making the plates move slowly or rapidly through the fluid. The key-board of the battery is so connected by means of large thumb-screws that the elements can be connected for either quantity or intensity, as the operator may desire. The rheophores are composed of large copper wire, heavily insulated with rubber.



(*a*)



(*b*)

Fig. 39.—Piffard's Cautery Battery. (*a*) The battery as suspended when not in action. (*b*) Arrangement of the top of this battery, showing the screws which regulate the connections between the different cells. The battery is rocked during its action to prevent extreme polarization. By making the movement slow or rapid, the heat of the loop or knife may be regulated at will.

I have made several improvements upon the original Piffard battery of late, which, in my opinion, will increase the ease of working the instrument. They are not, as yet fully perfected.

It may be advisable to again impress upon you the fact that batteries designed for ordinary medical purposes are totally unfit for heating a eautery-loop or producing an electric light. A battery designed for cautery purposes is also totally unfit for other purposes in medicine.

In operations upon the tongue, nose, pharynx, uterus, vagina, rectum, and in some other regions, the galvano-cautery seems destined to supersede the scalpel and écraseur. No blood need be lost in amputations of considerable magnitude, provided the operation is skillfully performed. If the loop is employed, it is slipped when cold over the part to be removed. It can be adjusted, therefore, with every precaution against accident. After the current is turned on, the heat of the wire even can be regulated with great precision. Care should be exercised against drawing the wire too closely to the handle, and in selecting a wire which will not burn off or prove too large for the battery employed. As in all surgical procedures, this instrument should be handled by an expert. It is well for a novice to practice upon pieces of meat or bone until he familiarizes himself with the details of its use, in case he meditates performing an operation upon a human subject. When operations are to be performed within the mucous cavities of the body, the patient has frequently to be trained to tolerate the necessary manipulation. A dull red heat is preferable to a white heat in dividing vascular tissues, and it is very important that the division be slowly performed. When the skin is to be embraced within the loop, it is well to divide it first with a eautery-knife, and subsequently to adjust the wire.

The eautery-knife has been successfully used in removing cancerous growths within mucous cavities, in tubal pregnancy, in tracheotomy, in extirpation of the breast, and many other similar procedures.

An attachment to the cautery-battery, known as the "dome cautery," consists of a coil of platinum wire over a cone of porcelain. These may be of any size, and the porcelain cone may be omitted if deemed necessary. It may be employed in destroying hypertrophied tonsils, hæmorrhoids, polypi, nævi, epithelioma, etc.

The great advantage which the galvano-cautery has over the use of the knife is the absence of hæmorrhage and of great pain. The platinum knife can be made of any form desired. There is no limit to special forms of attachments which may be devised to simplify its use in different regions of the body.

In operating upon the tongue, needles may be passed through the organ in front of the site selected for the loop, so as to prevent slipping of the wire. Bryant, who has had an extensive experience in this operation, recommends a twisted wire rather than a large one. There is some reason to believe that the heat tends, moreover, to destroy (in the case of cancerous growths) the germs of the disease which might elude the knife.

General Rules governing Electro-Therapeutics.

Before we pass to the consideration of special methods of employing electricity in the treatment of disease, it seems

to me advisable to suggest a few rules which may possibly aid you in deciding where and how to direct your treatment in any special case. There are, of course, some exceptions to each of these rules; but they are, nevertheless, sufficiently accurate to be used as guides in your practice:

1. Soak your electrodes in a weak solution of table-salt, not in simple water. This diminishes the resistance afforded by the skin at least fifty per cent.

2. Always press your electrode firmly and evenly against the part which it touches. This renders the current employed an even one to the patient and assists in its conduction.

3. Put a milliampère-meter or a galvanometer, as well as the body of your patient, into circuit, and record all your observations, respecting the current-strength employed, from its scale. It is neither scientific nor accurate to simply record the number of cells employed. Cells grow weak by long-continued use, by polarization, and other causes. In case a faradaic instrument is employed, a galvanometer is useless; hence you should record the number either of centimetres or inches of the primary or secondary coil employed.

4. Always endeavor to apply one of the poles to the part which is diseased. The plates which I show you indicate the situation of the "motor points" of the head, trunk, and extremities. Such plates will enable you to direct your treatment to any special nerve or muscle.

5. Acquire, by frequent experimentation upon yourself, a knowledge of the effects of different current-strengths, the situation of most of the more important nerve-trunks, the formulæ of contraction of healthy nerve and muscle, and all other information necessary to the use of electricity in medicine.

6. Never use too strong a current upon a patient at the first sitting. It may frighten him, and he may never return. It is always best to begin with weak currents; in the majority of cases weak currents are indicated rather than strong ones.

7. If you have no galvanometer, the intensity of a galvanic current can be approximately determined by the burning sensation produced in the skin by the electrodes when they are applied to it.

8. The "polar method" is more painful when the faradaic current is employed than when the galvanic current is used. It is not well to separate the poles of a faradaic machine too widely; pain is intensified, and no special benefit is gained by so doing. Remember that the faradaic current has no fixed polarity. A galvanometer will record the difference between the current produced by the "make" and "break" of the circuit only; hence it is of no value in determining the intensity of the faradaic current actually administered to a patient.

9. The "polar method" is absolutely requisite to electro-diagnosis when the galvanic reactions of nerve or muscle are being tested. It constitutes the best method also of administering the galvanic current for therapeutical purposes, because it is usually important that the anode or cathode exert its special influence upon the part diseased. The farther apart you place the poles, the less is the effect of the indifferent or neutral pole upon the part which you wish chiefly to influence.

Although clinical experience seems to prove that we obtain different results in the majority of cases by employing the anode or cathode upon the part to be influenced, I am inclined to question the correctness of the view that those effects are in any way dependent upon the direction of the transmitted current. We know that it is not possible to transmit an electric current in any one direction by means of animal tissues. Every current becomes diffused to a greater or less extent, as is illustrated in diagrams prepared by Erb and other authors upon electro-therapeutics. It is probably more correct to view the special effects obtained by employing the positive and negative poles of a galvanic battery as the effects of the poles themselves, rather than the result of the direction of the current.

10. Remember that the anode or positive pole of a galvanic battery is the sedative pole, and the cathode or negative pole is the stimulating or irritating pole. When the cathode is made the indifferent pole, it is well to use a very large electrode.

11. Do not change the polarity of a current during its application to a patient any oftener than circumstances demand. As a rule, it is unnecessary to do so at all. It causes unnecessary irritation, which should always be avoided. In the treatment of neuralgia, diseased conditions of the brain or spinal cord, and painful points, it should never be done without some special reason. It is positively contra-indicated when catalytic effects are desired.

12. When galvanic currents to the head are indicated (especially if the current is to be sent through the brain), employ only those of moderate intensity (save in exceptional cases), and do not reverse the current unless there is good reason for so doing. When you read about thirty-cell currents being sent through the brain, it is safe to suppose that the battery was not of the most active kind, or that the ability of the patient to endure such a current was very exceptional. It is rare to meet with a patient who can tolerate a current of more than from three to six milliampères through the brain, and it is not safe to break currents of high intensity when employed about the head.

13. Static electricity will sometimes produce muscular contractions when faradaic currents will not. In hysterical conditions, some of the spasmodic diseases, sciatica, and organic spinal affections, it is well to try this form of electricity when galvanism fails to afford relief.

14. Respecting the duration of individual applications of electricity in its various forms, my experience teaches me that short sittings accomplish as much, and often more, than long ones. I seldom exceed five or six minutes, unless I am endeavoring to induce catalytic action, to benefit chronic articular rheumatism, etc.; or when I am employing general faradization, general galvanization, central galvanization, electrolysis, the galvano-cautery, or other procedures which require a longer sitting. Frequently, thirty seconds to two minutes is all that is required when some particular part of the body is alone to be galvanized or faradized.

15. It is impossible to lay down any rule which will

guide you in determining the frequency of the applications required by any individual case. It is seldom necessary to employ this agent oftener than every day, and three sittings a week will suffice in the majority of cases. If the disease is of a chronic type, it is often advisable to occasionally discontinue treatment for a few weeks, and then to renew it with vigor. Experience has taught me that the effects of electricity are more vigorous after such intermissions. It is often well to change from galvanic to faradaic, and again to static, currents, from time to time, in the treatment of obstinate diseases which fail to progress satisfactorily.

16. I would advise you to be persistent in employing this agent when your judgment tells you that it is advisable to begin it. Many of the chronic forms of cerebral and spinal diseases are materially benefited and often completely cured by a proper course of electrical treatment which has been followed, with occasional intermissions, for some months during each year for several years.

17. As adjuncts to a course of electrical treatment, you will find massage, baths of various kinds, a change of climate, enforced rest in bed, and judicious internal medication, indicated in special cases. Delicate subjects, who suffer from neurasthenia, hysteria, persistent neuralgias, mental depression, sleeplessness, morbid fears, excessive "nervousness," rapid or extreme emaciation, profuse and persistent sweating of the palms or feet, dyspeptic symptoms, and the thousand other manifestations of debility, are especially benefited by these adjuncts to a judicious use of electricity.

18. When simple excitation of motor or sensory nerves is demanded, the faradaic or static current is the best one to employ.

19. As a counter-irritant, and in the treatment of anæsthesia, dry faradization with a wire brush excels all other electrical applications, unless it be the use of static electricity.

20. In spasmodic diseases, in neuralgia, and other like conditions, galvanism and static electricity are alone of material service.

21. Interrupted galvanic currents are of service when muscular contractions of a forcible character are desired. When degeneration of a nerve exists, these can not be produced by the faradaic current.

22. The size of the electrodes modifies the density of the current directly. When large, the current is less dense because it is more diffused. The cathode should, as a rule, be larger than the anode when electrical applications are being made.

Original Communications.

INTUBATION OF THE LARYNX.

By JOSEPH O'DWYER, M. D.

It was not my intention to publish anything in relation to my method of tubing the larynx in croup and kindred diseases until I had brought my instruments to a greater degree of perfection than I can claim for them at present, but, as several references to this subject have appeared in the journals and reports before medical societies, I have concluded to give the profession a brief account of the progress I have made, with a description of the instruments and the method of using them.

At the time I began my experiments, almost five years ago, and for more than a year subsequently, I was unaware of Bouchut's similar attempt and failure in 1858. His abandonment of any further experiments after such a limited trial as seven cases of croup, treated with very imperfect instruments, must be attributed solely to Trousseau's unqualified condemnation, in his report on this subject to the Paris Academy of Medicine, soon after the publication of Bouchut's cases. Trousseau was at that time strongly advocating the operation of tracheotomy, and, from the brief reports on this subject that I have read, it does not appear that he ever tried tubage of the glottis himself or witnessed its trial by others, but condemned it on purely theoretical grounds.

Bouchut in his experiments used a short cylindrical tube, introduced into the larynx on the end of a hollow sound, to which a thread was left attached and brought out through the mouth, for the purpose of removal. It is reported as having produced an extreme amount of irritation, in some cases necessitating its prompt withdrawal, but, notwithstanding the great lack of conformity between the shape of the tube and that of the rima glottidis, I am convinced from my own experiments that the greater part of this irritation was produced by the constant contact of the silken thread with the epiglottis and base of the tongue. Even in my earliest experiments, and with the imperfect tubes I was then using, I did not encounter any such marked irritation, but, on the contrary, was surprised at the tolerance displayed by the larynx for this kind of foreign body.

In attempting to construct a tube for the larynx, the first serious difficulty encountered was how to make it self-retaining. I could think of nothing more likely to accomplish this result than having it arranged in the form of a bivalve, similar to the bivalve speculum but elliptical in shape, with a narrow transverse diameter and having a shoulder to prevent its slipping into the trachea. This cannula was so constructed that, while being introduced, the blades were approximated and opened as soon as detached from the introducing instrument.

I will not enter into any details concerning my numerous experiments with various modifications of this instrument, except to state that it was always retained and gave prompt but transient relief to the dyspnœa, a return of which was due to intrusion of the swollen mucous membrane between the blades in the infraglottic division of the larynx.

My next trial was made with plain tubes, also elliptical in shape and about one inch long. The reason for having them so short was the belief that longer ones would be difficult to introduce. My first experience with these was in an infant aged two months and twenty-four days, in the suffocative stage of diphtheritic croup. Immediate relief to the dyspnœa, which was extreme, and a refreshing sleep,

followed the introduction of the tube. During the succeeding seventeen hours that it lived, most of which time was passed in sleep, almost a pint of milk was taken through a nursing-bottle. Death took place without any appearance of suffering.

The second case was that of a little girl aged three years and a half, in the service of Dr. J. Lewis Smith at the New York Foundling Asylum, suffering from the most urgent dyspnœa due to the same cause. In the presence of Dr. Smith and Dr. Blodget I introduced a tube with prompt and permanent relief. I removed it on the fourth day, but was obliged to reinsert it at the end of five hours, owing to a return of the obstruction. During an attack of coughing it was expelled on the seventh day, and, although the cough continued croupy for several days, with considerable dyspnœa at times, it was not found necessary to insert the tube again. She made a rapid recovery, with complete restoration of the voice. For the seven days this little patient retained the tube in her larynx she not only made known her wants in a very audible whisper, but kept up an almost continuous chatter with her attendants, the best possible proof that the irritation produced was not great. She swallowed fluids, such as milk, with considerable difficulty, usually coughing after each deglutition, but solids and semi-solids with comparative ease.

From the foregoing cases I was led to hope that these tubes would prove self-retaining without further modification, but in the next case, that of a boy aged four years, a tube of suitable size was expelled almost immediately; a larger followed the same course; the largest size I had, which was much too large for this age, was finally retained. Dyspnœa returned within twenty-four hours, and death took place with apparently as much suffering as if no tube had been used.

At the autopsy, the lower end of the cannula, which extended only into the narrow upper portion of the trachea where the latter unites with the infraglottic division of the larynx, was found obstructed by a thick deposit of pseudo-membrane, considerable of which also existed in the bronchi.

This case proved the necessity for longer tubes, and I procured a set, the largest of which was one inch and a half long, and the smaller somewhat shorter. As these were not retained any better than the former, and I was convinced that still longer ones could be introduced, I ordered a set the smallest of which was one inch and three quarters, and the largest three inches in length. They were constructed in accordance with a large number of measurements of the trachea at different ages, and would reach within half an inch or less of the bifurcation, thus overcoming obstruction in the trachea as well as the larynx. I also entertained the hope that the increased length would prove an important factor in preventing their expulsion, but had serious doubts about the possibility of introducing them. By having the curve on the introducing instrument very short, I experienced no more difficulty in passing these into the larynx than the much shorter ones previously used. In some cases they were retained, but in the majority were promptly coughed out.

The next attempt at overcoming this difficulty was the addition of a wedge-shaped piece of metal to the lateral aspect of the same tubes, half an inch from the upper extremity, with the thick end looking upward, which was intended to hold beneath the vocal cords. This accomplished the desired result, but at the same time retained them so firmly that their removal was rendered very difficult, and, as this would prove an insuperable objection, it was abandoned after a brief trial.

The tubes I am using at the present time differ in every respect, except length and caliber, from any heretofore tried. In order to give greater freedom of action to the epiglottis in protecting the aperture of the tube during the act of swallowing, I have given the upper extremities of these a slight posterior curve, with some degree of obliquity from before backward and upward, and, from my limited experience with them, deglutition is certainly less difficult than with the straight ones formerly used. But, as the epiglottis is only an accessory to the closure of the larynx, and the other more important factor, the action of its constrictor muscles, is prevented by the presence of the cannula, it is evident that the deglutition of fluids can never be perfect with any form of tube in the glottis.

The device adopted for preventing their expulsion consists in increasing the narrow transverse diameter about the center, without changing the caliber, so as to make the tube at this point almost cylindrical, and gradually inclining upward and downward somewhat in the shape of a double wedge. In the few cases in which I have used this modification it has proved self-retaining, and, should it continue to do so on a more extended trial, I believe there will be very little scope for further improvement, except, possibly, to increase the length so that it will reach still closer to the bifurcation, which would be of doubtful utility, as, after a very considerable experience in the dead-house, I have never yet found an exudation thick enough to produce obstruction in the lowest and widest portion of the trachea without at the same time having extensively invaded the bronchial tubes.

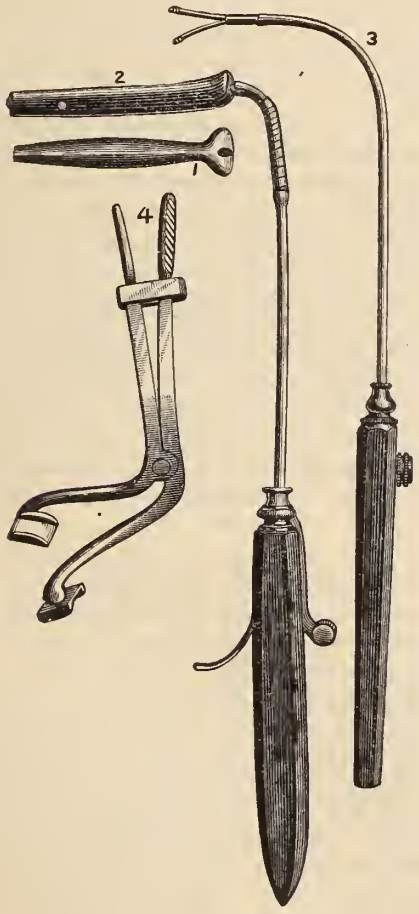
As all my work, up to a very recent period, has been of a purely experimental character, and as I am not prepared even now to say that further modification of these tubes may not be necessary in order to make them absolutely self-retaining, without which they would not be available for general use, I will leave all considerations as to the value of this method of treating croup and other acute stenoses of the larynx to be determined by a more extended trial in the future. At the same time I will venture the prediction that in the near future it will be recognized by the profession as a legitimate and valuable method of overcoming obstructions in the upper air-passages with a rapidity by no other means obtainable.

I believe these tubes will also prove valuable as dilators in chronic stenoses of the larynx or trachea, and particularly in those cases following tracheotomy where it is found impossible to dispense with the tube. Not having had any experience with such, I can give no facts as to the length of time a tube can be worn without injury; but some valuable inferences may be drawn from the time it has been retained

in acute stenosis. For instance, in two of my cases of diphtheritic croup that ended in recovery, the cannula was worn in each for the space of ten days without the slightest impairment of the vocal apparatus, and from this it is reasonable to infer that it would be tolerated in the healthy larynx for a much longer period, and probably, if worn intermittingly, for an indefinite period.

The following is the method of introducing the tube, which is done without the use of an anæsthetic: The child is held upright in the arms of a nurse and the gag inserted in the left angle of the mouth, well back between the teeth, and opened widely; an assistant holds the head, thrown somewhat backward, while the operator inserts the index-finger of the left hand to elevate the epiglottis and direct the tube into the larynx. The handle of the introducing instrument is held close to the patient's chest in the beginning of the operation, and rapidly elevated as the cannula approaches the glottis. As soon as the obturator is removed, and it is ascertained with certainty that the tube is in the larynx, the thread which is attached for the purpose of removal, should it be found to have passed into the œsophagus, is withdrawn, but at the same time the finger is kept in contact with the tube to prevent its being also withdrawn.

Its removal is accomplished in a similar manner; but, as it is difficult, on account of the struggling of the child, to



guide the extracting instrument into the narrow aperture of the tube, I prefer to give an anæsthetic for this purpose.

Fig. 1 gives an anterior view of the tube; Fig. 2, a lateral view of the same attached to the introducing instrument; Fig. 3 shows the extracting instrument; Fig. 4, the mouth gag.

Dr. J. Lewis Smith, in an article on croup, in the April number of the "American Journal of the Medical Sciences," speaks of tubage of the glottis in a manner that would lead his readers to infer that it was a well-recognized operation with which the profession was quite familiar. The only previous attempt ever made to tube the larynx (excluding the use of catheters and long tubes of every kind) with which I am acquainted was Bouchut's, previously referred to, the only result of which was to deter others from trying similar experiments. Dr. Smith's familiarity with this subject, no doubt, arose from our association at the New York Foundling Asylum, where my experiments were almost exclusively conducted.

There are several important points in connection with this subject the consideration of which I shall have to defer to some future time.

The manufacturer of these instruments is H. Keller, of 106 West Thirty-seventh Street.

ON CERTAIN
VASO-MOTOR DISTURBANCES
OF THE NASAL MEMBRANE.*

By WILLIAM C. GLASGOW, M. D.,
ST. LOUIS.

For a number of years my attention has been attracted by a series of cases which could not be explained by the well-known factors of inflammatory process. Resembling them in some particulars, still there are differences which necessitate an additional and independent influence for their production. The laws of vaso-motor action, although still imperfectly developed, would seem to explain them, and the success attending the use of therapeutic agents would seem to verify it. During the last few years the subject of vaso-motor disturbances of the nasal membrane has been very fully developed by several members of this society, and especially by Dr. Mackenzie, of Baltimore, Dr. Roe and Dr. Daly, and our co-laborer, Hack, of Freyburg. I find, however, that my experience of these cases has been somewhat different from that of my *confrères*, and I would aim in this paper to record my views and the conclusions which they would seem to justify. For a number of years my attention has been attracted by a series of cases characterized by great swelling, more especially of the cavernous tissue, a profuse discharge of limpid fluid, and abnormal paleness of the mucous membrane. Formerly, when they occurred during the summer months, I was content to consider them as modified types of so-called hay fever. When, however, I found they occurred during the year irrespective of seasons, I became convinced that there was a different agency from that then recognized as an essential factor in hay fever, *i. e.*, the pollen of Wyman, Blakley, and Phœbus. Dr. Beard's work first attracted my attention to the possibility of a neu-

* Read before the American Laryngological Association, June 24, 1885.

rosis being the chief factor in the disturbance, and gave me my first ideas of what I considered to be the true theory of these cases. Considering the so-called hay fever to be a functional disorder of the nervous system, in which the over-sensitiveness of the nasal mucous membrane occurs, and producing through this certain well-known reflex symptoms and disturbances of the normal vaso-motor action, I can still consider these cases as closely allied, both in ætiology and mechanism, with the so-called cases of hay fever. From a number of cases I have selected three, showing the distinct and different types of nasal disturbance. I would eliminate from consideration another class of cases in which we find neuralgia, especially orbital, supra-orbital, and frontal, occurring as a result of subacute rhinitis; although having many of the pathological conditions found in Case II, still there is wanting the primary neurotic element capable of producing the vaso-motor disturbance.

Case I.—I. W., an Englishman, a merchant, forty-five years of age, was brought to me for consultation by his physician. He was of stout build, somewhat florid, and had been generally healthy. He was suffering acutely with a neuralgia of the superior maxillary nerve of the left side, and complained of great obstruction, with a profuse flow of a clear watery fluid from the left nostril. He stated that this had only commenced with the neuralgia, and had been constant. On examination, the left nostril was found occluded by a swelling of the cavernous tissue; the mucous membrane was colorless in appearance, and seemed to be saturated with moisture which constantly oozed from its surface. The touch of the probe produced instantly an increase of the swelling and an increase of the discharge of the limpid fluid. The right nostril was normal and unobstructed. He was treated by his physician for the neuralgia, and received no local treatment. With the subsidence of the neuralgia the nasal disturbance disappeared.

Case II.—Mrs. P., thirty-two years of age, well developed, healthy, of a nervous temperament, and inclined to hysterical attacks. Has had three children; married eight years. Three years ago she noticed a nasal trouble for the first time, although for many years she had been suffering with follicular pharyngo-laryngitis and naso-pharyngitis. Her first attack occurred during pregnancy, and has been repeated at irregular intervals about four times a year. There is no special dependence upon atmospheric conditions. The attacks usually occur at the beginning or at the close of the menstrual epoch. The first symptom is a violent sneezing, occurring in paroxysms, with a profuse watery discharge from the right nostril. This is soon followed by an intensely painful spot in the right nostril, and by neuralgic pains radiating to the eye and the frontal regions. Congestion of the conjunctiva, lachrymation, and ptosis of the right lid soon follow. The right nostril becomes completely closed, especially toward evening, and there is generally accentuation of all the symptoms. The attack is accompanied by slight fever, with general lassitude and loss of appetite. There is also increase of the general arterial tension, as shown by the pulse, and pronounced accentuation of the second sounds of the heart. About the third day a plug begins to form in the nostril, which completely prevents the passage of air. The plug is of a dense structure. It is elastic and solid, and resembles no other nasal secretion that I have seen. It resembles somewhat a piece of rubber, and the elasticity is well marked on tearing it. The nostrils are now completely occluded by the swollen membrane and the plug, and the probe can only be passed by force. With the removal of the plug relief is given. The walls become less swollen and the nostril opens. During the next twelve hours another plug forms, and we find a renewal of the same symptoms, only in a moderated form. Without treatment this condition lasts ten days, with paroxysms varying in intensity and gradually diminishing toward the end. The nostril is then found in the normal condition, which is that of hypertrophic rhinitis. During the attack the mucous membrane is swollen and œdematous, pouring out quantities of limpid fluid. It is of a pale red, the pallor being in marked contrast to the color of the other nostril. It shows complete occlusion of the nostril, and it is exquisitely sensitive. The slightest contact of the probe causes increased swelling and profuse discharge, with violent paroxysms of sneezing; intense pain is felt radiating from the nose to the orbital and supra-orbital region, and immediate congestion of the conjunctiva is produced. Relief of this condition is most marked by bleeding the opposite nostril. The slightest touch of the knife produces a free hæmorrhage. The touch of the knife to the affected membrane increases the symptoms, and little blood is obtained unless the puncture is deep into the cavernous body. The blood is always pale and watery. The bleeding is then followed by the use of the hot alkaline sprays. By these means the swelling is reduced and the plug can then be blown out. I have also found the insufflation of the vapor of ether to have a very happy effect in promptly reducing the swelling and drying up the mucous membrane; the nitrite of amyl has also produced good effects.

Case III.—Miss S., thirty years of age, healthy, in excellent general condition. Has periodical attacks in the spring and fall of what she calls acute catarrh. When I saw her in March she complained of great obstruction of the nostril, and profuse watery discharge of both nostrils. On examination, both nostrils were found to be occluded by swelling of the cavernous bodies, the mucous membrane œdematous, of a pale color. A watery secretion seemed to be oozing from the mucous membrane and the discharge was profuse. The touch of the probe increased the swelling and the discharge, but produced no pain. A deep puncture in the cavernous body produced a slight hæmorrhage, the blood being very pale and watery. This always opens the nostril. Insufflation of the vapor of ether gave a certain amount of relief. The instillation of atropine into the nostril was also beneficial, as well as inhalations of camphor. These attacks would last about two weeks, and were always shortened by treatment, and the nostril would be left in a normal condition. In this case I found great benefit in the external use, in the shape of liniments, of the camphor chloral, aconite, and veratrine. This liniment was applied to the course of the fifth nerve and over the nose.

These three cases, although resembling each other in some respects, will be seen to be essentially different. In Case I we see the effect on the mucous membrane, the irritation being applied to the body of the nerve. In Case II we notice the effect produced by the irritant being within the nasal cavity in a case complicated by inflammation of the membrane. We find added to the original symptoms extreme sensitiveness and the tender spot with acute pain. The presence of the plug causes a swelling of the cavernous bodies, the swelling only subsiding on its removal. Case III is to me obscure. I have seen several such cases, some of them absolutely resisting all treatment for the reduction of the swelling. It may be due to some derangement of the vaso-motor centers, or some irritation within the nasal canal which has been overlooked. In the three cases, and in all of

this character which I have seen, there are found the three factors of great swelling of the cavernous bodies, abnormal paleness of the mucous membrane, and profuse discharge of the limpid fluid. And in all these cases these symptoms are aggravated by the application of an irritant to the affected membrane. These conditions I will consider to be due to disturbed nerve action, probably altered tone in the minute arterioles, produced by derangement of vaso-motor control. The mechanism which causes the swollen and œdematous tissue, the pale color of the membrane, and the profuse discharge must be explained simply on theoretical grounds; and, in the present state of our knowledge of vaso-motor action, it must certainly still remain problematical. Are the cavernous bodies congested, as has been asserted? Congestion presupposes a dilatation of the blood-vessels, with increased supply of normal blood. Under such conditions we shall find, not pallor, but increased redness. The prominent feature, however, in these cases is pronounced paleness, and this, in my opinion, disproves the possibility of dilatation of the blood-vessels. I would rather assume the opposite condition to exist—a contraction of the arterioles, due to an increased tone of the vessels caused by an augmented action of the vaso-constrictors. In short, the minute vessels supplying the arteries are in a state of spasm through nerve irritation, the general arterial tension is increased, the onward flow of the more solid portions of the blood is prevented, and the cavernous bodies of the mucous membrane become infiltrated with escaping white corpuscles and the liquor sanguinis. To these must be added the liquefaction and the increase of the glandular secretion, as the result of gland stimulation. The theory of spasm of the arterioles is supported by the favorable action of remedies which favor arterial dilatation—such as atropine and nitrite of amyl. In the present state of the knowledge of the laws of vaso-motor control it certainly is hazardous to base a theory on such laws. But the conditions existing in the nasal cavity seem to me to be explained solely by this means. I firmly believe that, whenever the laws governing the vaso-motor system shall be more thoroughly developed, we shall find more of the functional disturbances of the body to be due to disturbed vaso-motor action than is generally believed.

DISCUSSION.

Dr. Roe.—The subject of neurosis of the nasal membrane is certainly a very extensive one, and there are so many different factors which enter into the consideration of the subject, that many times the cause and effect are not properly differentiated. In many cases the nose is the objective cause, and in many cases, no doubt, the subjective cause. There is no reason why the nose may not be affected in a subjective manner, from irritations in other parts of the body, reflected through the sympathetic system, as well as the larynx or other portions of the body. But in the great majority of cases we find the nose to be the primary seat of the reflex irritations. As an illustration of this I will cite a case in point. Last summer, about a year ago, a gentleman came to me with a moderate naso-pharyngeal catarrh. In addition to his throat trouble he had marked pain in his chest, which caused him great anxiety. He suspected that he had a pulmonary difficulty. Careful examination of his chest revealed no trouble whatever. But in his nose there was, in addition to inflammatory trouble, an exostosis of the inferior turbinated bone, which came in contact with the septum. I advised him to have that removed, as the pain might be a reflected one, and as we are often surprised by the great amount of trouble which is reflected from the nose, and also as necessary in the cure of the nasal affection. He consented to the removal, after which, within an hour or two, the pain in his chest disappeared.

Dr. Robertson.—I have noticed in a large number of cases, in subjects of hay fever, this peculiar paleness of the mucous membrane. I think the case just related would naturally come under that subject—*i. e.*, that peculiar condition of the mucous membrane which is due to an irritation of the nervous system. I have such a case in mind who, I consider, had chronic hay fever. She would have paroxysms of sneezing and discharge of watery fluid from the nose. The peculiar paleness of the mucous membrane and the usual hyperæsthesia of the membrane were very marked. The attacks were frequent. They came on during the summer, fall, or winter, but were undoubtedly of nervous origin, because, with any mental disturbance, from going to a party, or to school, she would sneeze twenty or thirty times, and then the watery discharges would take place. This case was treated with spray and with a preparation of eucalyptol, with relief for a few days. I have noticed a number of cases of hay fever in which this condition of the pallidity of the mucous membrane and these peculiar watery secretions were very marked. As far as swelling of the membrane is concerned, it frequently occurs during the early stages of the disease, but gradually subsides. I believe it due to a swelling of the cavernous portions of the turbinated bodies, with contraction of the membrane itself. There might be contraction of the arterioles and capillary blood-vessels of the skin, and still directly underneath the skin, congestion. In the turbinated bodies this would only occur in conditions of disturbance of the vaso-motor system.

Dr. Mackenzie.—I do not propose to reiterate on this occasion all that I have said and written on the subject of which Dr. Glasgow treats; but there is one point in regard to the pallor of the mucous membrane, which is a good one, to which my attention has not been directed before. On the contrary, I have found in my experience that the opposite condition is the most prevalent one. I think with the cases which Dr. Glasgow has described you will allow me to include a number of so-called hay fever, and of these some to which I have ventured to give the name of sympathetic rhinitis. In its pathology two factors enter. The peculiar irritability of the tissue of the nose may be due to different causes: either from some local pathological process, or from a host of other peripheral influences, or from some irritation starting in the nervous centers, or possibly due to some disease of the nervous system as a whole, or from some reflex irritation from its various parts, or, finally, from some disease of a distant organ. In one of my papers on vaso-motor coryza I have called attention to the purely psychical element in the production of the paroxysms. Lately I saw a lady who had been suffering for over fifteen years with certain forms of so-called hay fever. The paroxysms were so violent that she was compelled to take to her bed and remain there in great suffering until it was over. It was unquestionably a case of so-called rose cold. She could not go into a room where roses were without bringing on an attack. She was nervous in the ordinary acceptation of that term, but was not, however, hysterical. I had a perfect artificial rose constructed, of such exquisite workmanship that it was the exact counterpart of the original. I carefully kept this in a clean place in my office behind a screen, and when she was expected I carefully removed every particle of dust from it by a thorough washing. Several days before I had used the galvano-cautery, and when she came

to my office that morning she said she had never suffered so little during the past fifteen years as during the three days prior to coming to my office. After she had been in my office over a quarter of an hour I produced the artificial rose, and, sitting down in front of her, dangled it in my hand, at the same time conversing on some topic foreign to her case. In less than a minute she said she would sneeze. In less than two minutes she had intense itching at the nose, and in less than four minutes from the time I produced the rose from behind the screen the symptoms of asthma had commenced. As soon as the difficulty in breathing had commenced, I removed the rose and told her it was an artificial rose, and her astonishment was of course very great. Four days afterward she came to my office. I produced the most perfect specimen of a real rose, into the center of which I plunged her nose and kept it there a long time. I tried to get all the pollen I could in her nasal chambers, and I think I was fairly successful. I kept it there for about five minutes without exciting the slightest tendency to the so-called rose cold. On the day on which I performed the experiment with the artificial rose she entered my office apparently a well woman, and left it with one of the severest coryzas she ever had. The pallor of the mucous membrane is a point of extreme interest, and worthy of our future consideration.

Dr. Harrison Allen.—I saw a case last winter which illustrated the point taken by Dr. Glasgow. A lady, the subject of Bright's disease, suffered from intense irritation of the nasal chambers, accompanied with absolute occlusion. The condition was undoubtedly due to a constitutional cause, and yielded to general remedies.

Dr. Rice.—I have been pleased with Dr. Glasgow's classification of these cases, for there certainly is great difference in the pathological appearances presented. In some we find all the color of inflammation, and in others the pallor which has been mentioned. In hay fever the inflammatory condition enters more largely than in these so-called "neurotic cases" which Dr. Glasgow has spoken of, the redness and swelling in one case being due to dilatation of the arterioles, while the white, boggy enlargement is caused by the transudation of serum, the capillaries being contracted. I have noticed the different action of cocaine upon these two classes, and it may be made a means of differential diagnosis. In simple inflammatory hypertrophies of the nose we know that the swelling is instantly and completely reduced when cocaine is applied; but in the white swellings little effect is produced in causing absorption of serum.

Dr. Glasgow.—I think the point that the irritation of the cavernous tissue is the primary one is not valid. The swelling is simply the effect, and due to irritation. In the first case I reported we had a beautiful illustration of disturbance without an inflammatory condition. There was profound pallor, such as I have never seen, except in the cadaver. Now, here irritation was increased, and the swelling of the cavernous tissue was simply the effect of this disturbed nerve action. In the second case there was a swelling of the cavernous tissue, due to this same cause. Call it vaso-motor or not, it is a disturbed action due to irritation in the nostril. Remove the plug, and you immediately remove the swelling; so that the swelling could not have been primary, but a secondary effect of the primary nerve irritation. Dr. Mackenzie also beautifully illustrates this fact in his rose experiment. I am a profound believer in this mental influence; but I neglected to mention in my case that the lady could intensify her colds by thinking about them. If she had any little annoyance during the day, toward evening her trouble would be greatly intensified.

The University of Vermont.—Dr. L. M. Bingham, of Burlington, has been appointed Professor of Surgery, succeeding the late Dr. J. L. Little.

TWO CASES OF UNILATERAL TEMPORAL HEMIANOPSIA.*

By CHARLES STEDMAN BULL, M. D.,

LECTURER ON OPHTHALMOLOGY IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE; SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY.

Case I.—*Unilateral Temporal Hemianopsia, with Central Scotoma of the Other Eye.*—Colonel A. D. N., aged sixty-six, a retired officer of the army, was first seen by me on June 28, 1884, and told the following history: In the summer of 1849, while at one of the Government posts on our western frontier, he was struck by lightning as he was standing at the door of his tent. He fell to the ground and remained unconscious for several hours. When he regained his senses, he discovered that he was blind in both eyes; but this condition rapidly improved, so that at the end of a few days he had regained his sight, and in a short space of time had the perfect possession of all his faculties. He remained perfectly well in every respect till 1857, nearly eight years later, when the muscles of the left thigh and leg began to atrophy, and almost simultaneously there appeared a sudden temporal hemianopsia of the right eye. The paresis and atrophy of the muscles of the left lower extremity slowly but steadily progressed till 1859, since which time there has been no change. There has been no change in the field or power of vision in the right eye since the hemianopsia first appeared. He walks with comparative ease, but the muscles of the left leg are markedly smaller than those of the opposite side, and he tires easily on walking. About six months before I saw him he noticed a central obscuration of vision of the left eye, which came on suddenly, and this scotoma has existed ever since, and he thinks has grown larger. He has never had rheumatism or syphilis, has no hypertrophy or valvular disease of the heart, and repeated and very careful examination of the urine has not been able to determine any signs of chronic degenerative nephritis. He has had intermittent fever of the congestive type several times severely, and during the past six months he has had several attacks of fainting, which have occurred without any warning. He has never been addicted to drinking, and for many years has not touched alcohol, but he has all his life chewed and smoked tobacco to excess. He was a man of fine physique, with snow-white hair, but with a rather feeble, cautious gait. On testing the vision, it was found in the right eye $= \frac{15}{30}+$, with no vision on the temporal side of the median vertical plane of the eye. In the L. E., $V = \frac{6}{10}$ eccentrically. A very careful examination of the field of vision was then made, and repeated at each subsequent visit, but all the examinations gave the same result. In the R. E. there was entire loss of the temporal half of the field. In the L. E. there was concentric narrowing of the field and also a central scotoma, which was of an irregular oval in shape, with the long diameter of about 30° vertical, and the short diameter 20° horizontal. An ophthalmoscopic examination showed that the media were perfectly transparent, and oblique illumination proved that the iris was normal in color and reaction. Both optic discs were of a dirty grayish-white, and in the left eye the outline of the papilla was ill-defined and at places swollen, as is met with after a neuritis. In both discs there was a deep, overhung, almost glaucomatous excavation, with pulsating veins, but no pulsation in the arteries. In the L. E., in the region of the macula, was a large, irregular retinal hæmorrhage, of the apparent size of two or three papillæ, with its long diameter vertical and of a different tint in different portions, showing that there had been several extravasations at different dates. The center was evidently the

* Read before the American Ophthalmological Society, July 15, 1885.

oldest in date, and the blood had been partially absorbed, giving here and there a glimpse of white sclera showing through an atrophied choroid. The rest of the fundus in both eyes varied but little from the normal in its appearance. The tests for color-blindness showed that in the L. E. the color-sense was defective for all but blue, while in the nasal half of the field of the R. E. it was normal though sluggish. The tension was normal in both eyes, Fig 1.

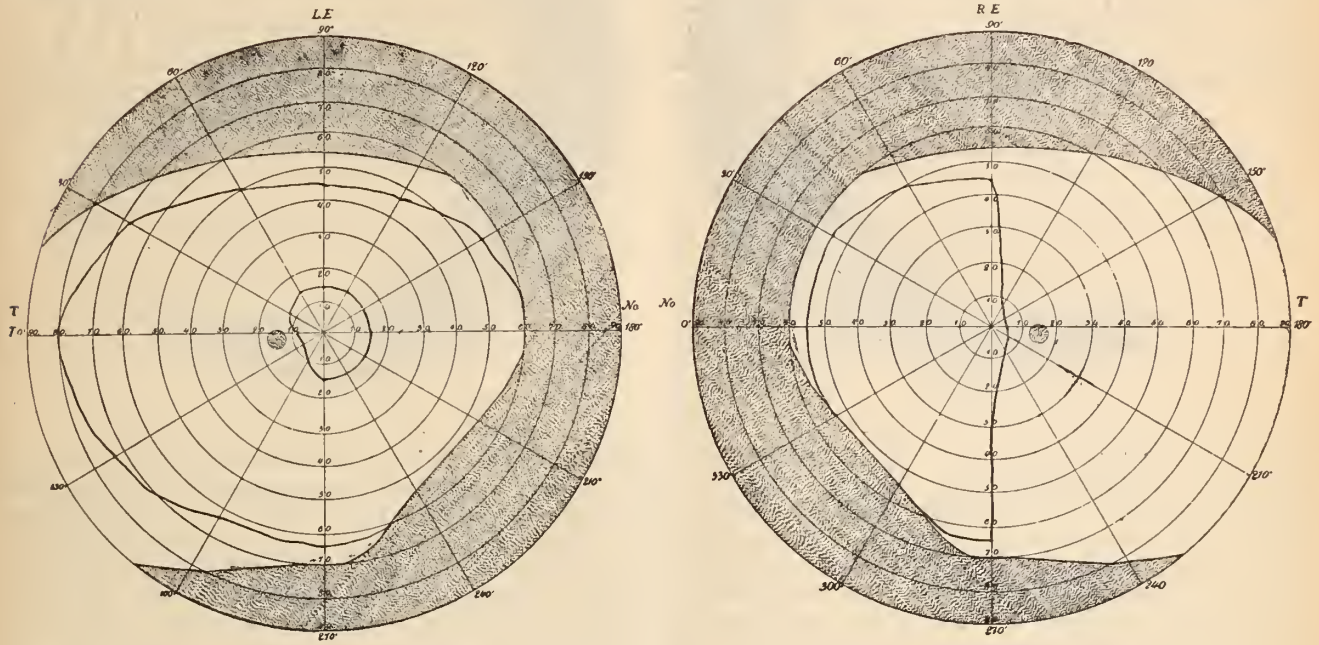


Fig. 1.

Between June 28, 1884, and March 24, 1885, I saw the patient at intervals of three or four weeks, but never discovered any change in the condition of the eyes. On the latter date he complained of seeing what he called a "ball of fire" at times in front of the L. E., of transient duration, which was always followed by a spiral or corkscrew appearance of light, which lasted some seconds. In testing his vision in L. E. at this date, I found that it had risen to $\frac{15}{40}$ eccentrically in the nasal half of the field, but there was no change in the ophthalmoscopic appearances, except a gradual absorption of the extravasated blood in the region of the macula, and no recurrence of the hæmorrhage.

Case II.—*Unilateral Irregular Hemianopsia, with Concentric Limitation of the Field of Vision of the Same Eye.*—Mr. D. W., aged sixty, was first seen by me on March 27, 1885, and gave the following history: On Christmas-day, 1884, while standing on a street-crossing, he was knocked down and trampled upon by a horse. When picked up he was unconscious, and there was a large laceration of the scalp covering the frontal bone above the left eye. He was carried in an ambulance to his home, and, in the transit, regained his consciousness, so that on arrival at his residence he got out with assistance and walked up-stairs to his bedroom. He then again became unconscious, and remained either semi-comatose or delirious for

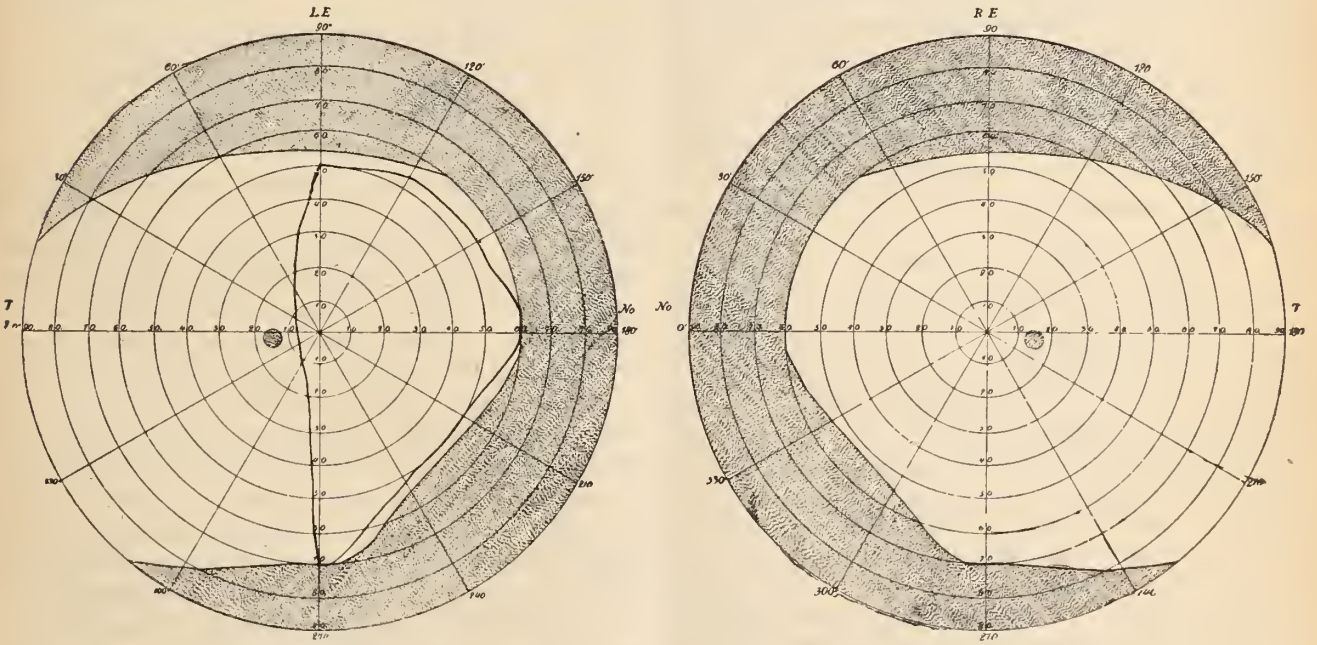


Fig. 2.

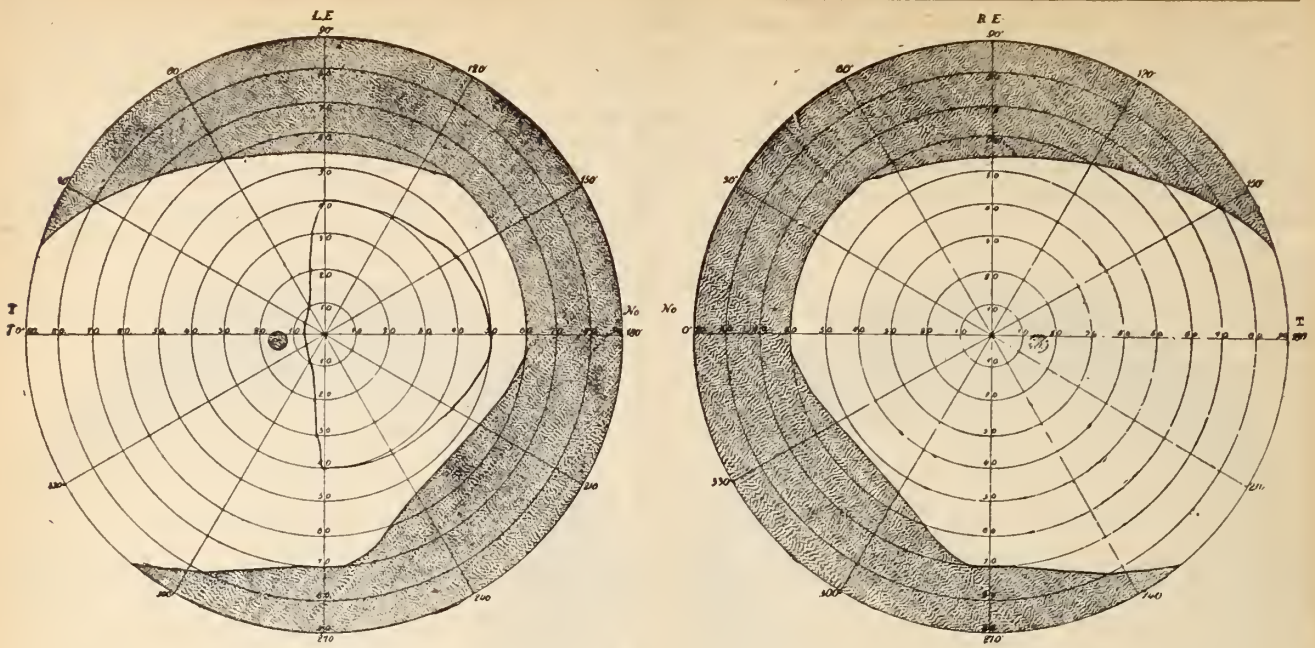


Fig. 3.

four weeks. There were also two ribs on the right side fractured at the time of the accident. An examination of the scalp-wound, which was of an irregular shape and about three inches long, showed that it ran from above, close to the hairy scalp, downward and inward toward the median line of the left eyebrow. Beneath this laceration was a depressed fracture of the skull of some considerable extent. The patient was not trephined, but was treated mainly on the expectant plan. Erysipelas of the scalp developed within the first week, beginning at the wound and extending all over the face and scalp. Both eyes were closed by the swelling of the eyelids, and this lasted for several weeks. When he regained complete consciousness, and the swelling of the eyelids had disappeared, he noticed that he could not see anything on his left side if the right eye were closed, and this condition remained unchanged till I saw him. In addition to the left temporal hemianopsia, he complained that, whenever he attempted to write, everything swam before him, but said that he could read with ease for any length of time without fatigue. He had always been hypermetropic, but had never worn glasses for distant vision. An examination showed $V = \frac{15}{70}+$ in *both eyes*, and with Sph. + D 2 $= \frac{15}{15}+$. He also read Sn. D = 0·25 at 10″ with Sph. + D 4. An examination of the field of vision showed that it was perfectly normal in the R. E.; but in the left eye there was a well-marked, though somewhat irregular, temporal hemianopsia. The color perception was normal in the R. E., and normal in the perfect half of the field in the L. E. An ophthalmoscopic examination showed on the right side a normal hypermetropic eye, with clear media; but in the L. E. the opic disc was white, with clearly defined outlines, and the arteries were reduced in caliber. The tension was normal in both eyes. There was no tenderness on pressure over the seat of the fracture in the frontal bone, nor along the course of the supra-orbital nerve. On the contrary, the patient complained of a numbness along the course and distribution both of the supra-orbital and infra-orbital nerves ever since he became conscious of his own sensations. This patient was seen by me, at intervals of a few days, from March 27th to date, and there has been no change in any of the conditions, except a gradually increasing concentric limitation of the nasal half of the field of the left eye. His last visit was made on June 22d, at which time a careful examination was again made of the field, and his vision also tested. Figs. 2 and 3 show the condition of the field of the left eye at the date of his first visit, March 27th, and of his last visit, June 22d; the latter also shows the gradual concentric narrowing of the nasal half of the field. A possible explanation of the visual defect in this case may lie in an extension of the line of fracture from the frontal bone through the roof of the orbit, backward to the optic foramen, and a consequent injury to the fibers of the optic nerve, which are distributed to the nasal half of the retina. There seems to be but little doubt that the amblyopia is progressive, and that the pseudo-hemianopsia will end in complete amaurosis of one eye.

THE EFFECT OF COCAINE UPON THE HEALING OF WOUNDS.

By LUCIEN HOWE, M.D.,
BUFFALO.

The anæsthetic effect of cocaine upon the eye, already so well known, suggests an inquiry as to the influence it may also have on the healing of wounds. A considerable time must necessarily elapse before clinical experience can furnish sufficient data to warrant conclusions which are entirely reliable. Different individuals and the circumstances accompanying the operations vary so greatly that, in spite of the many cases already published in which cocaine has been used, only a series of those exactly similar would furnish an average for just comparison. In certain rather rare instances, it is true, the same operation is made on each eye of the same individual at the same time, and in these the effect of the drug can be tested. But such cases are by no means numerous. I have, therefore, endeavored to determine its influence upon the healing of wounds by producing equal lesions in both eyes of an animal, and then comparing the one treated with cocaine with the other, either left to itself or treated with atropine. The principal objects of this inquiry were to detect any unfavorable influence cocaine might exert upon such wounds by reason of the irri

tation produced, or of the effect upon the nerve supply. On the contrary, if its action was advantageous, it was important to determine what parts of the eye it affected, and if for the iris or any other portion it was as reliable as atropine. It is well to settle such questions as soon as possible after the discovery of an agent like this, whose anæsthetic properties naturally excite unguarded enthusiasm or too great confidence in a really valuable drug. Accordingly, in October last, in the laboratory of Professor Zuntz, in Berlin, I noted the healing process in wounds as follows:

Rupture of conjunctiva in one rabbit.
Rupture of conjunctiva in two Guinea-pigs.
Abrasion of corneal epithelium in two rabbits.
Abrasion of corneal epithelium in one Guinea-pig.
Abrasion of corneal epithelium in one cat.
Burn of conjunctiva and cornea in two rabbits.
Puncture of cornea in one cat.
Iridectomy, simple, in one rabbit.
Iridectomy, iris being left in wound, in two rabbits.
Iridectomy, iris left in wound, in three Guinea-pigs.
Traumatic cataract in three Guinea-pigs.

It would be unnecessary repetition to rehearse in detail the healing of each of these wounds, yet a few examples are not out of place illustrating not only the process of repair in general, but also the form of record kept in these cases. In these, the eye treated with cocaine is indicated by "C."; the other by "L." or "R.," as it happened to be left or right. For convenience, the amount of secretion in the conjunctiva, or the extent of swelling there or elsewhere, is indicated in degree—1 representing the minimum and 3 the maximum.

Guinea-pig.—Extensive tear in conjunctiva, reaching from outer to inner canthus.

Day.	Eye.	CILIARY INJECTION.		CONDITION OF WOUND.		Two-per-cent. solution used.
		Large.	Small.	Degree of swelling.		
1	C.	2	4	2	Closing.	5 times.
	L.	2	4	2	"	
2	C.	1	2	2	"	5 times.
	L.		3	2	"	
3	C.	1	1	2	Closed.	5 times.
	L.		2	2	"	
4	C.		2	1		5 times.
	L.		2	1		
5	C.		2	None.		5 times.
	L.		2	"		
6	C.	Normal.		"		
	L.	"		"		

Small White Rabbit.—Scrape off epithelium of cornea in each eye from a spot measuring two by two millimetres.

Day.	Eye.	CILIARY INJECTION.		CORNEA.	No. of times 1-p.-c. sol'tion of cocaine was used.
		Large.	Small.		
1.	C.	2	4	Epithelium partly renewed.	5
	L.	2	5	Epithelium entirely "	
2.	C.	2	4	Normal.	5
	L.	2	2	"	
3.	C.		2	"	
	L.	1	1	"	
4.	C.				
	L.				

Comparison of Cocaine with Atropine in the Healing of a Burn with Lime, involving Conjunctiva and Cornea of a Rabbit.—A sufficient amount of unslaked lime was placed on the upper half of the conjunctiva and cornea to produce an eschar on all the palpebral and ocular portions of the former, and also to whiten the latter over a space measuring five by six millimetres. Exactly the same was repeated in the other eye, and both were thoroughly washed with distilled water, to remove all remaining particles of lime. A two-per-cent. solution of cocaine was then dropped into the right, and one of atropine, of the same strength, into the left.

Day.	Eye.	Lids.	CONJUNCTIVA.		CILIARY INJECTION.		Opacity on cornea in mm.	Diam. of pupil in mm.	Application to each.
			Swelling.	Secretion.	Large.	Small.			
1	C.	Open.	3	3	10	13	5×5	5½	6 times.
	L.	H'f-open	3	3	12	9	5×6	8	
2	C.	Open.	2	2	9	10	5×4	5½	3 times.
	L.	H'f-open	3	3	10	9	6×6	8	
3	C.	Open.	1	1	9	8	3×2	7	5 times.
	L.	"	3	3	10	9	5×4	8	
4	C.				7	10	2×2	7	2 times.
	L.		3	2	8	11	4×3	9	
5	C.				2	8	2×2	6	3 times.
	L.		2	1	6	12	2×3	8	
6	C.				1	8	1×1	6	3 times.
	L.				4	10	2×2	8	
7	C.					4		6	3 times.
	L.				2	10	2×2	8	
8	C.					2		5	3 times.
	L.					6	2×2	7	
9	C.					1		5	3 times.
	L.					2	2×2	7	
10	C.							5	
	L.						2×2	8	

Small Cat.—Puncture anterior chamber of each eye, evacuating entirely the aqueous humor, and allowing iris to engage in the wound. Right meanwhile under the influence of cocaine, and subsequently treated with it.

Day.	Eye.	Conjunctiva.	CILIARY INJECTION.		Dull spot in cornea.	Wound.	2-per-cent. solution of cocaine.
			Large.	Small.			
1	C.	Normal.		5	2×2½ mm.	Closed.	9 times.
	L.	"	2	4	3×2½ mm.	Open.	
2	C.		1	3	As on	Closed.	5 times.
	L.			5	1st.	Opened.	
3	C.		1	3	"	Closed.	5 times.
	L.			5		Opened.	
4	C.			2	Barely	"	5 times.
	L.			5	visible.	"	
5	C.		Normal.		"	"	4 times.
	L.			5		"	
6	C.		Normal.		Normal.	"	4 times.
	L.			5	"		
7	C.		Normal.				3 times.
	L.			3			
8	C.		Normal.				3 times.
	L.			3			
9	C.						
	L.						
10	C.						
	L.						

Large Albino Rabbit.—Two-per-cent. solution of cocaine dropped into the right until conjunctiva and cornea were fully under its influence and pupil measured ·009 millimetre in transverse diameter. An iridectomy was then made, and

the two ends of iris allowed to remain in the wound. Exactly the same operation was made on the left without cocaine, the corneal wounds, and pieces of iris removed from each, being as nearly as possible of precisely the same size.

Day.	Eye.	Conjunctiva.	Ciliary injection. Large.	Ciliary injection. Small.	Upper part of cornea.	Wound.	Anterior chamber.	Pupil. Size.	Iris.	2 per cent. solution of cocaine.
								mm.		
1	C.	Much swollen.	1	4	Dull.	Open. Iris prolapsed.	Blood in upper half.	·005	Swollen.	1
	L.	" "	2	3	"	" " "	" " half.	"	"	
2	C.	Less "	3	2	"	Closed. " "	" " quarter.	"	Less swollen.	2
	L.	" "	2	8	"	Open. " "	" " half.	"	"	
3	C.	Normal.	3	2	Clearer.	Closed. " "	" " eighth.	"	As on 2d.	2
	L.	"	4	6	Dull.	Open. " "	" " half.	"	" "	
4	C.		3	2	Still more clear.	Closed. " "	" " eighth.	·008	" "	4
	L.		4	6	Clearer.	" " "	" " half.	·005	" "	
5	C.		1	2	As on 4th.		Blood all absorbed.	"	Normal.	2
	L.		3	6	Still more clear.		Blood. Lymph in ¼.	"	As on 2d.	
6	C.		1	1	As on 4th.		As on 5th.	"	Normal.	2
	L.		2	3	" 5th.		" "	"	Still less swollen.	
7	C.			2	" 4th.			"	Normal.	2
	L.			4	" 5th.		" "	"	"	
8	C.			2	" 4th.			"	"	2
	L.			2	" 5th.		" "	"	"	
9	C.			1	Cicatrix only.			"	"	2
	L.			2	As on 5th.		" "	"	"	
10	C.				Cicatrix only.			"	"	2
	L.				" "		" "	"	"	

Large Brown Rabbit.—A linear wound at the corneo-scleral margin, six millimetres long, was made in the left, and the prolapsing iris allowed to remain. Exactly the same operation was made on the right. A piece of cotton was placed on each eye, that of the left being saturated with a two-per-cent. solution of cocaine, and that on the right with water only. In order that both might be kept moist, they were then covered with thin India-rubber, and the animal placed with his head resting easily, but firmly, so that the covering could not be scratched off.

Day.	Eye.	Swelling of Conjunctiva.	Ciliary injection. Large.	Ciliary injection. Small.	Cornea.	Wound.	Anterior chamber.	Pupil. Size.	Pupil. Form.	Swelling of iris.	Cocaine, 2 per cent.
								mm.			
1	C.	3	8	10	Dull above.	Open.	Small clot above.	6	Regular.	3	10 times
	R.	3	8	10	"	"	Small clot above.	4	Irregular.	3	
2	C.	2	6	7	Clearer.	Closed.	Smaller.	6	Regular.	2	3 times.
	R.	3	7	8	Dull above.	"	"	4	Irregular.	3	
3	C.	Normal.	3	4	Clearer.	"	Clot barely visible.	6	Regular.	1	4 times.
	R.	2	6	8	"	"	As yesterday.	3	Irregular.	3	
4	C.	Normal.	2	4	Normal.	"	Normal.	6	Regular.	Normal.	3 times.
	R.		3	4	Almost normal.	"	As on 2d day.	4	Irregular.	2	
5	C.		1	2	Normal.	"	Normal.	6	Regular.	Normal.	3 times.
	R.		1	3	"	"	As on 2d day.	4	Irregular.	2	
6	C.		1	1	"	"	Normal.	6	Regular.	Normal.	3 times.
	R.		1	3	"	"	As on 2d day.	4	Irregular.	"	
8	C.			1	"	"	Normal.	6	Normal.	"	3 times.
	R.			3	"	"	Band of lymph.	4	Irregular.	"	
14	C.		Normal.		"	"	Normal.	Normal.			
	R.		Normal.		"	"	Band of lymph.	4	Irregular.		

No attempt has been made in any systematic manner to verify these experiments by a similar series upon the human subject. One is not justified in subjecting an eye recently operated upon for iridectomy, for example, to the manipulation, or even violence, which such an exact examination often demands, but the great majority of clinical experience thus far seems to be in perfect accord with the results reached by experiments upon the animals mentioned.

These conclusions may be briefly stated as follows:

1. In lesions of the conjunctiva, perfect solutions of the hydrochlorate of cocaine have no appreciable effect, beneficial or otherwise, upon the healing process. When the solution is imperfect, a slight additional hyperæmia is produced, which persists longer than in the other eye, but this is ordinarily of no practical importance.

2. In lesions of the cornea it has a beneficial effect, like other mydriatics, but inferior to that of atropine. In imperfect solutions a perceptible abrasion of the epithelium is produced, and, though this is quickly renewed, the healing is thereby delayed by the cocaine.

3. In wounds of the iris the mydriatic action of cocaine is evident; but here again it is inferior to atropine, and is of little value in detaching firm synechiæ. Imperfect solutions, however, do not appear to hinder the healing process any more than when applied to the conjunctiva or cornea. Indeed, as strong mixtures possess decided antiseptic properties, they would seem to exert a favorable effect in this respect.

The Death of Prof. von Fehling, of Stuttgart, is announced in our European contemporaries. He was widely known as the originator of a ready method of testing for grape sugar in the urine by the use of what is everywhere known now as "Fehling's solution."

SYRUP OF HYDRIODIC ACID IN ACUTE INFLAMMATORY RHEUMATISM.

By JAMES CRAIG, M. D.,
JERSEY CITY, N. J.

In an article appearing in the New York "Medical Record," April 21, 1883, I speak of the manner in which I was led to the use of this syrup in cases of acute inflammatory rheumatism. The object of the present article is not merely to reiterate what was said in that publication, but to emphasize my entire faith in the efficacy of this treatment by the citation of cases of cure, and the statement that I have yet to find a case in which, the syrup being properly used, it has failed to meet my expectations.

Since the publication of my first article this method of treatment has been employed by a number of physicians with success, shortening the duration of the disease, relieving pain, reducing temperature, and in all cases leaving the patient without heart complications, the remedy preventing exudation and organization of plastic material. I order the syrup in from two- to three-teaspoonful doses, in a wine-glass of water, every two hours, lessening the dose as improvement takes place, and continuing the syrup for about a week or ten days after symptoms have disappeared, to insure recovery and prevent relapse.

The old method of treatment by the use of bicarbonate of potassium is slow, and its continued use brings about a depraved condition of the system by reducing the amount of fibrin in the blood and destroying the red corpuscles. It also acts as an irritant to the stomach, injuring the mucous membrane and causing loss of appetite. The depraved condition of the blood can be seen in the pale face, pallor of the lips, and enfeebled action of the heart, requiring weeks for the patient to recover from the disease and its treatment. Salicylic acid has had its day and has been found wanting, being replaced by some with oil of gaultheria—salicylic acid in another form.

This acid, from its difficult solubility, allows its crystals to irritate the throat and stomach, and, in some, occasions so much vomiting as to render its continued use impossible.

Syrup of hydriodic acid is a good remedy in sub-acute rheumatism also, but is not so prompt in its action as in cases of the acute form.

I have tried it in chronic rheumatism, but can not say that I have observed any good results. In some cases I use a lotion as follows:

℞ Liq. plumbi subacetatis..... ℥ ij;
Tincturæ arnicæ..... ℥ ij;
Aquæ puræ..... ℥ iv.

M. Sig. Add one part of the solution to three parts of hot water, and apply saturated flannels to the inflamed joints. It usually gives immediate relief. This solution is of a beautiful yellow color when properly prepared.*

* The tincture of arnica should be made according to the United States Pharmacopœia, and not by using the fluid extract of arnica flowers, and making a tincture by the addition of diluted alcohol, as this tincture makes an unsightly dirty-brown mixture.

The following are a few of the numerous cases of successful treatment of acute inflammatory rheumatism by the use of the syrup of hydriodic acid:

Case I.—On December 16, 1880, I was called to see Mary S., aged eight years, who was suffering from a very severe attack of acute rheumatism. The knees and ankles were very much swollen, and the pain was so excruciating that she could not bear the weight of a sheet to touch her legs. Protected them with a barrel-hoop cut in two and crossed. Prescribed syrup of hydriodic acid, in teaspoonful doses, every two hours. The pain was subdued within fifteen hours. Continued treatment for about a week. No relapse.

Case II.—Mrs. E. P. R., aged thirty-five years, was seized with a chill on January 9, 1883. Began the use of the syrup of hydriodic acid on the 10th, and continued the treatment, in three-teaspoonful doses, diluted with water, until the 16th, when the patient was dismissed cured.

Case III.—Mrs. C. F. C., aged thirty-nine. I was sent for on March 21, 1883, and found her suffering from acute rheumatism; prescribed the syrup in two-teaspoonful doses: continued treatment to the 29th, when I made my last visit, and found my patient dressed, sitting up, and free from pain.

Case IV.—B. E., aged fifty-five, a merchant, has had rheumatism for many years. I attended him with a subacute attack on the 13th of January, 1884; left him on the 18th free of pain. The medicine was given in tablespoonful doses, every two hours, up to this time, when he was ordered to continue its use in smaller doses and at longer intervals for another week. On the 4th of April, 1885, I was called to attend him with a similar attack. Used the syrup. The pain was still severe on the 5th, so I used the lotion to his hand and knee, which gave immediate relief. The last visit was made on the 8th, at which time he was entirely free of pain and swelling.

Case V.—Mrs. L. A., aged twenty-seven, was taken with a chill, followed with high fever, on the 21st of January, 1885. I was called on the 22d, and found her suffering with an attack of acute rheumatism, affecting both upper and lower extremities. As usual in such cases, prescribed the syrup in three-teaspoonful doses, every two hours, using the lotion as well. She was relieved in thirty-six hours, and was about the house in one week. Ten days after I made my last visit. Her husband told me that she had had a relapse from imprudently sitting by an open window. Medicine was repeated, and in four or five days she was again free from pain.

Case VI.—W. C., aged twelve years, of stout build, was seized with rheumatism in knee, ankle, and hand. Saw him for the first visit on February 20, 1885. I prescribed the syrup in two-teaspoonful doses, diluted in water (which should always be done); the lotion was also used in this case. My last visit was made on the 28th, when I left him walking about the house.

Case VII.—S. G. S., aged thirty-eight, clerk, was seized on the morning of the 15th of March, 1885. Commenced the use of the syrup on the evening of the same day; he was free of pain and swelling on the 16th, and went to his business on the 17th. He has had no return.

Case VIII.—J. C., aged fifty-one, has had chronic rheumatism for more than twenty years. About the beginning of March, 1885, he was seized with a violent pain in right knee while walking, followed, after a few days, with heat and swelling. The affected knee was two inches larger in circumference than the other; the trouble was looked upon as a sprain for about three weeks, when rheumatism was suspected. Began the use of the syrup in tablespoonful doses in a gill of water; he felt relief after the second dose; treatment was continued

every two or three hours until eight ounces of the syrup were taken, which removed all further trouble. No relapse.

Case IX.—John L., aged forty, coachman, was taken down on May 4, 1885; his knees were very much swollen and very painful. He was given the syrup in tablespoonful doses every two hours, and was able to be around the house in four days and a half. He had a relapse on the 24th of the same month, caused by exposure, and was seized with a chill, and again used the syrup and lotion. Advised the syrup to be continued in decreasing doses and at longer intervals for a week or ten days.

Case X.—J. F., aged forty, conductor. I was sent for on May 29, 1885, and found his right knee and left ankle swollen and very painful. He also complained of pain in his fingers and toes. The syrup was given, in tablespoonful doses, every two hours; the lotion was also used. He was free from pain within forty-eight hours. Dismissed him on the 3d of June without pain or ache.

The following cases were kindly furnished me by my friend, Dr. Conrad Wienges, of this city:

Case I.—*August 28, 1883.*—P. M., engineer, aged forty-nine; subacute rheumatism in both knees and ankles. Gave him two teaspoonfuls of syrup of hydriodic acid every three hours. Dismissed him September 30th, free from pain or ache. This patient had several attacks previous to this one, but was always confined to the house from four to six weeks.

Case II.—*June 16, 1884.*—Mrs. L., aged thirty-five; subacute rheumatism in the chest and right shoulder. Two teaspoonfuls of syrup of hydriodic acid every four hours. It relieved the pain entirely in twenty-four hours.

Case III.—*March 30, 1885.*—F. McC., nineteen years old; worker in tobacco factory; acute rheumatism in both knees and ankles. He was ordered two teaspoonfuls of syrup of hydriodic acid, every two hours, in a wineglass of water. At my next visit, on the 31st, he could flex his knees and move the foot with comparative ease.

April 1st.—The swelling had vanished and the patient was sitting up when I called. He was dismissed on the 3d, cured, and resumed his occupation on the 3d of April.

Case IV.—*May 7, 1885.*—G. E. P., thirty years old; deck-hand; acute rheumatism affecting his right shoulder and elbow. The pain was excruciating—so much so that one fourth of a grain of morphine, every hour for four hours, was given to produce immediate relief. He took two-teaspoonful doses of hydriodic acid every two hours. At my next visit, sixteen hours later, the pain had almost disappeared, and he could move the arm with ease in any direction. On the 9th he was entirely free from pain, and was dismissed, cured, on the 11th.

The following cases were kindly furnished me by Dr. Baumann, House Physician at the New Haven Hospital, New Haven, Conn.:

Case I.—M. F. M., Irish, aged twenty-five; single; painter. Was attacked April 24, 1885, with acute rheumatism in the ankles and knees, and on the 25th it extended to his shoulders, elbows, and wrists. Entered hospital this day; temperature 103° F. The pain was so severe that the slightest movement caused great distress. No cardiac lesions. Ordered syrup of hydriodic acid, one teaspoonful, every two hours.

28th.—Patient has improved greatly. Temperature 100°; joints not so painful.

29th.—Improvement continues. Patient got up to-day.

May 4th.—He is up and around the wards, and has no pain in his joints. Treatment continued.

5th.—Discharged cured.

Case II.—P. M., aged twenty-two years; has been under treatment in the surgical wards since April 28th for gluteal abscess. He had an attack of rheumatism in both wrists and hands, and pain in the chest and back. The pain and swelling were so severe that he could not bear to be touched. Temperature 100°. Ordered salicin, grains xx, every three hours, and sodii bicarb., 3 ss., every three hours.

May 30th.—No marked improvement, and was transferred to medical wards. Salicin was stopped and he was given syrup of hydriodic acid, two teaspoonfuls every two hours. Temperature 101·6°. Morphine, hypodermically, had to be administered during the night on account of severe pain.

31st.—Pain diminished; morphine not required. Temperature 101·2°.

June 1st.—Patient slept well without the use of anodynes. Fingers could be moved without pain, but the chest was still painful.

2d.—Patient comfortable; all pain and inflammation have disappeared. He fed himself for the first time to-day. Temperature 100°.

5th.—He was transferred to a surgical ward, and syrup stopped.

8th.—Temperature rose to 100·3°, and another attack threatened. He was given the syrup in the same doses. Next day temperature fell to normal. The syrup was continued a week, and then gradually diminished and stopped.

Remarks.—The patient had previously had several attacks of rheumatism, each lasting from two to four weeks. He had a mitral regurgitant murmur on admission.

The syrup was tried in a number of subacute cases with good results, but was unsuccessful in chronic cases.

I hope that I have thus been able to impress upon the minds of my readers the fact that, by the use of the syrup of hydriodic acid in cases of acute inflammatory rheumatism, our results will be far more satisfactory, and our cases less tedious and uncertain.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

The Overcrowding of the Profession. Extracts from an Address delivered March 23, 1885, before the Alumni Association of the Chicago Medical College, by the President, Dr. E. J. Doering. Chicago: Clark & Longley, 1885. Pp. 8.

Some Interesting Reflex Neuroses, with Treatment and Comments. By John J. Caldwell, M. D., Baltimore. [Reprinted from the "Virginia Medical Monthly."]

Correspondence.

LETTER FROM WASHINGTON.

The Wales Court-Martial.—Laparotomy for Gunshot Injury.—Last Year's Outbreak of Cholera in France.

Washington, *July 31, 1885.*

The findings of the naval court-martial before which ex-Surgeon General Wales was recently tried were made public to-day. The court sentences him to suspension from rank and duty for five years on furlough pay, and to retain his present number in his grade during that period. The Secretary of the

Navy says: "In expressing its approval of the proceedings, findings, and sentence in this case, the department deems it proper to remark that no dishonest or corrupt act or motive involving any breach of personal integrity on the part of Medical Director Philip S. Wales, as chief of the Bureau of Medicine and Surgery, was alleged against him, nor is there any evidence in the record which would have justified such a charge, or which tends to cast any reflection upon his personal honesty. It is equally proper, however, to remark that the charges of 'culpable inefficiency in the performance of duty' and 'neglect of duty' are fully sustained by the evidence. The proof shows that the established routine of business in the Bureau of Medicine and Surgery, including the various steps required by the regulations to be taken in making purchases of supplies and in paying for the same, was such that the exercise of ordinary care on the part of Dr. Wales, as chief of the bureau, would have been sufficient to arrest at an early date, if it could not have been wholly prevented, the fraudulent acts of his subordinates in the bureau. When he assumed charge of the bureau, as chief, he became officially bound to enforce, so far as practicable, an honest as well as diligent performance of duty by his subordinates, and also became responsible for a proper supervision of their conduct. This he failed to do. The facts and the degree of punishment proper in the case have received the careful and laborious consideration of a most eminent court of naval officers. The proceedings, findings, and sentence of the court in this case are approved."

Dr. Thomas B. Hood, who has so long and so efficiently performed the duties of Medical Referee of the Pension Bureau, was removed this week, and Dr. Campbell, of Cincinnati, appointed in his place. It is difficult to see what public policy could dictate the removal of one so well fitted by education and long experience to settle the intricate and far-reaching questions submitted to the medical branch of the bureau.

Dr. C. V. N. Callan, of the Providence Hospital staff, has been seriously ill for the last month, and his friends have feared that his return to duty would be permanently prevented.

Laparotomy with suture of the intestines was recently performed at the Providence Hospital by Dr. John B. Hamilton. The patient, a young mulatto, was shot in the abdomen three weeks ago. The wound was inflicted by a pistol carrying a ·32 caliber ball. The missile severed a small artery in the mesentery, and made eleven wounds in the small intestines and two in the ascending colon, and remained in the bowel. The operation was performed three hours after the accident. The artery was tied and the wounds were stitched with Lembert's suture. Fæces were passed by the natural channel on the seventh day, and on the twentieth day the patient was allowed to sit up, the abdominal wound having healed. The ball was passed with the fæces on the twelfth day.

Consul Mason, in a recent report to the State Department on the last year's outbreak of cholera at Marseilles and vicinity, states that it is now apparently settled that the cholera of 1884 was kindled at Marseilles by the clothing brought to that city in the trunk of a young student coming from the Lycée at Toulon.

In regard to the outbreak at Omagues, in the Department of Basses-Alpes, he states that "on the 10th of July, 1884, there arrived at Omagues a young servant-girl who had been in service at Marseilles. Soon after her arrival she washed some linen, which *had been in contact with a cholera patient* at Marseilles, in the Jabron, *a creek which supplies the village with water.* From that imprudence sprung the contagion which decimated that unfortunate community and spread death throughout the valley of the Jabron *below* Omagues, while the inhabitants of the same valley above the village escaped."

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co.
Edited by FRANK P. FOSTER, M. D.
NEW YORK, SATURDAY, AUGUST 8, 1885.

VACCINATION AFTER THE BEGINNING OF SMALL-POX.

SOME weeks ago, commenting on a paper, by Dr. Eccles, of Brooklyn, published in this journal, we had occasion to express an opinion which we then supposed, and still believe, to be supported by overwhelming testimony, to the effect that it was useless to vaccinate a person already affected with small-pox. We were aware that an impression to the contrary existed in the minds of many of the profession, but we were quite unprepared for such statements as we find in a report by Dr. J. H. Rauch, the able and painstaking secretary of the Illinois State Board of Health, submitted to the board at its quarterly meeting, held July 2 and 3, 1885. Dr. Rauch quotes from previous published writings of his own as follows: "It has now come to be understood that vaccination has a positive therapeutic value, as well as prophylactic power, and where it is too late to exert the latter there may still be sufficient time to make the former available, provided the virus used act promptly. Thus, if a patient be vaccinated during the febrile stage, and the vaccination progress normally—there being nothing antagonistic between the two diseases, variola and vaccinia, to prevent such normal progress—the areolar stage of vaccination will be reached before the dangerous tenth day of the variolous disease; and, as has been repeatedly witnessed, the graver disease will be aborted, jugulated, or materially modified." Again, he says: "It is never too late to vaccinate."

This is a question that only observation can settle, and our conviction is that observation did settle it long ago. The late Mr. Marson, whose experience was simply enormous, is quite explicit on this point. In his article on Small-pox, in Reynolds's "System of Medicine," he says: "Suppose an unvaccinated person to inhale the germ of variola on a Monday; if he be vaccinated as late as on the following Wednesday, the vaccination will be in time to prevent small-pox being developed; if it be put off until Thursday, the small-pox will appear, but will be modified; if the vaccination be delayed until Friday, it will be of no use, it will not have had time to reach the stage of areola, the index of safety, before the illness of small-pox begins; this we have seen over and over again, and know it to be the exact state of the question. Re-vaccination will have effect two days later than will vaccination that is performed for the first time, because re-vaccinated cases reach the stage of areola two or three days sooner than in those persons vaccinated for the first time."

Marson's article has been widely read, and the particular statements we have here reproduced have been extensively quoted, without, so far as we are aware, the accuracy of the latter having ever before been challenged by a competent ob-

server. But Dr. Rauch does not rest his contention on theory or dicta; he adduces certain facts that have come to his own knowledge. These facts relate to a recent outbreak of the disease in Mound City, Illinois, in which one hundred and forty-four cases occurred. Of those attacked, one hundred and twenty had never been vaccinated prior to actual exposure. After exposure to cases in their respective families, fourteen of this number were vaccinated—the exposure having lasted from three days to "about a week." Of the remaining one hundred and six, thirty-eight died, the mortality rate being 35·84 per cent. of the wholly unvaccinated. Only one ("a confirmed epileptic," twenty-five years of age, vaccinated in childhood) died, out of the thirty-seven vaccinated before exposure—the mortality rate in this class being, therefore, less than three one-hundredths of one per cent. All the fourteen who were vaccinated only after exposure recovered. Interesting statistics are then given as to the average duration of the disease in the several classes.

These statements appear to be very much to the point, and, however at variance they may be with general observation, we are disposed, considering the high source from which they emanate, to look upon them as of great importance. There is a point, however, on which more specific information would be of value—as to how many of the fourteen had been exposed for only three days, and how many for "about a week," before being vaccinated. Moreover, it is not certain that a person necessarily imbibes the contagium the first day that he is exposed to it, or the second day, or any particular day. Nor does it appear that any of the fourteen had shown signs of actually having the disease before they were vaccinated. Much as we defer to Dr. Rauch's judgment, therefore, we can not admit that in this instance the facts sustain his statement that "it is never too late to vaccinate."

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 4, 1885:

DISEASES.	Week ending July 28.		Week ending Aug. 4.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	1	0	0
Typhoid fever	16	6	27	5
Scarlet fever	29	6	23	4
Cerebro-spinal meningitis	2	1	2	2
Measles	34	8	21	4
Diphtheria	34	21	33	17
Small-pox	1	1	2	0

The Health of the State of New York.—The State Board of Health's "Bulletin" for the month of June shows a total reported mortality of 6,204, of which 40 per cent. were of infants. The proportion of deaths in each thousand was 238·55 from zymotic diseases, 109·61 from diarrhœal diseases, 51·42 from croup and diphtheria, 103·64 from acute respiratory diseases, and 131·20 from consumption.

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office August 4th: *Cardenas, Cuba.*—For the week ending July 18th: Free from epidemics; no cholera or yellow fever. *Curaçoa, W. I.*—For the same week: No cases of infectious disease. *Havana, Cuba.*—For the week ending July 22d: About 22 cases and 3 deaths from yellow fever; typhoid fever prevalent. *Matanzas, Cuba.*—For the same week: No cholera or yellow fever; intermittent fever prevalent. *St. Thomas, W. I.*—For the second quarter of 1885: 4 deaths from yellow fever among soldiers in garrison prior to May 1st, when detachment was removed; no cases since. June 23d, quarantine was established against all Spanish ports, and the importation of rags, padding, wool, hair, and hides prohibited. *Laguayra, Venezuela.*—For the week ending July 18th: Free from infectious diseases. *London, Eng.*—For the week ending July 11th: 101 cases of small-pox, and 21 deaths; 101 deaths from diarrhœa and dysentery, and 3 from simple cholera. *Paris, France.*—For the week ending July 18th: Small-pox, 41 cases, 1 death; typhoid fever, 199 cases, 38 deaths. During the week ending July 11th there were 40 cases of small-pox and 5 deaths; typhoid fever, 146 cases and 27 deaths. *Lisbon, Portugal.*—May 9th to 23d: 6 deaths from small-pox; otherwise free from infectious diseases. *Trieste, Austria.*—For the week ending July 4th: 3 deaths from small-pox; diphtheria prevalent. *Valencia, Spain.*—For the week ending July 11th: Cholera, 1,747 cases and 964 deaths. The epidemic is reported as spreading still, but becoming less virulent. *Venice, Italy.*—For the week ending July 4th: 5 deaths from small-pox; diarrhœal diseases prevalent. *Bombay, India.*—For the week ending June 23d: 2 deaths from cholera; general sanitary condition good.

English Comments on the Congress Question.—Until now, the "Medical Times and Gazette" has been almost the only European journal to give its readers anything like an adequate idea of the deplorable status of the matter of the International Medical Congress in this country. In its issue of July 25th it quotes from a number of American journals, and says editorially: "The leaders of the profession both in Boston and Baltimore have followed the lead of the Philadelphians and withdrawn from the Congress, and it is not unlikely that their example may spread to other cities, though indeed enough has already been done to turn the meeting of 1887 into what an American contemporary, drawing its illustration from our common history, appositely terms a 'rump' Congress. The only hope is that the American Medical Association will be startled back to its senses by the strong and decisive action of the profession in Philadelphia, Boston, and Baltimore, and will make haste to retrace its steps. It may be taken for granted that not even the leaders of the malcontents, and certainly not the members of the association at large, realized that the result of their action would be destruction to the Congress of 1887 and danger to its successors. Such an event was probably far from their calculations. They simply reckoned without their host, *i. e.*, their leaders, and if they are wise they will cast another reckoning, this time with due regard to the said host."

Homœopaths in the British Medical Association.—In the report of the Council, presented at the recent meeting at Cardiff, and published in the "British Medical Journal," we find this statement: "The Council have had under their consideration the subject of admission and retention of homœopaths as members of the association during the past year. An inquiry has been made throughout the thirty-three branches, and the result has been that there is evidence to the effect that a large majority of the members are adverse to the admission of homœopaths as members, but an equally large proportion are opposed to the idea of the expulsion of those members who have already gained admission into the ranks of the association."

The Lehigh Valley Medical Association will hold its fifth annual meeting at Quakertown, Pa., on Wednesday, the 19th inst. The programme includes an address on "The Proper Organization of Local Boards of Health," by Dr. Benjamin Lee, and one on "The Treatment of Joint Diseases by Rest," by Dr. De Forrest Willard.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 26, 1885, to August 1, 1885:*

Bill, Joseph H., Major and Surgeon, U. S. A. Died at Yonkers, N. Y., July 21, 1885.

McDougall, Charles, Lieutenant-Colonel, U. S. A. (retired). Died at Fairfield, Va., July 25, 1885.

DeWitt, Calvin, Captain and Assistant Surgeon. Promoted to major and surgeon, vice Bill, deceased, to take effect from July 21, 1885.

Ives. Franois J. Appointed assistant surgeon with rank of first lieutenant, to rank as such from July 25, 1885.

Girard, A. C., Captain and Assistant Surgeon. From Department of the East to Department of the Columbia. S. O. 170, A. G. O., July 27, 1885.

Ebert, R. G., Captain and Assistant Surgeon. From Department of the Columbia to Department of the East. S. O. 170, A. G. O., July 27, 1885.

Tesson, L. S., Captain and Assistant Surgeon. Ordered from Fort Stockton, Texas, to Fort Davis, Texas. S. O. 90, Department of Texas, July 27, 1885.

Carter, W. F., Captain and Assistant Surgeon. Ordered for duty as post surgeon, Fort Stockton, Texas. S. O. 90, Department of Texas, July 27, 1885.

Appel, A. H., Captain and Assistant Surgeon. Ordered for duty with U. S. troops, forming portion of guard of honor over remains of Ex-President General Grant, at Mt. McGregor, N. Y. S. O. 36, Division of the Atlantic. July 29, 1885.

Gorgas, William C., Captain and Assistant Surgeon. Granted leave of absence for two months, to take effect about August 10, 1885. S. O. 169, A. G. O., July 25, 1885.

Society Meetings for the Coming Week:

Monday, *August 13th:* Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *August 14th:* Medical Society of the County of Rensselaer, N. Y.; Newark and Trenton, N. J., Medical Associations (private).

Wednesday, *August 15th:* New Jersey Academy of Medicine (Newark).

Thursday, *August 16th:* New Bedford, Mass., Society for Medical Improvement (private).

Letters to the Editor.

THE MEDICAL MUDDLE.

Fort Buford, D. T., *July 25, 1885.*

To the Editor of the New York Medical Journal:

Sir: It is not graceful to apply such terms as "organized villainy" and "crowning act of infamy" to the American Medical Association, as was done in your editorial of July 11th. Let us see: "Villany, n. Extreme depravity. Atrocious wickedness." "Infamy, n. Total loss of reputation." Is our great A. M. Ass. depraved or totally wicked, or has it lost anything?

I once knew a good old man who was noted for wealth and Christian meekness in a community where both were scarce. He had a pet chicken, which was being raised "by hand," as it were. This chicken, early in its career, showed a strong tendency to consider itself "one of the family." Its frequent visits to the parlor made it a disturbing element. On the occasion of one of these visits, the old man, who had been dozing before a bright fire, called a negro servant to drive the chicken out. The servant, with white apron spread before him, made a dash at the chicken, and so startled it that it ran into the blazing fire upon the hearth. The old gentleman gazed upon the catastrophe with more of horror than commiseration depicted upon his features, and, after mature deliberation, remarked with great gravity, "You're a fool!" It was the first and only piece of severity he was ever known to be guilty of, although the owner of two or three dozen slaves.

I don't know why the action of the A. M. Ass. should recall this incident of my childhood. The feelings with which I have contemplated that action have not been all commiseration, but "organized villainy" and "crowning act of infamy" were never suggested to my thought. Instead of guile, I have noticed, besides bile, that absence of intelligent comprehension which led the chicken—but I have said I did not know why the action of the A. M. Ass. reminded me of the chicken incident.

I had supposed that the idea of the Congress was an associated effort of the leading medical minds of the world to evolve something by which mediocrity might be benefited, and the leading minds refreshed and encouraged for still greater achievements. The idea that local geographical divisions in our country could have anything to do with such a Congress was, to me, the embodiment of—why did you not, by the way, think of that word *imbecility?* It would have obviated the necessity of such strong terms as "villainy," "infamy," etc.

I could never understand why well-earned obscurity should desire to obtrude itself upon the assembled wisdom of the world. I yield to no man in the possession of that amiable quality; but, before I would allow myself thrust into such company in any official capacity, I would apply for a "sick leave." If left without constraint, I might slide in at a side-door and listen to the speeches in German and Russian, but nothing more.

Large bodies are apt to act with more difficulty than wisdom, and are only necessary when the political and religious liberty of all are concerned. The original committee, being intelligent and wieldy, was doing its work well. If it had been let alone, gratifying success seemed reasonably sure. As matters now stand, ignoble failure is much to be feared. There ought to have been no two opinions about our duty, or the duty of the committee, to put forward: 1. Our men of international reputation. 2. Our men of national reputation. 3. If more were needed to round off with, the best local material. But no geographical thought should have entered any man's head, nor would have, if nature had not abhorred a vacuum.

S. S. Turner, M. D., A. A. Surgeon, U. S. Army.

THE DISINFECTION OF RAGS.

August 5, 1885.

To the Editor of the New York Medical Journal:

Sir: In the "Medical Journal" of August 1st Major Sternberg states, in a letter addressed to you, that he has nothing to do with the fight between the paper manufacturers and the health officers, who insist upon the disinfection of rags from cholera-infected districts. I am not aware that any such fight exists.

They (the paper makers) not only *do not object* to rags from infected ports being disinfected, but would prefer (in deference to public opinion) that their importation (from such ports) should be entirely prohibited. The only contest the paper manufacturers have with the health officers is about rags from healthy ports. Last winter a patent was obtained for a process for disinfecting rags; a few days afterward an order was issued that all rags shipped after January 1st should be disinfected; this order was revoked by the present Secretary of the Treasury.

No such patent or order was ever before issued in this or any other country. What the paper makers object to is that, while there is no case on record of cholera having been conveyed in rags, they should be compelled to subject their material, under the pretext that it is dangerous, to an expensive and (as they believe) injurious and unnecessary process.

The estimated annual consumption of rags in this country is 270,000 tons. The charge for "disinfecting" is $5 a ton; this would make quite a handsome revenue.

By publishing this you will much oblige yours, etc.,

Augustine Smith,

Vice-President of the American Paper-Makers' Association.

DR. DIXON JONES'S UTERINE APPLICATOR.

Brooklyn, *August 3, 1885.*

To the Editor of the New York Medical Journal:

Sir: The cut accompanying the description of my applicator, in your issue of August 1st, entirely fails to give a proper idea of the instrument. By some mistake, the instrument-maker failed to send the cut intended to accompany the description. The forceps has a double curve—one corresponding to that of the normal parous uterus, the other a compensatory pelvic curve, which facilitates any manipulation in which it is used.

Yours, very respectfully,

C. N. Dixon Jones.

Proceedings of Societies.

NEW YORK OBSTETRICAL SOCIETY.

Meeting of February 17, 1885.

Dr. Walter R. Gillette in the Chair.

Recurrent Tumor of the Breast. — Dr. B. F. Dawson showed a tumor which he had removed a few days before. Five years ago an enlargement appeared in the patient's right breast. The mass was excised, but soon recurred, so that it was necessary to repeat the operation seventeen times; the last operation was performed about a year ago. Soon after that the patient began to be troubled with excessive leucorrhœa, and for six months past she had had repeated hæmorrhages, attended with a gradual decline in her health and strength, so that a suspicion of malignant disease of the uterus was aroused. Six months ago there was a recurrence of the mammary growth at the site of the last operation. Dr. Dawson saw the patient one month ago. The tumor then presented the appearance of a large dark bleb. The os uteri was patulous and its edges were ragged, but there was no hæmorrhage at that time. The uterus was movable, and there were no evidences of infiltration around it. Dr. Sands now saw the patient in consultation, and regarded the tumor as a myxo-sarcoma. She improved so much that Dr. Dawson operated about three weeks ago. She had recovered rapidly and was now able to walk about. Her uterine condition had improved, but, if the hæmorrhages returned, he would consider the question of a radical operation. (A subsequent microscopical examination showed epithelioma of the cervix.)

Sarcoma of the Uterus.—Dr. Dawson also showed a quantity of soft brain-like material which he had removed from the uterine cavity of a patient at the Woman's Hospital. She had had constant leucorrhœa for four years, with repeated hæmorrhages during the past three months. The discharge always had a very offensive odor. He found an irregular patulous os, from which protruded a dark, friable mass, which bled easily on being touched. The uterus was enlarged and soft, but freely movable. The diagnosis seemed to lie between sloughing fibroid and sarcoma. The cervix was divided and the interior of the uterus was thoroughly scraped with the spoon-saw (which was used as a curette). Although the patient had showed symptoms of septic poisoning before the operation, she recovered perfectly and was now comfortable. It would probably be necessary to remove the uterus eventually.

Dr. Dawson remarked that these cases were both interesting from the fact that if the conditions had been recognized at an early day much trouble might have been saved.

Dr. H. C. Coe said that he had examined the second specimen and found it to be round-celled sarcoma.

Dr. A. Jacobi asked if any enlargement of the axillary glands had been observed. The reply was in the negative. Dr. Jacobi said that he had asked this question because he had the impression that sarcoma was rarely attended by any considerable affection of the neighboring glands. He further stated that sarcoma of the uterus sometimes bore a close resemblance to fungoid growths. He recalled the case of a woman, forty years of age, from the interior of whose uterus he had removed with a common soup-spoon a cauliflower mass as large as a man's fist, which proved to be round-celled sarcoma. No secondary deposits existed, so far as could be ascertained; in fact, sarcoma might run a long course without the formation of metastatic growths.

Dr. P. F. Mundé mentioned the case of an Irishwoman who entered his service at Mt. Sinai Hospital, complaining of frequent uterine hæmorrhages and a constant offensive discharge. The uterine cavity was found to be four inches in depth and was filled with a soft mass which broke down under the finger. As the patient was too weak at the time of entrance, he intended to build up her strength and then to scrape out the cavity with a Simon's sharp spoon and subsequently swab it out with chloride of zinc, but an operation was declined.

Dr. Jacobi asked, with reference to the mammary tumor, if it was not rather unusual to have a complete absence of glandular enlargement after the growth had been so frequently removed.

Dr. Dawson thought that perhaps the tumor had always been removed so early that there was no time for the glands to enlarge.

A Shot-Perforator.—Dr. C. Cleveland presented a modified shot-perforator, in which a spring was so arranged that the shot were disengaged from the pin as the forceps opened.

A Uterine Drainage-Tube.—Dr. W. G. Wylie showed a uterine drainage-tube of hard rubber for use after dilatation of the cervix, or whenever it was desirable to maintain patency of the canal. He said that he used six sizes of the instrument, there being three variations in the length and three in the diameter. He maintained the following advantages for the tube: 1. Having a bulbous extremity, it could not slip out of the canal. 2. The groove along its side allowed of free drainage. 3. The curve was such that it adapted itself perfectly to the shape of the uterus. 4. There was a knob at the lower end,

which could be held with a forceps and the tube easily withdrawn.

Dr. J. B. Hunter asked when this instrument was indicated. The answer was, when it was necessary either to drain the uterus or overcome stenosis.

Dr. Mundé thought that a straight stem could be introduced perfectly well if the os was dilated thoroughly and the anterior lip was then drawn down with a tenaculum.

Dr. Hunter remarked that Dr. Sims origiually used a straight tube, but subsequently modified it.

Dr. Dawson and Dr. Perry thought that the cervical mucous membrane might become entangled in the slot at the side of the stem, so that it would be impossible to withdraw it.

Dr. Wylie said that this never occurred after proper dilatation. He thought that the cervix was stretched during the attempt to introduce a straight stem. He had been led to adopt this form of stem from observing how often it was necessary to hold the other varieties *in situ* by means of tampons. He was of the opinion that in many cases the plug had not been passed through the internal os at all.

Dr. Cleveland asked if stems were not sometimes forced out even after they had been introduced through the os internum.

Dr. Wylie thought not. He subsequently admitted that they might be expelled by uterine contractions.

Dr. Mundé differed with Dr. Wylie, and thought that he had frequently introduced laminaria tents through the os and had seen them come out again, simply because they were slippery.

Dr. Wylie thought that a distinction should be drawn between *slipping* and *rebounding*.

Silvered Copper Wire.—Dr. Hunter showed a specimen of silvered copper wire which possessed all the advantages of solid silver wire and yet cost only about one twentieth as much. It was less brittle than silver.

B. McE. Emmet, M. D.,
B. F. Dawson, M. D.,
H. C. Coe, M. D., *ex officio*,
Committee on Publication.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of June 10, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Exsection of the Knee.—Dr. J. H. Ripley presented an Italian, twenty-eight years of age, who was admitted into Charity Hospital September 14, 1882. There was no history nor evidence of venereal disease. He had always been well until four years ago, when he had an attack of rheumatism, suffering continuously from severe pains in the left knee joint, which was very hot, but not swollen. This attack continued for about one year, and then disappeared of itself. September 2, 1882, the patient slipped on a banana-peel and injured the left knee, which soon increased to twice its natural size, and became very hot and painful. Twelve days later he entered Charity Hospital, and was treated for rheumatism in a medical ward for three months, when he was transferred to a surgical ward. Extension was employed for two months, in conjunction with the local application of liniments, etc., and internal remedies. Extension was then discontinued, and a succession of plaster-of-Paris splints applied, together with the use of electricity, etc. Although there was absence of crepitus, and several surgeons were in doubt as to the propriety of exsection, Dr. Ripley concluded to do the operation, as it seemed to offer the patient the only chance of relief. The bones of the joint were very extensively diseased. The patient made a good recovery, with two inches shortening. The interest of the case centered in the fact that the man had suffered for nearly three years with inflammation of the knee, there being no suppuration, and at the end of that time the pathological condition was such that several surgeons were in doubt as to the propriety of exsection. The reason why friction was absent was that at no one point were both of the opposing bones roughened. A second point of interest was the illustration of the reparative power of diseased bone. A third point of interest concerned the use of wires. Dr. Ripley thought they did little or no good, and they gave him a great deal of trouble in removing them. He referred to another case of exsection under like circumstances, done about ten years ago, in which the patient was longer in recovering from the fact that the bones were not made immovable.

The President remarked that this case afforded strong evidence in favor of exsection as against the old method of treatment by amputation. In the latter case the death rate had been placed at twenty-five per cent. He had not seen a case in which death resulted from exsection. He referred to some cases in which he had done exsection the past winter, and said he did not use wires, for the limb could be rendered immovable without them. If wires were used, it was unnecessary to remove them afterward.

Suppurative Endocarditis.—Dr. R. Van Santvoord presented the heart and great arteries removed from the body of a man, forty-six years of age, who was admitted into the hospital March 28th. His father had died suddenly after a few weeks' illness, the nature of the trouble being unknown. His mother had died suddenly of heart disease, aged sixty-three. The patient, when a child, had had measles, scarlet fever, and smallpox, had had a chancre without secondary manifestations, and had been a hard drinker. He had suffered from rheumatism and from swelling of the feet at night. There were aortic and mitral regurgitant murmurs, the apex beating in the sixth intercostal space. When admitted, he was suffering from rheumatism, the attacks recurring during his stay, with exacerbations of temperature, and finally exhaustion. He had become apathetic, and his memory failed. At the autopsy a small bony growth was found impinging upon the brain between the second and third frontal convolutions, about half an inch in front of the ascending frontal. There was a certain amount of pachymeningitis hæmorrhagica, chiefly over the left hemisphere; the membranes were generally opaque; most of the vessels at the base of the brain showed considerable atheroma. There were lesions in other organs, the result of alcoholism, but the lesion of chief interest existed in the heart. There were the remains of old pericarditis, the ventricles were somewhat dilated, and the muscular substance had the gross appearance of fatty degeneration. On the leaflets of the aortic valve were masses of vegetation, surrounding two perforations of the valve, of about the size of a crow-quill. The third leaflet was somewhat atheromatous, but had no vegetations. There was also a rough spot of the size of a three-cent piece on the inner surface of the heart, forming a pocket. A small mass of vegetations was found on one of the leaflets of the mitral valve. The aorta showed advanced atheroma. The sphygmographic traeing had been that said to be characteristic of a combination of aortic regurgitation with atheroma of the arteries.

Congenital Deformities.—Dr. A. Jacobi showed a boy, aged seven years, who presented certain congenital deformities, but was in normal health. The right upper extremity was normal. On the left hand there were but three fingers, the index and little fingers being absent, together with their corresponding metacarpal bones. The left ulna was 14 ctm. long, and the right one 16·75; the left elbow joint was imperfectly formed, allowing of only partial supination. The lower extremi-

ties presented symmetrical malformations excepting in the following respects: The left foot was half an inch shorter and was smaller than the right; the right thigh was longer than the left by about 4 ctm. The movements of the right foot were much freer than those of the left. The patella was absent on the left side, and imperfectly formed on the right. The right leg was 28, the left 27 ctm. in length. On the left foot the second and third toes were slightly raised. The chest showed some signs of rhachitical development, most marked on the left side. The head and face were nearly symmetrical.

His sister, a baby, aged three years, had a congenital deformity of the right leg and foot. The tibia had an anterior curve, and at about the junction of the middle with the lower third there was a longitudinal scar half an inch in length. There was decided eversion of the foot, with absence of the fibula. There were but two toes, one being the great toe, the other apparently a blending of two toes. There were three metatarsal bones, the great toe articulating with the first, and the second toe with the two others. The right limb, down to the knee, seemed to be perfect. It was impossible to straighten the leg on the thigh, because of some malformation in the knee joint. The leg turned outward when it was straightened as far as possible. The right leg was shorter than the left by an inch and a half, being eleven inches long. There seemed to be no anterior tibial artery. The right foot was shorter and smaller than the left. As to the bones entering into the formation of the tarsus, it was impossible to state positively, but the cuneiform bones seemed to be absent. The right patella seemed to be somewhat smaller than the left, and was placed a little externally to the normal position. The three metatarsal bones articulated with the scaphoid and cuboid. The speaker had seen as many as three or four cases of absence of the fibula, there being a scar on the leg, which one might suppose resulted from an injury at a period of intra-uterine life when the skin was only partially developed.

Volvulus of the Sigmoid Flexure.—Dr. Frank Ferguson presented a distended and dried gut, showing volvulus of the sigmoid flexure. The patient, a Russian, aged thirty-seven years, had complained for several years of abdominal pains and cramps, which would pass away to return again. On the 27th of February last an attack had lasted three days, when he sought relief in the hospital. It began with a chill, followed in a short time by nausea and vomiting, there being very severe and continuous pain in the abdomen. He rapidly failed, and died four hours after admission. The autopsy showed enormous distension of the gut, with twisting of the sigmoid flexure, which was blackened with hæmorrhage. The obstruction was complete.

Dr. Waldstein thought it was not infrequent to find at the autopsies of old subjects, with a large amount of adipose tissue in the peritonæum, a turning of the gut, almost amounting to a complete twist and obstruction, with great distension of the colon co-existing.

Dermoid Cyst near the Coccyx.—The President presented a tuft of hairs, obtained in the case of a patient twenty-two years of age, who came for treatment of a supposed fistula starting eighteen months before in what he called a boil near the coccyx. The sinus led down to an abscess, and no communication with the rectum was apparent. A little pimple, looking like a comedo, attracted attention, and, being explored with a probe, was found to lead to a small cavity. With a little force the probe was made to penetrate into the old abscess. In the cavity was a tuft of hair, resembling that of a camel's-hair pencil. The President thought it was undoubtedly a dermoid cyst, and, so far as he knew, the case was unique.

Dr. Ferguson asked if congenital cysts in this locality were not rather common. He had examined two specimens of congenital cysts situated over the sacrum which contained ciliated epithelium and cholesterin. No hair was present.

Reports on the Progress of Medicine.

GENERAL MEDICINE.

By ALEXANDER DUANE, M. D.

The Morbid Anatomy of Diabetes.—The summing up of Windle's examination ("Dublin Jour. of Med. Sci.") of all accessible records of autopsies held in cases of diabetes mellitus is that no one lesion is present with any degree of constancy, and, further, that no one organ is involved in more than half the cases in which the condition of that organ has been ascertained. Thus, in 184 cases in which the brain was examined, it was found normal in 91, and in the remaining 93 the most diverse lesions were discovered. Lesions affecting the medulla and the fourth ventricle were present in 23 of these cases. So, also, among 58 cases in which the spinal cord was examined, only 25 showed any abnormity. On the other hand, out of 333 cases, only 75 presented a normal condition of the lungs, while rather more than one half of the whole number displayed the lesions of pulmonary phthisis. It is to be noted that these pulmonary lesions do not appear to be the result of the deposition of tubercle, and for their origin seem to be dependent upon some change taking place in the nervous system. Fat embolism of the lungs, although described by some, seems to be of rare occurrence. Enlargement and congestion of the liver are frequent accompaniments of diabetes, but the microscopical appearances are not characteristic. The same may be said of the renal changes. The pancreas, again, was affected in more than half of the cases in which the condition of the organ was noted, the lesion being usually of an atrophic nature. Lesions of the other organs are noted, but are still more inconstant in their appearance. These are all tabulated in considerable detail in the original paper.

Diabetic Coma.—Lindsay (*Ibid.*) brings little that is new to add to our confessedly imperfect knowledge of diabetes. He briefly dismisses most of the current theories as to the origin of diabetic coma, believing them all to be unproved, although he inclines most favorably to the toxæmic hypothesis. His own observations, with those of others, show that coma terminates about half of the cases of diabetes, being relatively more frequent in the young and in cases of acute coma, more particularly those uncomplicated by pulmonary disease. [That a rapidly fatal course with death from coma is usual in young subjects has been shown already by Schmitz, who has statistics of six hundred cases of diabetes.]

A Disease of Auerbach's and Meissner's Plexuses.—Blaschko ("Arch. f. path. Anat. u. Phys. u. f. klin. Med.") has described two cases, in both of which there was extreme fatty degeneration of the sympathetic plexuses in the walls of the intestine (plexuses of Auerbach and Meissner). Only one case presented a well-defined clinical history, the symptoms being those of extreme and progressive anæmia and profound disturbance of the digestive functions, with abdominal pain, but without any characteristic change in the blood suggestive of pernicious anæmia or of leucocythæmia. There was marked atrophy of the intestinal wall, and the fact that in other cases where this atrophy existed, and where a sufficient cause for its existence was present, no alteration of the sympathetic plexuses was found, seems a proof that the sympathetic lesion in this case was the cause, and not the effect, of the intestinal atrophy.

Œdema from Vaso-motor Paralysis.—Jankowski's experiments upon animals (*Ibid.*) tend to prove that vaso-motor paralysis is an important factor in the production of œdema; and that, while scarcely of itself sufficient to excite this condition without an accessory hydræmia, its influence must be called into account for most of the cases of œdema occurring in cachectic conditions. The fact that transudation from the vessels may thus be largely dependent upon the state of the peripheral nerves, and hence upon alterations of the nervous centers affecting this state, will also serve to explain the existence of urticaria and of the

acute circumscribed œdema of Quincke (acute rheumatismal œdema), which undoubtedly have their origin in the central nervous system.

Diabetes Insipidus.—Weil (*Ibid.*) has, with extraordinary patience and industry, followed out the family history of a patient afflicted with diabetes insipidus, and has found that in his case it was undoubtedly an hereditary malady, many of his ancestors and immediate relatives being victims to it, or, to use their own phraseology, being "water-drinkers." The disease first appeared in the family records in the great grandfather, who had five children, of whom three were affected like himself. Of twenty-nine grandchildren, seven were "water-drinkers" and nine died in infancy, before the disease had a chance to show itself. There were fifty-six great grandchildren, and twelve of these were the subjects of diabetes. It is to be remarked that all who escaped having the disease transmitted the same immunity to each one of their children and grandchildren; so that atavism would seem to be the exception in the transmission of this form of diabetes. The author's facts, the collection of which must have cost him very great expense of time and trouble, are summed up in a neat genealogical tree, showing the relationships between the diabetic ancestor and his ninety descendants, as regards both the ties of blood and the more recondite associations involved in the transmission of the disease.

Intestinal Neuroses.—Cherchevsky ("Rev. de méd.") has collected several cases which he regards as examples of tonic spasm of the circular muscle-fibers of the intestines. This accident, which occurs more especially in persons of intellectual habits and sedentary modes of life, is characterized by suddenly appearing enormous tympanitic distension of the abdomen, with a considerable degree of pain and tenderness, a sense of epigastric oppression and of dyspnœa, violent griping pains and constant desire to go to stool with inefficient expulsive efforts, and the passage of only a small amount of fæcal matter in the form of bullet-like scybala or of small compressed cylinders. These symptoms last a few hours, or even some days, and then suddenly disappear. In the intervals between the paroxysms the patients enjoy excellent health, their appetite is good, and their only complaint is of more or less persistent tympanites, with constipation and frequent eructations of odorless and tasteless gas. The paroxysms are induced by intellectual effort, mental excitement, violent emotions, etc. This, together with the suddenness of the appearance and disappearance of the symptoms and the character of the latter, leads the author to the belief that in this condition we have to do not with a state of intestinal atony, but with a state of localized intestinal spasm, producing sudden accumulations of gas with the associated phenomena of colic, tenesmus, and constipation. The results of treatment are corroborative of this view, as the constipation and tympanites yield readily to opium and belladonna, while cathartics, which should ameliorate the symptoms, if due to atony, only aggravate them.

The Virulence of Tuberculous Matter.—Martin and Parrot (*Ibid.*), in experiments which seem to be conclusive, have found that no one of the so-called antiseptics—carbolic acid, creasote, corrosive sublimate, bromine, salicylic acid, or oxygenated water—even in the most concentrated solutions and the most complete and prolonged contact, can be relied upon to destroy the virulence of tuberculous matter. The only agent which acts certainly in this way is heat, and the surest means of disinfection in a hospital or apartment is the introduction of air heated to 125° C., and carried into every corner and crevice. But, so far as any feasible means for attacking the tuberculous organism in the human system are concerned, the author's experiments are completely negative.

Diabetic Neuralgia.—The occurrence of neuralgia in diabetic subjects, and depending apparently upon the diabetic diathesis for its existence, has been noticed by several writers within the last two or three years. Cornillon (*Ibid.*) has collected the histories of twenty-two instances of this association of neuralgia with diabetes; eight of these cases, including two contributed by himself, have been very fully described; the histories of the other cases are more meager. The characteristics of diabetic neuralgia, judging from the description of these twenty-two cases, are well marked, and render the diagnosis of the complaint easy. Such neuralgias are distinguished by their spontaneity, no cause, either immediate or remote, except the glycosuria, being discoverable; by their intensity, hardly paralleled in any other variety of pain; by their tendency to a symmetrical development (noted in eighteen out of the twenty-two cases); and by the obstinacy with which they resist any form of treatment except that addressed to the relief of the causal condition—the diabetes itself. They show a tendency to attack the regions supplied by the sciatic nerve, although the face and other parts of the body are also occasionally affected. They are associated with marked tenderness to pressure over the course of the nerve which is the seat of the pain; and motion of the muscles in the vicinity of the nerve, as well as variations of temperature, greatly aggravates the suffering. The causation of this rather infrequent form of neuralgia is still obscure. The author rejects the hypothesis of Rosenstein, that it is due to congestion of the abdominal viscera, on the ground that the latter is so often present without the co-existence of any neuralgic or any diabetic symptoms. The theory that it is due to an excess of sugar in the blood is disproved, he thinks, by the fact that in some of the cases the glycosuria is very moderate, and that, although in some instances the intensity of the symptoms is proportional to the degree of glycosuria, this is by no means the universal rule. Cornillon's own view, which we believe to be open to the same objections that he urges against these other theories, is that diabetic neuralgia is a manifestation (as he holds diabetes itself to be) of a gouty diathesis, and that such a neuralgia is the direct result of a condition of uricæmia. The decision of this question must, however, undoubtedly await more extended investigation and the analysis of a greater number of cases than the author has been able to collect.

Pernicious Anæmia in Children.—Kjelberg ("Arch. f. Kinderheilk.") describes a case of pernicious anæmia occurring in a child five years of age and running a very rapid course, without remissions, until death occurred, only a month and a half after the inception of the disease. The case is highly interesting as constituting, with one other, the only certainly known instances of pernicious anæmia in childhood. The whole account is sufficiently full and accurate, and, with the confirmatory evidence of the autopsy, leaves no doubt as to the correctness of the diagnosis.

The Relations of Scrofula and Tuberculosis.—Albrecht (*Ibid.*) insists anew upon the pathological identity of tuberculosis and scrofula, and, from recent literature, gives a host of instances where tubercle bacilli have been found in scrofulous formations. The practical bearing of the connection between these two morbid states is evident; and, if this connection were only a probable one, it would still claim our attention in view of the great prevalence of scrofula and the fatality of tuberculosis. If there is a chance that the former can develop into the latter, or even if we are limited to the certainty that the former leaves the system in a condition suitable for the development of the latter, we must welcome any means by which scrofula itself can be prevented, or by which, when once initiated, its further development can be checked. According to Albrecht, we can effect the former by inoculation of scrofulous material, conducted in the same way as a vaccination for small-pox. A further means for accomplishing the same end is the refusal to permit a tuberculous mother to nurse her infant, and a limitation, as far as possible, of the marriages of patients affected with syphilis. For the suppression of scrofula when once inaugurated, Albrecht recommends most earnestly the replacement of starchy by nitrogenous diet, and more particularly the employment of peptones as an aliment. Another very useful agent is the inhalation of oxygen. This gas, given to children four or five years of age, in quantities of fifteen to thirty litres twice a day, notably stimulates tissue-metamorphosis, and often renders possible a degree of super-alimentation which could not otherwise be undertaken without endangering the integrity of the organs of digestion.

Miscellany.

The International Medical Congress.—In its last issue the "North Carolina Medical Journal" says:

"Seldom has there been such unanimity of opinion upon any matter

as we have seen expressed in the medical journals of this country on the proposed International Medical Congress. We need not repeat in detail the well-known story of the appointment of the original committee by the American Medical Association, with plenary powers to prepare for the meeting of the Congress in 1887; of the opposition which the printed provisional list of officers and members of the Congress met with; of the movement set on foot to reorganize the original committee, and thus give an opportunity for the admission of some of the malcontents to positions in the Congress; of the reorganization of the officers and councilmen of sections in Chicago in such a way as to distribute the appointments over a larger area of the Union, not failing to 'punish' (as they say in politics) original members who had condemned the New Orleans movement, or were new-code men; how some of the active dissentionists were supplied with prominent places in the new organization; how the leaders of the origiual committee were compelled by self-respect to resign, and the most prominent members of the original body in Baltimore, Philadelphia, and Boston promptly withdrew their names, thus withdrawing from the Congress a considerable number of the ablest men in the country. It is a record painful to make, not only because it means that the Congress can not now possibly be what it could have been under the first organization, but because it shows how large a share of medical politics can enter into the meetings of such a loosely constructed body as the American Medical Association when designing members choose to exert themselves.

"The 'Journal of the American Medical Association' makes the best it can of the situation, but is almost alone in the position it has taken in defending the unfortunate reorganization. We agree with that journal that the new appointments, with a few offensive exceptions, have been judiciously made, but we believe that the whole movement which culmiuated in the Chicago reorganization was discourteous to the original committee, and that the ruling as to the legality of a body having power to reorganize and reinstruct its committees has no bearing upou a purely scientific body, composed of voluntary members, and workiug without any other emolument than the reputation which would ensue from eminent ability brought to the task.

"The sum of the unfortuuate affair may be thus stated: We have been made ridiculous in the eyes of the medical world. The proposed Congress has been severely crippled. The American Medical Association has given evidences of a state of things which must be corrected or be ruined. The new-code men by this blunder have been advanced to a position which no act of theirs could have accomplished for them in a quarter of a century."

The "Maryland Medical Journal," in its issue of August 1st, says: "Despite the very cheering assurances of the 'Jourual of the American Medical Association' that the Ninth International Medical Congress will be conducted in the 'most liberal and enlightened manner' by the 'present able and judicious Committee of Arrangements,' the progress of another week presents a wide-growiug distrust of the recent work of the committee at Chicago. The withdrawal of the appointees of the committee in Philadelphia, Boston, Baltimore, and Washington has been followed by similar resignations in Cincinnati, St. Louis, Chicago, and in other localities. These declinations have come not only from the gentlemen originally appointed by the first committee, but, in a number of instances, the appointees of the present committee respectfully decline to hold the honors awarded to them. Indeed, it seems to be quite appareut that the gifts of this committee will go begging unless some unseen power is raised up to prop its waning fortunes. Under existing circumstances it seems clearly the duty of this committee to abandon its work of reorganization as the most graceful and practical solution of the difficulties which embarrass it. By such a course the committee would in no sense lose the respect of the American profession. It has been placed in a false position by the American Medical Association. It has been called upon to perform a duty which no similar committee of the association can perform under existing circumstances. The present status of the Congress is the result of a false and unnecessary issue which can work no good to the American profession or to the Americau Medical Association. Its introduction into this discussion was totally unwarranted and unjustifiable. The 'code' issue is not an issue which should be raised in the organization of an International Medical Congress. At previous meetings of the Congress all questions of medical politics have been rigidly excluded, and such should have beeu the case in the organization of the present Congress. The gentlemen who have declined to hold positions under the preseut committee of organization are 'old-code' men. Their action has not been influenced by this question. Any attempt to impugn their motives on this ground is an unjust and unwarranted assumption.

"The only point to be considered has been overlooked by the *organ* of the association—in its great devotion to the interests of the present committee of organization—while it vigorously assails the first committee and the gentlemen who decline to serve under the present committee. It is the fact that the Congress is a scientific body, that it is interested only in scientific work, that it should be organized only on a strictly scientific basis, and that the gentlemen intrusted with the conduct of the Congress should be selected out of deference to this fact. The composition of the Congress demanded that men should be selected to its various offices irrespective of geographical position or 'code' politics, but solely on the principle of natural selection—the best men for the best positions.

"We do not deny the fact that the first committee made serious blunders, that the doctrine of natural selection has been overlooked in a number of instances. This fact did not, however, warrant the action of the association in introducing false and absurd issues into the reorganization of the Congress. The first committee performed a difficult duty in a manner perhaps as satisfactory as any similar committee would have done. It considered that it was constituted to organize a body of scientific workers, and it was doing a duty to scientific medicine when it lost sight of geographical lines and medical ethics.

"It is the grossest presumption on the part of the association *journal* to charge these gentlemen with having used the association as a 'decoy duck' to obtain positions for themselves and for their friends, and then 'coolly turn the association into a "foot-ball."' We must regret the illogical and ill-tempered manner in which this 'journal' discusses the points at issue in this controversy. It seems to us its position is poorly taken, and its language is indiscreetly chosen. This 'journal' is now harping on the false issues introduced at New Orleans, and it is no more representing the views of the majority of the members of the association than the few malcontents, who captured the New Orleans meeting, represented the true feelings of the membership of that meeting. Our contemporary is in the position of the ox in the mire. In its efforts to extricate the association from the serious blunders it has made, it becomes more hopelessly entangled. It plunges and charges in the mud of its own make, and hopelessly attempts to fling this mud into the faces of gentlemen who are not responsible for its unfortunate dilemma. It is a trite saying, 'Whom the gods wish to destroy they first make mad.' This seems to be the unfortunate state of mind which besets the leaders of the association and its official *organ* at this time."

The "Canadian Practitioner" says: "We have watched with great interest the progress that has been made in completing the arrangements for the International Medical Congress, which is to be held in Washington in 1887. As our readers well remember, the American Medical Association appointed a committee, giving power to the same to invite the medical world to America, and make the necessary arrangements for the meeting. The invitation which was cordially given was accepted in a very friendly spirit, and the committee proceeded with the work it was asked to perform, and accomplished it most admirably, as we thought. The officers and committees were chosen with great care and prudence, truly representative men being placed in the most important positions.

"We had supposed that the meeting of the American Medical Association recently assembled at New Orleans would gladly indorse the acts of its committee, and say, Well done! go on and complete the work you have so well commenced. But no, says a narrow clique of agitators, you have left certain States unrepresented, you have neglected the rural districts, and, worse than all, you have ignored a number of us bumptious sore-heads, who are superlatively well qualified for the most responsible positions iu the Congress. By some means, a majority of those present were induced to vote for a resolution which prac-

tically censured the committee, and added enough new men to govern the organization for the future.

"The new committee, including some members of the original committee, met at Chicago, June 24th, and made many changes in accordance with the views expressed at New Orleans. Before these changes were confirmed, Dr. Billings explained the situation, from the standpoint of the old committee, as follows:

"'The invitation was purposely worded as coming from the medical profession of the United States, and not from the association only, in order that all regular physicians in the country, and in particular the various important societies devoted to special branches, such as the gynæcological, ophthalmological, laryngological, etc., and also the societies in our large cities which are specially devoted to scientific work, such as the Academy of Medicine, of New York, the College of Physicians, of Philadelphia, etc., should feel that they were included, and must share the responsibility of providing a proper reception for the Congress.'

"This broad view of the question was not acceptable to the committee. They had received orders to decapitate, and they decapitated accordingly. We have neither space nor inclination to discuss at length the merits or demerits of the victims or their substitutes. While, in a general way, we may say that the new appointments should, under ordinary circumstances, be acceptable, this affords no reason why equally good men should be subjected to such humiliation.

"We can not help thinking that the method of procedure was, in all respects, unmanly, ungenerous, and unjust; and we sincerely sympathize with that large portion of the respectable body of the profession in the United States who must feel keenly the humiliating position in which they have been placed. Already this sad business is bearing its bitter fruit. The respectable physicians of grand, conservative old Philadelphia have, in a body, formally declined 'to hold any office whatsoever in connection with said Congress as now proposed to be organized.'

"We had looked forward to a very pleasant and successful meeting at Washington. The ability, generosity, and hospitality of the physicians and surgeons of the United States are well known to the whole world. A few weeks ago the prospects for the proposed Congress were exceedingly bright; now a dark cloud overhangs the undertaking, and what the end will be no one can foresee. We would gladly welcome any solution of the serious difficulties which would bring light out of darkness, but, so far as we can see at present, the prospects are gloomy in the extreme."

The "Independent Practitioner," of New York, one of the ablest of the journals that are devoted to dental surgery, says:

"In the last number of this journal it was announced that the reorganized committee of the American Medical Association had dropped the section of oral and dental surgery from the list of sections established by the original committee. This action demands some notice on the part of dental journals. At the London meeting of 1881 our section played such an important part, it worked in such harmony with the other sections, and contributed so largely to the distinguished success of that Congress, that we had no reason to doubt that, here in America, where dentistry has made such peculiarly rapid strides, where as a branch of medical science it was first organized, where the modern teaching of dentists as scientific men originated—here, among a people who claimed pre-eminence in practical advancement, our specialty would surely be given every opportunity to benefit by this convocation of all that was great in medicine. In London there was no distinction between the various sections. In free democratic America it was anticipated that a section that would probably number more delegates than any other would be given peculiar facilities. We are happy to say that the Congress, as first organized by representative medical men, had fulfilled all expectations. It remained for a rump association to outrage respectable medicine by overturning that which had been established, and to attempt to found a World's Congress upon sectional issues. It shows a woful misconception of the character and purposes of the Congress when local quarrels and questions of personal bias are injected into the discussion thus early. They must indeed be men of narrow views who would force a world's professional assembly to take sides on a division of opinion among the physicians of the State of New York. Will medicine as a whole never get above these petty squabbles? Will it never make good its boast of being a learned profession, and rise superior to the pot-house wrangles which engage only minds of small caliber?

"That dentists may understand the present status, it is necessary that we explain some things that may not be known to all of them. The International Medical Congress is what its name indicates—a council of the representative medical men of the world, which meets every third year. It knows nothing of medical societies or medical politics, but at each meeting accepts the invitation of the medical profession of some country to hold its next session with them. It is never the guest of any medical society, but it expects that the whole profession of the country in which it meets will join in advancing its interests. It is not intended to be a convocation of small men, nor is it anticipated that it shall be so used as to advance individual interests. Especially does it discourage all professional demagogism. In this country the American Medical Association, as the nearest approach to a national organization that we have, assumed to issue the invitations through a committee of representative men, who, in the event of its acceptance, were directed to complete an organization. This committee visited Copenhagen, where the Congress of 1884 was held, extended the invitation, which was accepted, and the committee thereby became an organizing committee of the Congress.

"They returned home and proceeded to complete their work by adopting rules, establishing sections, and appointing their officers. That this work was well done there can be no question. But upon the reassembling of the American Medical Association in New Orleans, in March last, in a place remote from the great medical centers, and where the membership for the year would necessarily be made up largely of those who were not conversant with the needs and feeling of the profession, it was found that a few determined demagogues, oily of tongue and reckless of the best interests of the profession, had secured control of the association. They did not belong to the class of men who have made medicine what it is. They were in no sense representatives of the better part of medical science, and so they had not been appointed to commanding positions. But they were determined in some way to make the Congress personally profitable to themselves, and they accordingly headed a movement which resulted in the undoing of all that had been done, and the appointment of a practically new committee, with themselves in the prominent positions.

"The plea under which this was done was, that the organization of the Congress did not properly represent the country, and that some of the new-code men of the State of New York had been appointed to office. The speciousness of this claim will be seen when it is understood that this is not a political assembly; it is not the *country* which is to be represented, but the profession of medicine, and such men should be chosen as best typify the great profession, no matter if they were all found in one city. If the backwoods of Arkansas could furnish a man who could take rank with the leading minds of medicine, he should be chosen. But, if not, Arkansas should wait until it could produce such a man. As to the factional issue of new or old codes, that was a matter with which the Congress had, and desired to have, nothing whatever to do.

"But the new committee assumed the reins, and proceeded to reorganize the Congress, displacing some of the men whose fame is world-wide, and who cast a luster upon medical science, and putting in their places some of the ambitious 'outs' who were great only in their own conceit. They reduced the number of sections, dropping that of dental and oral surgery, or, what is the same thing, consolidating it with general surgery. The 'Medical Bulletin,' of Philadelphia, which is edited by one of the leading spirits in the revolution, says: 'The omission of the section of dental and oral surgery was judicious, dentistry not being generally recognized as a legitimate department of medicine.' We may well be content to rest under his ban, when he is at known issue with very much that is reputable and honorable in medicine.

"Anticipating censure, the new committee fortified themselves with the opinion of lawyers concerning the legality of their action. To what end? What have lawyers to do with the ethics of another profession? Did the committee propose to go to extreme legal limits, or was it their desire to do what was professional and right?

"As might he imagined, their proceedings have excited a deep and indignant feeling among the better part of physicians. The protests have been many and vigorous. The most of the leading medical journals have forcibly denounced the movement. Meetings of leading medical men have been held in several of the large cities, and many of the most respectable of the appointees have announced that they will have nothing to do with the Congress as now organized. In Philadelphia, such men as Agnew, Bartholow, Brinton, Da Costa, Gross, Hays, Leidy, Mitchell, Stillé, Tyson, Wood, and many others, with Yandell, of Louisville, have formally withdrawn. The Philadelphia list of protestants alone includes four presidents of sections.

"This action has been imitated in other cities, and so many eminent names have been withdrawn that it now seems demonstrated that, under the present organization, the Congress can not by any possibility be made a success. The men now charged with the management of the Congress are believed to be incompetent, and they certainly do not possess the confidence of the profession, nor are they sufficiently representative of the intelligence of those for whom they assume to act. Therefore, as we said in the last number, it is probably as well that we are not involved in the quarrel. The only thing that remains is to see if the Congress can not be rescued from the hands of those who have assumed its management. But even this could not probably be done in time to re-reorganize with much hopes of making it what it should have been.

"It is a shame and a scandal to medicine that such a state of affairs can exist. But as long as such an organization as the American Medical Association, with its fluctuating, constantly changing membership, shall be the representative Association of American Medicine, we have little better to hope for. It is a complete political body, and, like all such associations, it is usually controlled by demagogues and wire-pullers. What medicine needs is a permanent body, that shall represent, not its tricksters and politicians, but its intelligence, its professional eminence, and its scientific attainments. This the American Association does not and can not do, because its membership is founded upon geographical, and not upon scientific or professional representation. It now seeks to make the International Medical Congress but an enlarged session of this unrepresentative body."

In the course of a spicy article entitled "The Late Proposed Medical Congress," the "Peoria Medical Monthly" says:

"The Philadelphia protest and withdrawal contained twenty-eight names, that from Boston nineteen, and Baltimore twelve, with more to hear from. Twenty-seven from New York were ignominiously hounced, and the list of officers and committees as it now stands is bereft of such names as Loomis, Emmet, Bulkley, Keyes, Lefferts, Mundé, Knapp, Bosworth, Packard, Da Costa, Bartholow, Pepper, Mitchell, Gross, Hays, Agnew, Parvin, Goodell, Leidy, Stillé, Yandell, Williams, Blake, Chadwick, Chisolm, Johnston, Mackenzie, Lee, Tiffany, Theobald, Johnson, Burnett, Prentiss, Baker, Huntington, Engelmann, etc.

"Poor Congress! it looks as if it had 'died abornin',' or, at least, was having an awful hard time to get started into this world (western part of it) of sorrow and contention. The office of secretary-general is vacant. The sections of therapeutics, medicine, anatomy, and surgery are without heads, and other sections are partially dismantled. And still the fight goes on."

The "New Orleans Medical and Surgical Journal" says:

"So, at the New Orleans meeting of the American Medical Association, the report of the committee was presented and disapproved. Many of our readers will recall the intemperate discussion on the occasion. It was characterized by offensive personalities, well calculated to widen the differences already existing. One spokesman from the West, in imitation of the wicked ruler who leveled the highest reeds in his garden as a warning to his subjects, proposed to behead the great men of the East. The sentiment was applauded. As a crowning act of discourtesy to the original committee, composed of some of the most honored names on the roll of the association, a resolution was finally adopted appointing a new committee, to be composed of the membership of the original committee of seven, enlarged by the addition of thirty-four members of the association, one from each State and Territory represented, and from the Army, Navy, Marine-Hospital Service, and the District of Columbia. To the new committee, thus constituted, was granted the power of reviewing, altering, and amending the work of the original committee, as deemed necessary. This enlarged revisory committee some of our most esteemed contemporaries choose to call the 'New Orleans Committee.' True, the committee was born here, but of foreign parentage, and certainly conceived elsewhere. It is a fact worthy of record that not a single Louisianian raised his voice in the discussion which led to the organization of the new committee.

. . . . . .

"Already it is painfully evident that it is simply impossible to organize the American meeting of the International Medical Congress upon the plan adopted by the Chicago committee. Truly, we stand to-day a divided household, and, unless some reconciliation can be effected, the failure of the Congress is inevitable. The present situation is deplorable beyond expression. A mighty responsibility rests on the present Committee on Organization. The members must realize the impossibility of organizing the Congress in further pursuance of the policy recently adopted. For the sake of harmony, through which alone the Congress can succeed, and the profession escape a national disgrace, the committee should make concessions to the gentlemen who feel aggrieved by their action; and such concessions to those who have resigned, as well as those who have been displaced, should meet only friendly responses and pledges of harmonious co-operation.

"We favor the organization of a National Committee of peace-makers, composed of representatives from the States and Territories, to be appointed by the presidents of State and Territorial societies; from the District of Columbia, to be appointed by the president of the District Society; and from the Army, Navy, and Marine-Hospital Service, to be appointed by the ranking medical officer of each service."

The "Canada Lancet" says:

"This action on the part of the leading members of the profession seems a most serious step, but it arises from the fact that there is a growing want of confidence in the ability of the American Medical Association, as an organization, to carry out such an undertaking satisfactorily, and also in the probable success of any Congress from which the best known scientific men of the country are excluded. The action of the committee in regard to the 'new-code' men would indeed be ludicrous were it not so serious, and will have the effect of creating sympathy where before there was only cold and formal respect. The insult offered to such veterans as Bowditch, Fordyce Barker, Draper, Weir, Mundé, Roosa, Knapp, Noyes, Agnew, Jacobi, and others, merely because of a difference of opinion on the code question, will not be tolerated by the good sense of the American medical profession."

The "British Medical Journal" says:

"The most recent advices from the United States have brought the startling intelligence that there exists in the American medical profession a very serious discord concerning the next International Medical Congress. We do not propose to discuss the ætiology of this rupture, for it is quite enough to be called upon to face the fact that it exists. The fact is very grave. Its existence jeopardizes, if it have not already destroyed, the probable success of the forthcoming Congress. Certainly our brethren in the States can not expect those who have already promised to attend, and those who may expect to visit America at that time, to work with enthusiasm in the preparation of any scientific contributions while those whom they propose to visit are divided, and while wholesale secessions of the official executive and of well-known persons nominated to high offices are announced. Nor do we consider it to be either our duty or privilege to suggest a remedy for this exceedingly unpleasant dilemma. It seems to be conclusive that the profession in America at this moment is hopelessly divided on the subject. Already a large proportion of the influential and active scientific men of Philadelphia—such as Bartholow, Weir Mitchell, Da Costa, H. C. Wood, Pepper, Leidy, Stillé, Parvin, and Goodell, and David Yandell, of St. Louis—have publicly withdrawn from the organization of the Congress. A like number of distinguished men in New York—such as Loomis, Roosa, Jacobi, Mundé, Agnew, and Emmet—have also either resigned or been dropped, and therefore will not co-operate with the present organization. The outlook as the matter now stands is not at all encouraging. One committee has reorganized the work of another up to the point near that of destruction. Moreover, the work of the present

committee must be submitted to the American Medical Association in May, 1886; and no one can say to what extent it may also be either overturned or modified in such a way as to seriously impede the labor necessary to be performed before the meeting of the Congress in 1887. Altogether, the position is lamentable, and there is much fear that the acceptance of the invitation to meet in the States may be withdrawn, and the next meeting of the International Medical Congress be held in Berlin, or some other great medical center, pending the settlement of the serious dissensions among our brethren of the United States."

Clinical Teaching in Obstetrics and Gynæcology.—It is pleasant to note the constant increase of the facilities for the practical teaching of these branches in New York. Besides the professors and instructors at the Polyclinic and the Post-Graduate School, there are now several very capable private instructors holding clinical appointments. We would call attention to Dr. Garrigues's card, which appears in our advertising columns this week, and assure our readers that he will be found most efficient as a teacher of obstetrics and gynæcology.

The University of Charkow.—The "St. Petersburger medicinische Wochenschrift" states that Dr. J. Lasarewitsch, having served the appointed time as professor of obstetrics and gynæcology, has been made a professor emeritus.

The University of Berlin.—We learn from the same journal that Professor Gerhardt, of Greifswald, has been called to Berlin as an ordinary professor in the medical faculty, and to succeed Professor Leyden in the service at the Charité.

The Death of Professor Vogt, of Greifswald.—The same journal announces that Dr. Paul Vogt, the Greifswald professor of surgery, died suddenly, of heart disease, on the 5th of July, in the forty-second year of his age. He had held the full professorship for only three years, having succeeded Hüter in 1882.

THERAPEUTICAL NOTES.

The Summer Diarrhœas of Infants.— The "Medical Age," of Detroit, contains, in its issue for July 25th, a valuable article on this subject, by its editor, Dr. J. J. Mulheron. He treats first of the causes of these affections, dividing them into simple diarrhœa, eutero-colitis, and cholera infantum, and then speaks of the treatment as follows:

"The first thing necessary in undertaking the treatment of a case of 'summer complaiut' is to decide to which of the three forms of intestinal disturbance above referred to the case belongs, and, having settled this point, to settle on some definite theory of its nature and the pathological conditions which obtain. Without these preliminaries the physician must flounder aimlessly about.

"The armamentarium which I would suggest in going out to cope with the summer diarrhœas of infants comprises the following drugs and remedies, it being understood, of course, that the dietary shall be determined *pro re nata*. The drugs are mentioned at random, and are not given in the order of their importance: Castor-oil, prepared chalk, calomel, creasote, salicylic acid, opium, strychnine, vegetable astringents, ergot, belladonna, chamomile, bromide of potassium, sulphuric acid, subnitrate of bismuth, oxide of zinc, cocaine, the spice poultice, and warm and cold baths.

"A brief review of the physiological action of these may assist to their therapeutic application. Castor-oil is a mild but decided purgative, and is at the same time an emollient through its action on the intestinal mucous membrane. Prepared chalk (carbonate of calcium) is an antacid. The belief that calomel is a cholagogue is now very generally discarded. The drug has, doubtless, a complex action, but for our present purpose it is sufficieut to state that it is an antiseptic, having specially marked anti-fermentative properties. Experiments conducted by Wassilief in Hoppe-Seyler's laboratory are quite conclusive as to its influence in preventing decomposition and butyric-acid fermentation in the intestines. Added to a cultivating fluid, it prevents the development of micro-organisms, while it destroys the activity of those which have already formed. These properties are, probably, due to the formation of the bichloride of mercury through its union with the chlorides of the stomach. Creasote is intensely poisonous to all forms of infusoria and fungi. It allays irritative conditions of the gastric nerves and becomes thus also an excellent anti-emetic. Salicylic acid destroys low forms of organic life and ferments. Opium has a very manifold action, but for our present purpose it is sufficient to recall the fact that it is an anodyne, that it diminishes peristaltic action of the bowels, and that it checks secretion from all surfaces except that of the skin. Strychnine, besides its characteristic action on the spinal motor nerve-centers, influences also such portions of the cord as affect the vaso-motor centers. Without being able to state its exact physiological action in this direction, clinical experience has demonstrated its value as a tonic in atony and relaxation, both of striated and non-striated muscular tissue.

. . . . . .

"Ergot has the peculiar property of causing vaso-motor spasm, and its action is noticeable in the non-striated muscular fiber of the intestines as in the same tissue found elsewhere. Belladonna is a stimulant to the vaso-motor centers, causing contraction of the capillaries. It checks secretion from glands. It relieves pain, Anstie regarding it as the best remedy to mitigate pain of every kind in the pelvic viscera. Chamomile, through the volatile oil which it contains, possesses the power of subduing reflex excitability. Grisan found it impossible to tetanize with strychnine a frog which had been fortified with chamomile, and, *vice versa*, when excitability had been produced by strychnine it could be calmed by means of chamomile oil. The power of bromide of potassium in allaying reflex excitability is well known. Subnitrate of bismuth acts, probably, locally, forming a coating over the mucous membrane and protecting it from the action of irritants. Oxide of zinc, besides being an astringent, possesses also the property of allaying reflex irritation. Sulphuric acid is tonic and astringent, with an apparently specific action on the intestines. The local anæsthetic action of cocaine has been so much discussed recently as to make reference to it unnecessary. It suggests itself as an application to the irritated gums. The spice poultice is a counter-irritant, and is, probably, also antispasmodic through absorption of the oils which it contains.

. . . . . .

"*Simple Diarrhœa.*—Assist the effort of nature to rid the bowel of irritant matter with a dose of castor-oil. Follow this by sufficient doses of prepared chalk to correct the acidity of the discharges, give opium to diminish the peristaltic action, and give astringents and strychnine to restore tonicity. The following is a good formula for a child of, say, eighteen months:

Tr. opii camph.	℥ ss.;
Ext. rubus villos. fl.	℥ j;
Tr. nucis vomicæ.	gtt. xij;
Mist. cretæ.	q. s. ad ℥ iij.

M. Sig. A teaspoonful every three hours.

"*Entero-Colitis.*—When the character of the stools, the elevation of the temperature, the disturbance of the stomach, etc., indicate the involvement of the intestine in a catarrhal inflammation, the means employed in the simple diarrhœa, which is usually the precursor of these graver symptoms, must be supplemented by other remedies. Place the child on small doses of calomel and ipecac—say a twelfth of a grain of each for a child of eighteen months—every two hours, alternated with a teaspoonful of an infusion of five chamomile flowers in a cup of boiling water. The spice poultice, moistened with hot brandy, must be laid over the abdomen. If the temperature pass 101° F., it must be reduced by baths, the water of which must at first be tepid, and gradually cooled to 70° F., or lower, as the circumstances of the case require. Should twenty-four or thirty-six hours of this treatment be followed by no betterment, and the stools continuing or becoming more colliquative, I have found the following formula to answer admirably, quieting the irritability of both the stomach and the bowels:

Creasoti.	gtt. iv;
Zinci oxidi.	gr. xvj;
Tr. belladonnæ	ʒ ss.:
Glycerini.	℥ ss.;
Aquam.	q. s. ad ℥ ij.

M. For a child a year old: Sig. A teaspoonful every three hours. This may be alternated with aromatic sulphuric acid, two drops in ten drops of brandy, every three hours. The spice poultice should be continued.

"*Cholera Infantum.*—Bearing in mind our conception of this affection as a neurosis, our treatment should be directed, 'first, to destroying the organisms, on which every fermentation depends for its development; secondly, to allaying the irritation of the end organs of the splanchnics in the mucous membrane; thirdly, to arresting the outward osmosis from the vessels; fourthly, to lowering the febrile temperature and removing the algid condition.' My experience leads me to speak with favor of salicylic acid and chalk, as recommended by Dr. Hutchins in the September, 1880, number of the 'Proceedings of the Medical Society of the County of Kings,' N. Y., as a remedy meeting the first and second of these indications. This combination is useful only in cases of serous diarrhœa, having no efficacy in the inflammatory or lienterie form. It acts happily, also, in allaying gastric irritability. Three grains of salicylic acid, rubbed up with two grains of prepared chalk, should be given every three hours. Care should be taken that the chalk be pure, and that, during the effervescence attending the addition of water to the powder, no odor of chlorine be emitted. Such odor denotes the presence of chlorine—a residuum of the manufacture of chlorinated soda. It is apt to exist in prepared chalk, and should be carefully avoided. The creasote formula, given above, for entero-colitis, has also answered a good purpose, especially in cases attended with much gastric irritability.

"There are few cases of cholera infantum in which the bromide of potassium will not prove helpful, and especially when there exist restlessness, wakefulness, and twitching of the muscles. It allays the irritation of the splanchnics, and of the nervous system generally.

"Baths hold an important place in the treatment of the fever of cholera infantum, and for one reason, among others, that it is of little use to administer medicines as long as the temperature is elevated. The soothing influence of a cold bath on a child whose temperature has reached, say, 103° F., and the increased activity of the drugs administered after the bath, need but to be witnessed to make converts to this much neglected remedy in the treatment of cholera infantum. The child should be immersed up to its neck in water at a temperature of 95° F., to which cold water should be added until the bath reaches 70°, or even lower, the condition of the patient, his temperature, etc., being the guide to the reduction. No hard-and-fast rules can be laid down to govern the temperature of the bath or its frequency. The condition of the infant must be the guide, which the good sense of the physician must be trusted to interpret and follow.

"When the child has entered the algid stage of the disease, treatment offers little hope of rescue. Alcoholic stimulants and warm baths are about the best we can apply. Belladonna, through its action on the heart, suggests itself as a remedy in this condition, and experience has shown it to be of value. By paralyzing the terminal inhibitory filaments of the pneumogastric, it gives the heart over to the sympathetic, and we have, as a consequence, increased rapidity of contraction and raised arterial tension—a condition of affairs which it would seem very desirable to secure in the cold stage."

Osmic Acid in the Treatment of Neuralgia.—Schapiro ("St. Petersb. med. Woch.") summarizes the results met with by a number of observers in the use of injections of osmic acid for the relief of various forms of neuralgia, and gives the details of his own experience, which relates to eight cases: 1. A woman, thirty-eight years old, was cured of a neuralgia of the second and third branches of the right trigeminus by twelve injections. 2. A woman, fifty-two years old, was cured of a neuralgia of the same branches by twenty injections. 3. A woman, thirty-eight years old, with neuralgia of the first and second branches of the left trigeminus, was improved by ten injections. 4. A woman, thirty-six years old, was cured of a neuralgia of the second and third branches of the right trigeminus by one injection. 5. In the case of a woman, thirty-three years old, with neuralgia of the occipital nerve and both trigemini, one injection seemed to increase the severity of a moderate paroxysm, and she declined the further use of the remedy. 6. A man, sixty years old, with neuralgia of the second and third branches, of the right trigeminus, was improved by twelve injections. 7. A man sixty years old, was cured of a neuralgia of the first and third branches of the right trigeminus by eight injections. 8. A man, fifty-three years old, was cured of a neuralgia of the second and third branches of the right trigeminus by six injections. Momentary faintness followed an injection in one instance, but he states that, with that exception, he has observed no unfavorable effects.

The Use of Ergot during Labor.—Säxinger, of Tübingen ("Dtsch. med. Wchnschr."; "Ctrlbl. f. Gyn."), defends the use of ergot during the expulsive stage of labor, provided the head is low in the pelvis, and even in cases of contracted pelvis, after the head has become fully molded. He quotes Schatz to the effect that ordinary doses simply increase the frequency of the uterine contractions, without making the individual pains stronger. At Scyfert's clinic, for the past three years, he has observed excellent results from the use of an extract recommended by Dr. Denzel, which is said to contain none of the active principles but sclerotinic acid, ergotin, and ecboline. Rather more than a grain and a half of this extract may be considered the equivalent of fifteen grains of powdered ergot. The author thinks that the use of ergot during labor will be recognized as legitimate so soon as a preparation free from deleterious constituents becomes generally available.

Salicylic Acid in the Treatment of Chancroid.—Notta ("Union méd.") gives the following formulæ:

Salicylic acid		1 part;
Flour, Powdered gum arabic,	each	2 parts.

Mix.

Salicylic acid		3 parts;
Oxide of zinc, Powdered starch,	each	15 "
Vaseline		20 "

This ointment is used by Mauriac at the Hôpital du Midi.

The Treatment of Pyrosis.—A contributor to the same journal gives the following formula, on the authority of Peter:

Powdered bicarbonate of sodium		37 grains;
Prepared chalk		15 "
Extract of nux vomica		1½ grain.

Mix and divide into ten powders, one to be taken three times a day. They are prescribed for persons with whom a milk diet disagrees, but for whom that diet is ordered. If diarrhœa occurs, subnitrate of bismuth is given, in doses of seven or eight grains, with a sixth of a grain of extract of nux vomica, and from a sixth to a third of a grain of powdered opium.

The Treatment of Whooping-cough.—The same writer (*Ibid.*) attributes to Roger the following method of treating prolonged and severe whooping-cough ("*hypercoqueluche chronique*"):

Ammoniac		1½ to 7½ grains;
Syrup of orange-flowers or of red poppy.		375 "
Infusion of elecampane or of Virginia snakeroot		1,125 "

Dose, a teaspoonful, to be repeated with greater or lesser frequency, according to the child's age and the effect produced. When the expectoration is very abundant and as if formed of muco-pus, a terebinthinate (syrup of fir-cones, of eucalyptus, or of turpentine) is prescribed. Flowers of sulphur, mixed with honey (from three quarters of a grain to two grains or more of sulphur), may also be given twice a day. It is well, too, to rub the chest or the sides of the neck with a soothing ointment, such as one containing a drachm of the extract of aconite or of conium to half an ounce of lard.

Menthol as a Local Anæsthetic.—Rosenberg ("Berl. klin. Wchnschr."; "Lancet") finds that a twenty- or thirty-per-cent. solution of menthol, which is much cheaper than cocaine, is a useful substitute for the latter as an anæsthetic application to mucous surfaces, like those of the nose, the pharynx, and the larynx. Although its effect is more evanescent than that of cocaine, it appears to be somewhat cumulative, for, when repeated, even after a long interval, the later application produced a longer period of anæsthesia than the earlier one.

Original Communications.

OBSERVATIONS ON THE MEDICAL AND SURGICAL TREATMENT OF ACUTE PERITONITIS.*

BY T. HERRING BURCHARD, A. M., M. D.,

LECTURER ON SURGICAL EMERGENCIES, BELLEVUE HOSPITAL MEDICAL COLLEGE; ATTENDING SURGEON, CHARITY HOSPITAL, ETC.

PERITONITIS may well be regarded as the most fatal of the acute inflammatory diseases. After a careful compilation of various hospital statistics, etc., I think its mortality may be set down, when all varieties of the disease are considered, at about from fifty to sixty per cent., and from twenty to thirty per cent. higher when so-called "idiopathic cases" are excluded. Indeed, as is well known, there are certain cases, especially such as are incident to septic poisoning, and others that follow perforation of the bowel, in which a fatal termination may be said to be inevitable.

Believing that this mortality is unnecessarily high, and that certain patients with peritonitis are permitted to die who, perchance, under different procedures might be saved, it is my desire to formulate and emphasize certain principles of treatment already known, although not as yet generally accepted by the profession.

All treatment, to rise above mere empiricism, must rest upon a threefold conception—a conception of the cause of the disease, a conception of the natural history of the disease, and, finally, the natural tendencies of the disease, or a foreknowledge of the mode of recovery or death. These principles apply with special pertinency to the treatment of peritonitis, and, before we can expect to treat that disease rationally, we must first know what causes it, and then how it kills.

Without going into unnecessary detail, it will suffice to know that peritonitis may originate from *external traumatisms*, from *internal traumatisms*, by extension of inflammation from contiguous parts, from septic causes and certain blood diseases (as rheumatism, Bright's disease, etc.), and possibly, though rarely, from causes that are purely miasmatic and climatic, constituting the so-called idiopathic cases.

Now, what are the causes of death?

According to the text-books, collapse and asthenia. According to clinical and pathological observation:

1. *Collapse*, which represents the shock received by the nervous system from injury inflicted on the largest serous membrane of the body.

2. *Asthenia*, which may be more intelligently expressed by, *a*, heart failure; *b*, respiratory failure.

3. By inflammatory changes in the lungs.

4. By inflammatory changes in the kidneys.

5. By *hyperpyrexia* as a special cause, superinducing any or all of the foregoing.

Any treatment, to be successful, must be prosecuted in the light of these clinical facts, and, in this understanding, the following considerations are submitted:

1. The rarity of idiopathic peritonitis being now generally admitted, it is of paramount importance that each case should have its ætiology definitely determined at as early a period as possible.

The mere fact that peritonitis exists is not sufficient in itself to justify the adoption of any course of treatment. This primary diagnosis, like the sign-board by the wayside, simply points the way to further explorations.

So long as peritonitis is regarded as a finality rather than as the expression or symptom of some organic disturbance, but little help can be expected from other than a purely empiric line of treatment.

The views of the profession have undergone a great change in this respect. As Dr. Savage tersely puts it ("Brit. Med. Jour.," January 31, 1885), "We are learning, if we have not already learned, to look on peritonitis as a symptom of some organic change, and not as a disease in itself. And this is well for our patients, because operative measures can do much for it. We shall, ere long, regard so-called 'idiopathic peritonitis' almost as a curiosity."

In no other disease is an early knowledge of the causation of the attack so essential, and yet how often is the ætiological factor totally ignored in our haste to adopt a course of treatment which, while it mitigates symptoms and apparently gives relief, at the same time unwarily leads us on to a fatal though, perchance, a painless finale!

It is in the incipiency of the attack, before excessive tympanites has disturbed the normal configurations of the abdomen and fatal asthenia has developed, that the golden opportunity for successful diagnosis exists.

One word as to the alleged difficulties of accurate diagnosis under such circumstances. So much has been said on this subject that they have come to be regarded as well-nigh insuperable. Yet, under a systematically conducted examination, which necessitates the interrogation of each abdominal viscus and which seeks to find a satisfactory explanation for each abnormal symptom, it is surprising how the difficulties will dissipate. It is owing to a want of thoroughness in the examination and a lack of the judicial element in weighing symptoms, rather than to inherent difficulties often, that the diagnosis seems so obscure. Six times have we seen fatal peritonitis develop after acute perforation of the vermiform appendix, and in five cases out of the six has the autopsy verified the diagnosis. ("N. Y. Med. Jour.," January, 1881.)

Of nine cases of *intestinal obstruction* that have fallen under our personal observation, two cases have recovered without surgical interference; hence the diagnosis could not be verified. Of the remaining seven, a positive diagnosis was made in five. In three of these I did laparotomy—twice with success. The autopsy revealed the correctness of diagnosis in the two remaining cases. (See "Transactions of N. Y. Co. Med. Soc.," meeting of April 7, 1884, p. 296.)

These diagnoses were made and the local lesion differentiated under conditions of collapse, tympanitic distension,

* Read before the New York Academy of Medicine, May 21, 1885.

and abdominal pain, for these are the prominent symptoms ushering in acute peritonitis, and are cited in this connection to show that a diagnosis which is practically accurate is feasible. (For fuller information regarding diagnosis the reader is referred to an article by the author on "Operative Interference in Acute Perforative Typhlitis," "N. Y. Med. Jour.," January, 1881.)

2. The diagnosis being made, and a local lesion amenable to surgical interference being demonstrated, surgical relief should be rendered at the earliest moment practicable.

The peritonæum behaves very differently under different circumstances. It seems scarcely credible that the same structure that will passively submit to the enormous distension of a gravid uterus or an ovarian cyst would reject so summarily the trifling local irritation consequent upon some minute intestinal perforation. Yet such is its behavior under acute irritations that the rule might well be formulated that all foreign substances, solid, liquid, or gaseous, of an irritating nature, when introduced into the peritoneal cavity, will inevitably and rapidly produce acute inflammation. The history of such traumatisms is, as we have shown, most unfortunate, the terrible features of the attack precipitating themselves with a rapidity and malevolence that are simply appalling.

What, under the circumstances, are the indications for treatment? Were the irritation located elsewhere in the body than in this much-dreaded locality, sound surgical judgment would advise the immediate removal of the irritant. Why, then, should the peritonæum, a structure which is daily proving its immunity to surgical manipulation by giving to surgery its brightest triumphs, not be subjected to the same wise principles that guide us elsewhere in our operative procedures?

True, it is no trifling responsibility we assume when we propose, in the very face of a commencing peritonitis, to open the cavity of the abdomen, release a strangulated bowel, divide constricting bands, or cleanse the cavity from purulent extravasations. But, in view of the exigencies of the situation and the absolute imminence of death, do we shift these responsibilities one iota when we sit supinely by, knowing full well the inevitable fatality that attends the orthodox methods of treatment? What ovariotomist is there that would hesitate a moment to remove stitches and reopen a wound in case internal bleeding or purulent accumulations demanded it? Too well does he know the fatality of temporizing. How many more valuable lives, then, are yet to be sacrificed before the profession realizes the necessity of surgical interference in these desperate cases of internal abdominal traumatism?

Marion Sims ("Brit. Med. Jour.," December 17, 1881) in this very hall sounded the key-note of the future treatment of such cases when he said: "Given a case of perforation of intestine, and given an accurate diagnosis, which is by no means difficult, what are we to do in the present state of our knowledge? Why, of course, we should open the abdomen promptly, clean out the peritoneal cavity, search for the perforation, pare its edges and bring them together with sutures, and treat the case as we now treat other cases involving the peritonæum. Rest assured," he says, "that the day will come, and it is not far off, when an accurate diagnosis in such cases, followed by prompt action, will save life that must otherwise quickly ebb away."

Dr. Robert W. Johnson, chairman of the Surgical Section of the Medical and Chirurgical Faculty of Maryland, said in his Annual Report (N. Y. "Med. Record," p. 550): "The greatest triumphs of the year (1884) are in abdominal surgery, Dr. Bull's case of laparotomy and suture of the intestine for gunshot wound being the greatest of them all." He then goes on to state: "The abdomen should be opened in case of perforation of intestine, hæmorrhage, extravasation of fæces, and *beginning peritonitis*, just as in cases where internal strangulation has been positively diagnosticated, but only under full and complete Listerism, (1) because without operation the patient is almost sure to die; (2) the danger is far more than counterbalanced by the chances of recovery."

To familiarize myself with the technique of the operation, three times I have laparotomized dogs, resected one or more segments of intestine, suturing with catgut the divided gut, and, notwithstanding the difficulty of keeping the animals quiet, they all recovered. Twice I have subcutaneously perforated with a slender bistoury the gut of a dog, and, after forcibly squeezing some of the intestinal contents and blood into the peritoneal cavity, have opened the animals, washed out the abdomen, sutured the perforations, and had one of the dogs recover.

The point raised by Dr. James R. Wood in the discussion on Dr. Sims's paper, to which reference has already been made—namely, that "pathological surgery or operations done for tumors and disease were very different in their results from traumatic or acute surgery, and that this was specially true regarding manipulations of a large serous membrane that resents all impertinent interference"—does not, it seems to me, afford a sufficiently logical basis for doing or not doing the operation.

As a clinical fact, the peritonæum is exceedingly tolerant of interference, provided the proper precautions are observed.

Note the vast number of Tait's operations alone that have been done during the last three years, and the splendid results that have been obtained. Death in these cases has resulted from peritonitis but rarely. More frequently it has been from septicæmia or shock.

In order to show the tolerance of the peritonæum under operations done for the relief of acute irritations, as well as to emphasize the principle I maintain, I beg to present in evidence the following cases, purposely omitting all cases of hernia or intestinal obstruction, referring the reader to Mr. Treves's recent excellent work on the latter subject:

Case I. Kuester ("Verh. d. deutsch. Gesellsch. für Chirurg.," viii, 1879).—Rupture of the sac of an incarcerated crural hernia with escape of fæces into the peritoneal cavity during a kelotomy. Immediate laparotomy and resection of the gut. Death from septic peritonitis.

Case II. Scheide ("Verh. d. deutsch. Gesellsch. für Chirurg.," 1878).—Laparotomy in a case of incarcerated umbilical hernia with gangrene of the gut.

Death four days after operation.

Case III. Schetelig ("Berl. kl. Wochenschr.," xvii, 80, 607).—Knife wound of the abdominal wall in a decrepit man of sixty. Protrusion and laceration of a part of the colon. Reposition impossible at first. Enlargement of the upper part of the wound with subsequent replacement of the bowel. Recovery.

Case IV. Wittelshoefer ("Wien. med. Wochenschr.," xxxi, 81, 118).—Man brought to Bamberger's clinic with the following history: Some days before he had introduced a painter's brush into the rectum to stop a diarrhœa, but when he tried to take it out it had disappeared. On admittance, presents signs of peritonitis, and examination shows the presence of the body in the sigmoid flexure. Other means proving of no avail, he is transferred, three days after, to Billroth's clinic for operation. Patient at this time gives symptoms of severe peritonitis and is somewhat collapsed.

Operation by Billroth.—*Laparotomy.* Incision beginning at anterior superior iliac spine and extending as far as the symphysis. Peritoneal cavity is found filled with fæcal matter, indicative of a perforation. Brush found in the ascending colon and removed by an incision 7 ctm. in length.

Toilet of peritonæum, wound of gut sutured, severe collapse after operation. Death.

Autopsy shows perforation of the peritoneal covering of the gut 25 ctm. above the anus.

Case V. Wittelshoefer ("Wien. med. Wochenschr.," 1881, xxi, 118).—Man, aged fifty-two, brought to Bamberger's clinic, November 8th, with obstinate constipation of six days' duration. On admittance, presents already signs of peritonitis, stercoraceous vomiting, etc. He is found to have a small umbilical hernia, reducible.

Transferred to Billroth's clinic November 18th. At that time already in collapse. The hernia is not so easily reduced, and is somewhat painful.

Laparotomy. Incision in linea alba 18 ctm. in length. On opening the peritoneal cavity, a quantity of fœtid matter oozes out, and there are signs of a general peritonitis. Examination shows gangrene of the gut a little above the ileo-cæcal junction, and volvulus. Resection. Death in collapse five hours after operation.

Case VI. Assmuth ("St. Petersb. med. Wochenschr.," 1881, vi, 118).—Incarcerated umbilical hernia in a man aged forty-five. Symptoms of acute ileus.

Laparotomy. Omentum and gut found gangrenous and excised. Sutured. Recovery.

Case VII. Weinlechner ("Jahrb. für Kinderh.," 1881, xvii, 304).—Laparotomy in a child five years old, with intussusception after the development of acute purulent peritonitis. Resection of intussuscepted part.

Death five hours after operation from exhaustion.

Case VIII. Hoffmann ("Wien. med. Presse," 1881, xxii, 114).—Man aged twenty-four brought to Bamberger with acute gastric symptoms. Diagnosis: perforating gastric ulcer. Transferred to Billroth. Laparotomy performed and shows a perforating ulcer on upper curvature. Edges are excised and united by sutures. Death day after operation.

Autopsy shows an enormously distended stomach with thickened walls. What had been taken for an ulcer was probably a spontaneous rupture, the result of the extreme distension.

Case IX.—Hagens ("Berlin. kl. Woch.," 1883, xx, 106).—Historical account of one of the oldest cases of gastrotomy, 1635.

Operation performed by Schwab on a peasant who had swallowed a knife. Incision two fingers' breadth under the free border of the ribs. Wound in stomach united by sutures; abdominal wound closed. Recovery.

Case X. Maurer.—Perityphlitis in a man aged seventeen. Incision extending from the quadratus lumborum muscle anteriorly to the anterior iliac spine. Opens into an abscess cavity, communicating with the perforated colon. Recovery.

Case XI. Weinlechner ("Wien. med. Blat.," 1882. "Ileus in a Man Aged Fifty-two," No. 44).—Laparotomy; incision in median line. Death from peritonitis eighteen hours after. Autopsy shows perforation of appendix vermiformis and perityphlitis.

Case XII. A. Schmidt ("Wratsch.," 1881, No. 51, and "Centralbl. für Chirurg.," 1882, No. 47).—Slow purulent peritonitis in a man aged twenty-one. By aspiration, a thin purulent fluid is obtained. Laparotomy. Incision extending from the navel to the symphysis. The whole peritoneal cavity filled with pus; about five pounds. Removed. Drainage, etc. Complete recovery.

Case XIII. Gussenbauer ("Wien. med. Blat.," 51, 52).—Sword-swallower, aged nineteen, during one of his performances breaks the blade in the œsophagus. The lower fragment is pushed into the stomach by the father, as the boy seems to be choking. On admittance, an examination is at once made, but fails to detect the body either in the œsophagus or stomach. Peritonitis developing, gastrotomy is performed, with extraction of the fragment, which is 27 ctm. long. As no perforation can be detected, closure of the gastric and abdominal wound.

Death. Autopsy shows septic peritonitis, wound of the œsophagus 14 ctm. above the cardia, and a perforation at the fundus of the stomach.

Case XIV. Kocher ("Corresp.-Bl. f. schweiz. Aerzt," Nos. 23, 24).—Gunshot wound of the stomach, in a boy of fourteen, quickly followed by peritonitis and collapse. Laparotomy three hours after. Wound of stomach closed by catgut sutures (Lembert's); closure of abdominal wound. Recovery. Patient out of bed seventeen days after.

Case XV. Sonnenburg ("Berl. kl. Wochenschr.," 142, 1885).—Rupture of the bladder in a man aged thirty-six years. Laparotomy after the establishment of acute symptoms. Abdominal cavity is found filled with urine mixed with fibrinoserous fluid, and signs of peritonitis. The rupture is situated at the inner side of the bladder. It is found impossible either to unite the ruptured part or to sew the bladder to the abdominal wall. Drainage of abdominal cavity. Death eight days after from infiltration of urine and septicæmia.

Mikulicz ("Tageblatt d. Versamml. deutsch. Naturforsch. und Aerzte," Magdeb., 1884, 1, viii, 224).—Mikulicz performs laparotomy in all cases of injury, whether direct or indirect, to the stomach and intestines, even where peritonitis is already present. He cites the four following cases:

Case XVI.—Laparotomy for rupture of the stomach in a man aged twenty-four. Perforation found at the lesser curvature, and is probably the result of extreme dilatation of the stomach. Abdominal cavity is full of fragments of partly digested food. Death three hours after operation.

Case XVII.—Symptoms of obstruction and ileus following a diarrhœa (three weeks' duration) in a young man. Diagnosis: strangulation of the gut. Laparotomy is performed, and about one litre of fibrino-serous matter is removed from the abdominal cavity. Volvulus present and reduced. Recovery from operation, but death three weeks after from intercurrent pneumonia.

Case XVIII.—Perityphlitis followed soon after by symptoms of incarceration. Laparotomy (incision in linea alba). Two litres of fœtid purulent matter are removed from the abdominal cavity. Death five days after. Autopsy shows a perforation of the intestine.

Case XIX.—Acute signs of ileus and incarceration in a young man. Laparotomy. One litre of fœtid pus and a number of pieces of undigested potato found in the abdominal cavity. A perforation is also discovered, on the left side, involv-

ing the ileum, about 6 mm. long and 4 mm. broad. No cause can be found for the perforation except that it is a typhoid ulcer in a case of typhoides ambulatoria. Edges of perforation united by sutures. Rapid recovery.

Case XX. Brugisser ("Corresp.-Bl. f. schweiz. Aerzt").—Acute signs of ileus strangulation and peritonitis in a man of seventy-four. Laparotomy; incision parallel with Poupart's ligament. Resection of strangulated bowel. Recovery.

Case XXI. Lloyd ("Brit. Med. Jour.," March 24, 1883).—M. L., a domestic, aged nineteen, was admitted to Woman's Hospital late in the evening of February 23d. She had been accidentally shot in the abdomen three hours previously. No shock and but little vomiting. Bullet had entered slightly to the left of the median line immediately above pubes. Finger passed readily into peritoneal cavity. Patient becomes steadily worse, and on the 26th has constant vomiting, severe abdominal pain, a temperature of 99°, and a thready pulse. Laparotomy in the evening; abdominal section at once followed by escape of a fœtid, thick, brownish fluid. The intestines are matted together. A coil of gut, hooked from the left iliac region, has in it a ragged wound three quarters of an inch in diameter. Abdominal cavity washed out with plain lukewarm water, a glass drainage-tube inserted, and perforated gut stitched to the center of the abdominal wound. Patient never rallies, and dies in collapse one half hour after. Autopsy shows that bullet has contused the apex of the bladder, cut through the free edge of a coil of intestine, perforated the mesentery and lies between it and the mesocolon.

Case XXII.—Savage ("Brit. Med. Jour.," April 14, 1882) reports seventy cases of abdominal section performed that year. Six laparotomies during *presence of subacute peritonitis with more or less exudation*. All the patients recovered.

Case XXIII. Bouilly ("Bullet. de la soc. de chir.," 8 août).—In a man, aged twenty-nine, who has received two hoof blows in the umbilical region, Bouilly performs laparotomy twenty-three hours after the injury, as symptoms of perforation and peritonitis are present. On opening the abdominal cavity a rent 1½ ctm. long is found in the small intestine, with irregular margins. Resection of a piece of intestine 10 ctm. long. Great improvement. Fæces, however, continue to pass through the abdominal wound (a part of which had been left open). On the tenth day examination is made of the fæcal fistula, with the object of curing it, but in the evening the patient suddenly collapses, and next day dies from purulent peritonitis. Autopsy shows that sutures of intestinal wound had separated, that the separated ends had been shut off by exudation from the peritoneal cavity, and that the rupture of an adhesion was probably the cause of death.

Case XXIV. Albanese.—In a man, seventy-six years of age, who, four days before admission, had received a blow upon the abdomen, symptoms of acute ileus and peritonitis become developed. On the seventh day after the injury laparotomy, the incision being over the colon ascendens. A coil of strangulated intestine is found, bound by adhesions to the cæcum. These are carefully separated. Good recovery.

Case XXV. Willet ("St. Bartholomew's Hosp. Reports," 1876, p. 208).—T. F., aged forty-eight, admitted with symptoms of ruptured bladder, the result of a kick over the pubes. Laparotomy in twenty-four hours after development of peritonitis (general). Incision five to six inches long, extending from the umbilicus to the pubes. On opening the abdominal cavity, several ounces of brown urinous fluid escape; a rent is found across the fundus of the bladder three inches and a half long. Edges of rent are brought together by sutures. Sudden death after a temporary improvement.

Case XXVI. Heath ("Royal Medico-Chirurg. Society," Feb. 25, 1879).—Rupture of bladder. Laparotomy. Rent in bladder closed by sutures. Death from peritonitis.

Case XXVII. Tait ("Brit. Med. Jour.," 1878, i, p. 677).—Laparotomy for abdominal tumor, during the presence of acute peritonitis. The tumor is found to be a Fallopian tube distended with menstrual blood. Drainage, etc. Perfect recovery. Tait has done forty ovariotomies during commencing peritonitis. All the patients recovered.

Case XXVIII. Walter ("Med. and Surg. Reporter," Philadelphia, 1862).—Rupture of the bladder in consequence of a kick on the abdominal wall. As no amelioration follows the introduction of the catheter, and as signs of peritonitis supervene, laparotomy is performed. A rent is discovered at the fundus of the bladder two inches in extent. Some extravasated urine in the abdominal cavity. Wound in bladder is not closed, as no urine is seen to escape. Abdominal wound sutured. *Recovery.* Probably the first case in which laparotomy has been resorted to for acute conditions within the abdomen.

Case XXIX. Chaput ("Jour. de méd.," 1880, p. 103).—Laparotomy for perforation of the vermiform appendix by a foreign body during the presence of acute peritonitis. Abdominal cavity filled with fœtid pus. Drainage. Death.

References.—Güterbock ("Arch. f. klin. Chirurg.," 1884, 419) recommends laparotomy and closure of vesical wound in all cases of rupture of the bladder. McCormac (N. Y. "Med. Rec.," p. 477, 1883) advocates laparotomy in cases of gunshot wound of the abdomen.

Case XXX. Tilnig ("St. Petersburg. med. Woch.," No. 44, 1884).—Man, aged nineteen, received while at supper a knife wound four fifths of an inch long in the epigastric region, one inch to the left of the linea alba and three inches above the umbilicus. While the wound was being sutured patient vomited large quantities of a reddish chyme, and afterward pure blood. Laparotomy. Incision six inches long in median line. On section of peritonæum much blood escapes. The finger introduced detects a wound in the left gastro-colic ligament leading to another in the posterior wall of the stomach, through which the mucous membrane protrudes. The edges of the stomach wound are brought together by sutures. Owing to the collapsed condition of the patient, the abdominal cavity can not be thoroughly cleaned. Abdominal wound closed by Lembert's sutures. Quick recovery.

Case XXXI. Taylor ("Lancet," 1884, ii, 589).—Girl, aged fifteen, gives symptoms of acute hydronephrosis. As the symptoms increase in severity, *laparotomy* is determined on. On the morning of the operation symptoms of collapse set in, the cystic tumor, which was before perceptible on the left side, has also disappeared, and the abdomen is very tender. As rupture of the cyst is probable, immediate laparotomy. Incision in median line. Peritoneal cavity filled with urine. As the point of rupture can not be found, the cyst is opened at another place, and the edges of the wound are stitched to the abdominal wound. Recovery with a urinary fistula.

Case XXXII. "Gunshot Wound of the Intestines treated successfully by Laparotomy with Sutures of the Intestines," by William T. Bull, M. D.; read before the New York Surgical Society, January 27, 1885 ("N. Y. Med. Jour.," Feb. 14, 1885, p. 184).—W. McE., male, twenty-two years of age, was brought to the Chambers Street Hospital on the night of November 2, 1884, suffering from a pistol-shot wound of the abdomen. Seventeen hours after the accident laparotomy was performed under strict antiseptic precautions. On opening the abdominal cavity, the intestines were found to be wounded in seven places; these were carefully washed, and the peritoneal edges were then approximated and the line of sutures carefully rubbed with iodoform. The bullet was detected at once lodged in the

upper surface of the sigmoid flexure. Operation lasted two hours. Abdominal wound closed with deep silk sutures, and dressed with an iodoform and borated-cotton dressing.

Six hours after operation cold-water coil applied. After the eighth day convalescence was uninterrupted save for a few sinuses in the line of incision, and at the end of eight weeks the large wound was cicatrized. The functions of the alimentary canal were performed normally, and he was apparently in good health.

Case XXXIII.—Frederick Treves, F. R. C. S., in a paper read before the Royal Medical and Surgical Society of London, on the "Treatment of Peritonitis by Abdominal Section," reports a case in which a large pelvic abscess had burst into the peritoneal cavity, followed by acute peritonitis. Laparotomy under strict antiseptic precautions. Peritonæum showed appearances of acute peritonitis. The whole cavity washed out and a drainage-tube introduced. Patient made a good recovery.

Case XXXIV.—Mr. Howard Marsh, at same meeting, read the history of a case, the patient being a medical student who was attacked with symptoms of sudden and acute peritonitis. Laparotomy; about two pints of fœtid pus evacuated. Whole cavity washed with sol. acid. carbol., 1 to 60, and a drainage-tube introduced. Recovery.

In the discussion which followed the reading of Treves's paper, Bryant, Thornton, Powell, Barwell, Goodhart, and Meredith were in perfect accord in commending the practice carried out in the two cases noted.

Case XXXV.—Omental abscess, rupture into peritoneal cavity. Laparotomy. Recovery. T. H. Burchard.

On August 20, 1883, I was requested by Dr. Frederick D. Lente to see Ephraim Wells, aged twenty-five, a colored waiter, employed in one of the smaller hotels in Saratoga. For some three weeks Wells had been confined to bed suffering from a severe cellulitis of the abdominal walls. Several superficial abscesses had formed, which had been located by Dr. Lente.

He had suffered intense abdominal pain, temperature fluctuating from 101·6° to 104·5°, and was rapidly emaciating. For six or seven days prior to the present complication his abdomen had become tympanitic and the pain more diffused. For forty-eight hours there had been excessive hiccough and frequent retching of green mucus. On the night of August 19th he took surreptitiously four compound cathartic pills. At seven o'clock on the morning of the 20th Dr. Lente was summoned, and an hour later I saw him.

He was lying with legs flexed, abdomen moderately distended and breathing thirty-two times a minute; his pulse was 120 and his temperature 102·2°.

Examination showed an indurated condition of the tissues of the hypogastric and left hypochondriac regions, the integument being somewhat erysipelatous in appearance. The indurated mass appeared to involve the entire thickness of the abdominal wall, and was about six by seven inches in diameter. Both Dr. Lente and myself thought we detected deep-seated fluctuation, and, although a Lüer's aspirating needle failed to give pus, at Dr. Lente's request I proceeded to evacuate the abscess. Dr. William Curtis, of Philadelphia, gave ether.

My incision was made in the median line (deep-seated fluctuation appearing more distinct there, although the principal part of the induration was slightly to the left), and extended from an inch below the ensiform cartilage downward to the umbilicus.

Just as I reached the linea alba, at a depth of fully two inches and a half, something was felt to suddenly give way beneath the hand, as though an abscess had burst within the peritoneal cavity. Although it was thought the patient would certainly die, it was determined that what little chance he had depended upon giving vent to the pus anteriorly. The incision was extended through the linea alba and into the great omentum, which was adherent to the abdominal wall and the seat of the abscess.

Omentum, intestines, and mesentery were matted together in one inseparable mass, and pus of an extremely fœtid odor welled from the cavity of the belly. I should say fully a quart escaped.

The patient grew rapidly weaker. Inhalations of ammonia and amyl and hypodermics of whisky were freely used. Warm milk-punch was injected *per rectum*.

The patient rallying, the incision was prolonged below the umbilicus, so as to get beneath the abscess, and so thoroughly wash out the abdominal cavity.

Fully a gallon of warm carbolized water (3 per cent.) was thrown gently in among the matted coils of intestine. The walls of the abscess cavity were sparingly dusted with iodoform, and two rubber drainage-tubes were inserted. The upper and lower ends of the incision were sutured with silver wire; the median portion above the umbilicus was purposely left open to permit of free drainage.

A pad of oakum, wrung out in sol. hydrarg. bichlor., 1 to 1,000, was placed over the entire wound, and a light bandage applied.

The patient rallied poorly from the operation. Hiccough and vomiting continued the entire afternoon, the pulse most of the time being scarcely perceptible. 2 P. M., pulse 140, temperature 103·4°, respiration 26; 5 P. M., pulse 136, temperature 104·6°, respiration 30.

Cracked ice and small portions of champagne frappé were given by the mouth, and enemas of beef peptonoids and milk punch were given each four hours. Morphine, atropine, and digitalis were given hypodermically, p. r. n. Ice-coil on abdomen.

August 22d.—5 A. M., pulse 130, respiration 28, temperature 100·6°. Sleeping quietly. Has had during the past twenty hours morphine 2½ gr., atropine ¼ gr., tinct. digitalis ♏ xl. 4 P. M., pulse 124, respiration 27, temperature 101·4°. Wound discharging freely. No hiccough or vomiting.

23d.— 8.30 A. M., pulse 118, respiration 24, temperature 100·2°. Comfortable night. 3.30 P. M., pulse 116, respiration 26, temperature 100·4°. Morphine 1¼ gr. in twenty-four hours. Takes peptonized milk and iced champagne.

24th.—Vomited once during the night. General condition excellent. Wound discharging comparatively little. 9.45 A. M., pulse 115, respiration 22, temperature 99·8°.

26th.—Improving in every respect. Abdominal induration disappearing. Removed one drainage-tube and one stitch. Ordered a tonic—iron, quinine, and strychnine.

29th.—Removed all stitches. Incision about one half inch long. Removed rubber tube, and inserted one of decalcified bone.

September 2d.—Patient convalescing rapidly. Leaving Saratoga to-day. Dr. Lente took entire charge of the case. A few days after, Dr. Lente returned to Cold Spring, and I never saw him again alive. I learned, however, that Wells left Saratoga about the last of September in excellent condition. Most diligent inquiry has failed to find his whereabouts since.

Now, if these forty cases, with twenty-four recoveries, teach anything, they teach not merely the feasibility of such operations, but, more than that, they give us legitimate ground for encouragement in fully sixty per cent. of these otherwise hopeless cases.

In contrast with the foregoing, permit me to give very briefly the history of my sixth case of perforation of the

appendix vermiformis, and, for personal reasons, I desire to omit all names and dates:

I was requested by Dr. —— to see Miss —— in consultation. She was twenty-two years of age, and generally had enjoyed good health. Three months before she had had an attack of perityphlitis, which had lasted about three weeks. A small mass of induration, of about the size of a billiard-ball, was still left. She had had another attack sixteen months before.

On the evening prior to the present attack she had been at a party, danced excessively, got overheated, drank considerably of cooling beverages, and in going home and after she retired had chilly sensations. On awakening about 8 A. M., feeling "uncomfortable in her old spot," she took a large saline. This was followed by two copious movements. During the second she experienced a sudden sharp, darting pain in her right side, and immediately fainted. I saw her about noon. She was then in excellent condition—pulse 108, temperature 100°, abdomen moderately distended; some hiccough and nausea. Pressure over the tumor produced sharp pains. Stethoscopic examination over the cæcum gave distinct fremitus and crepitation. I diagnosticated unhesitatingly perforation of the bowels, and urged an immediate operation. My advice was not accepted. At nine the following morning I was summoned hastily, and to "be prepared to operate." The condition of things had now entirely changed. The patient was semi-moribund. Abdomen enormously tympanitic. Pulse 140, and intermittent. Naturally, an operation at this period would have been worse than useless. The patient died two hours later, or twenty-seven hours from the commencement of the attack. It was with melancholy interest that I saw the autopsy reveal a minute perforation at the base of the appendix not three lines in diameter. The appendix was bound down by old adhesions. There was the faintest exudation of lymph immediately around the perforation.

Austin Flint, in his last edition, in speaking of septic peritonitis (Flint's "Practice," p. 590), says: "The time may come when paracentesis abdominalis will have been proved to be as applicable to certain cases of peritonitis as are thoracentesis, injections into the pleural cavity, and a permanent opening in the chest in cases of suppurative pleurisy." In the light of these cases, I submit, Has that time not already come?

Regarding the medical treatment of peritonitis, there are some points of special interest worth considering, and, first, as to the opium treatment. Opium is our sheet-anchor in the treatment of peritonitis, and yet, indispensable as the drug is, there are certain conditions which arise in the course of the disease in which the drug can only be used with the greatest caution. The indiscriminate use of opium, even in peritonitis, is quite capable of doing more harm than good.

The symptoms of peritonitis vary with the extent, severity, and the causes which produce it. When the disease develops gradually, as from a pre-existing visceral inflammation, for some time there may be little or no constitutional disturbance. When it develops suddenly, however, and particularly if from *internal traumatism*, as hernia, perforation, or other intestinal injury, this condition of *shock* enters as a very important element in the development of symptoms, and the treatment must be varied accordingly.

This initial collapse of peritonitis is a subject upon which too little has been said, and yet its treatment is of most signal importance. I have seen it persist for hours after well-pronounced peritonitis had developed, as evidenced by increasing meteorism, increasing abdominal tenderness, and a rising temperature, and yet the while the patient lying listless or semi-conscious, with limbs extended, with features pinched and shrunken, and a pulse scarcely perceptible.

A most remarkable case of this kind occurred in my practice a few years since. A young gentleman, John H., aged about twenty-six or twenty-seven, came to my office one morning complaining of a left epididymitis. As the inflammation was of unusual severity, I sent my assistant, Dr. L. D. Woodbridge, to his home to apply half a dozen leeches over the cord in the left inguinal region. About midnight I was summoned to see him, as he was suffering severely.

Dr. Woodbridge responded to the call and found his pain was less, but that he was rapidly sinking into a condition of collapse. At 2 A. M. Dr. Woodbridge wrote that "Mr. H. was evidently dying." I went at once, and found my patient unconscious and almost pulseless. His respirations were very shallow, and at times would stop altogether. His pupils were widely dilated and irresponsive. Superficies of the body pale and cold. Rectal temperature 96°. Abdomen greatly distended, and pressure on it would cause a reflex regurgitant movement in throat and an expression of pain. During the early afternoon his temperature rose to 102·6° and he became deeply cyanotic.

Dr. Loomis saw him at 2 P. M., confirmed the diagnosis of peritonitis, and said the patient, being then comparatively pulseless, would certainly die. At 5 P. M., after fifteen hours' constant labor, keeping up artificial respiration all the while and feeling that he could survive but a very few minutes, Dr. Woodbridge and I left the house.

At 6.30 P. M. we were recalled, to find him slowly regaining consciousness. He subsequently fully rallied, passed through an unusually severe peritonitis, and is now well.

In speaking of treatment, the text-books generally recommend, "as soon as the unmistakable symptoms of peritonitis are developed, administer at one dose from two to five grains of opium, or from one half to one grain of morphine."

And yet physiological experimentation has proved that collapse, such as existed in this case, is dependent upon vaso-motor paresis, and the deeper the involvement of the sympathetic the more profound the collapse.

Now, this is a condition of the system in which opium, even in moderate doses, is poorly borne. Infinitesimal doses of morphine in conjunction with atropine, by mitigating pain and securing nervous tranquillity, undoubtedly exert a favorable tonic influence upon the heart. Large doses increase the paralysis of the cardiac inhibitory center and still further cripple that organ.

This is no visionary condition of affairs, for I have more than once seen a heart feebly endeavoring to rally from the

shock of a commencing peritonitis well-nigh overwhelmed by a dose of morphine that the text-books would justify, and one which a few hours later would be insignificant.

Another and very important fact to be noticed in the commencement of peritonitis, and governing greatly the freedom with which opium may be used, is the perplexing discrepancy that ofttimes exists between the severity of the pain and the apparent hard, tense, wiry pulse on the one hand, and, on the other, the very great heart-feebleness.

Under such circumstances, every dose of opium given, unless guarded by atropine or digitalis, jeopardizes the heart, and no dose should be administered under such circumstances without previous careful cardiac auscultation.

There is another condition, developing later in the history of the disease, in which the administration of morphine in large doses is equally prejudicial, and upon which condition current literature is likewise, unfortunately, silent.

I refer to the hypostatic pneumonia which, owing partly to the patient's asthenic condition and partly to pressure on the lungs from excessive tympanites, is so apt to develop at that time.

Here, too, we have an important inhibitory center, the respiratory, paralyzed from carbonic-acid-gas poisoning. In addition, we have lungs badly compressed, with blood imperfectly aërated sluggishly flowing through them; portions of the pulmonary structure are consolidated, either from simple stagnation of the blood or from lobular inflammation.

At this stage a slight overdose of morphine might arrest the respiratory act entirely. Yet I have seen its use persisted in under these very conditions.

When the disease has reached this point and cyanosis begins to develop, I believe little is gained from pressing opium, and it is wise to suspend its administration except at infrequent intervals, giving it only to meet some special indication, and guarding it carefully with digitalis, atropine, or ammonia. At this period stimulating hypodermics should be freely resorted to; dry cups to the lungs are of signal benefit, and inhalations of oxygen often tide us over an ugly complication.

In a case of peritonitis under my charge last winter—that of a young lady of twenty, in the third week of typhoid—my assistant, Dr. Henry A. Mandeville, and myself fought day and night for nearly a week a temperature that fluctuated from 103° to 106·6°, until at last she went into unconsciousness from respiratory failure and carbonic-acid poisoning. Although the cyanosis involved the entire body, and she had been practically pulseless and unconscious for eighteen hours, nevertheless, under the atropine and other stimulants that were injected, and the oxygen inhalations that were given, she rallied and regained consciousness.

Regarding the use of opium, *freedom from pain* is the ideal condition to be secured, irrespective of the quantity of the drug administered. When this is attained, sleep from which a patient can be readily aroused follows as a natural consequence. Opium, or its alkaloid, morphine, should be administered. Personally, I prefer the hypodermic administration of morphine, not alone from the simplicity and certainty of its administration, but, what is of more consequence, the absolute knowledge it gives us of the exact quantity of the drug our patient is receiving. Given by the mouth, how much is absorbed and how much lies dormant in the stomach is purely a matter of conjecture.

Several years since a patient of mine, convalescing from peritonitis, passed a curious mass at stool several days after the discontinuance of the drug. Upon examination, this proved to be a collection of opium pills that had been prepared at one of the most reliable pharmacies in the city.

I am confident that, had this amount of opium been absorbed, it would have killed my patient, in which event the death would naturally have been attributed to the peritonitis.

Objections have been raised against the combination of atropine with morphine, it being alleged that the physiological antagonism that naturally exists between these two drugs tends to render the development of symptoms irregular, and their interpretation more perplexing and obscure.

Undoubtedly atropine does produce a marked change in the patient's appearance, and certain very characteristic changes in the phenomena of the disease; but these changes, we believe, are in every way favorable to the patient.

There is no one drug in the treatment of collapse—whatever be its cause, whether traumatic or from disease—in which more implicit confidence can be placed than in atropine. Owing to its stimulating action, the heart gains strength, the respiratory act deepens, and the phenomena of shock yield in a surprising manner to those of traction. In the later stages of peritonitis, especially when the heart and lungs fail and when gastric regurgitations and hiccough are rapidly exhausting our patient's vitality, I have obtained results that were simply marvelous from the administration of one or more hypodermics of atropine, varying in strength from one sixtieth to one tenth of a grain each, and given either alone or in combination with morphine, digitalin, ammonia, or alcohol, according to the special indications existing.

The contrast in the appearance of two patients—one being treated with atropine in combination with morphine, and the other with morphine alone—is most marked, while in moments of special exigency the value of this drug is inestimable.

The amount of morphine that should be administered varies naturally with the patient's susceptibility, the severity of the disease, and the amount of pain.

Each patient in these particulars is a law to himself, and no rule could be formulated that, in a general way even, would apply to individual cases. The remarkable tolerance of morphine in peritonitis is too well known to require more than a passing mention, and yet, since adopting the hypodermic method, I have been surprised to see how little was generally required, as compared with the immense doses formerly given by the mouth.

After being brought to a condition of partial narcosis there have been comparatively few cases, except those of a septicæmic nature, that have required more than two grains of morphine a day; although in one case attended by Dr. Loomis and myself, after giving three doses of two grains

each, hypodermically, an hour apart, I gave one grain, hypodermically, each hour for twenty-seven consecutive hours without entirely controlling the pain or materially reducing the frequency of the respirations, which varied from twenty-five to thirty a minute. The patient recovered, having received during the first five days of her sickness sixty-three grains of morphine hypodermically.

External Applications.—Much has been said of the efficacy of external applications—used either hot or cold.

Poultices are still used by many. Until within the last two years I employed them exclusively. Upon what therapeutic principle their use was based I did not know then. I do not know now. Under three conditions only can I conceive of any physiological reason for their employment: First, in the commencement of a peritonitis, by their sedative effect upon peripheral nerves, they may assist in lulling pain; secondly, during the passage of urinary or biliary calculi, or in intestinal colic, they may assist in relaxing spasm; and, lastly, during the stage of decline they may hasten the absorption of inflammatory products. For these reasons a poultice is indicated; otherwise they neither control inflammation, reduce temperature, nor lessen tympanites, all of which is done, and with perfect comfort to the patient (provided the temperature of the water is reduced gradually), by the employment of the ice-coil.

If experimental physiology has taught us anything, it is that cold applied to peripheral sensory nerves controls the afflux of blood to those parts supplied by the vaso-motor nerves that inosculate with such sensory branches.

The sympathetics distributed to the intestines and peritonæum arise from the solar plexus, the sensory filaments being the lumbar nerves which supply the wall of the abdomen. Ice applied to the abdomen constricts the blood-vessels of the intestines and peritonæum, and it is in the reflex contraction of these blood-vessels that the benefit resulting from the application of cold to the abdomen finds its physiological explanation. Poultices are not curative. Cold, judiciously employed, lowers temperature, reduces inflammation, relieves tympanites, and secures nervous tranquillity. There is but one way of employing cold, and that is by the ice-coil. This can be readily extemporized from either lead or rubber tubing.

For diet nothing is comparable with peptonized milk, to which additional cream may be added if desired. Valentine's beef-juice, beef-peptonoids, and Leube's meat solution furnish valuable nitrogenized preparations.

For the relief of tympanites much depends upon whether the gas is within the cavity of the peritonæum or in the intestines. If the former, a fine aspirating needle may be introduced, and with immediate relief. If the latter, a long tube may be passed up the bowel and an ounce or more of some warm aromatic solution injected. Gas must not be expected to escape through a tube occluded with fæces.

Large fæcal masses not infrequently prevent the escape of flatus by blocking up the rectum. Under such circumstances a large enema of flaxseed tea, in which some ox-gall has been dissolved, may be injected with benefit. A patient of mine, who was once rapidly succumbing to increasing tympanites, was saved by this simple procedure.

Pneumatic aspiration of the intestine I regard as neither surgical nor safe.

As in the case Professor Polk, reported at the Obstetrical Society, I have seen gangrenous inflammation with fæcal extravasation follow the puncture.

Turpentine stupes I resort to more out of respect to tradition than because of any very positive benefit I have ever seen follow their use in general peritonitis.

When turpentine is pushed to any considerable extent, I fear damage to the kidneys.

I have seen both strangury and hæmaturia follow its external application. In two cases I have noticed a marked increase of albumin in the urine following its employment. A discontinuance of the stupes caused a total disappearance of the albumin in one case, and a considerable reduction in the other.

Independent of the fact that Bright's disease is of itself a frequent cause of peritonitis (Habershon's statistics give 63 cases of Bright's disease as the exciting cause of 301 cases of peritonitis [" Med. Times and Gaz.," Dec. 13, 1859]), the anatomical position of the kidneys renders them prone to take on inflammation whenever the peritonæum is inflamed. Hence I have often questioned if a powerful irritant to the kidneys—as turpentine is—does not sometimes add additional irritation to these organs.

Daily and frequent urinary examinations should be made, for more than once has the timely application of cups and a digitalis poultice over the kidneys saved for me the life of a patient who was insidiously developing a nephritis which, without such examinations, would never have been suspected.

Last, but by no means least, the successful treatment of peritonitis demands a personal devotion and attention involving complete abnegation of self.

THE OPERATION OF EPISIOTOMY.

By REYNOLD W. WILCOX., M. A., M. D.

The operation of episiotomy does not seem to have received, at the hands of English and American writers on the subject of obstetrics, the attention to which its merits entitle it. In the majority of obstetrical treatises the subject is dismissed in a few lines, or no allusion is made to it. If, on the contrary, it has attracted the attention of the author, it is often superficially discussed, or his erroneous preconceived ideas are apparent in his treatment of this subject. To one who has seen this operation as one of frequent, even daily occurrence in the lying-in wards of Vienna, this appears incomprehensible. It is the writer's intention to briefly point out its advantages and results, and, if possible, to deduce some impartial conclusions.

Episiotomy is no new operation, nor is it an abandoned one recently resurrected, but one, although influenced by the fluctuation of obstetrical opinions, in uninterrupted use for more than a century. If we read aright, the name was suggested by Ould, in his "Treatise on Midwifery," in 1742,* although Michaelis was the first to perform it, in 1799. At the next confinement, ten years later, the same

* Parvin, in "Trans. of the Am. Gyn. Soc." for 1882, vol. vii, p. 151.

perinæum was yielding and in excellent condition, but showed a fine cicatrix from the operation.* A little later we find Elias v. Siebold † strongly advising this operation. Frequent allusions are met with in German obstetrical literature, until we find the most complete exposition of this operation in an elaborate article, by Credé and Colpe, in the "Arch. f. Gyn." for 1884.‡ The operation consists in making a small incision, often a subcutaneous one, in the *rima vulvæ*, and is never an extensive and complete laying open of the vagina, as has been described or as is often considered to be the case by those who have not seen it performed. In fact, it hardly deserves to be dignified by the term "operation" if one looks at it only from the standpoint of facility of performance and the slight amount of practice required.

The aim of the operation can best be understood if one considers the causes of dystocia that arise from conditions of the soft parts, or can be remedied by operations upon them. In brief, in performing episiotomy it is intended to avoid rupture of the perinæum, arising from all causes except those referable to the force and character of the pains. The causes of perineal rupture are:

I. From condition of the soft parts.

a. Rigidity, by which we mean that the perinæum shall be anatomically normal—the perinæum of inexperienced obstetricians. In this case the vaginal orifice can be dilated to the size of the child's head, yet the hyperæsthesia of the muscles prevents this end.#

b. A second condition to which this same term is applied when the vaginal outlet is anatomically incapable of full distension, when the surrounding tissues are not fully developed, or, as in old primiparæ, the tissues are inelastic.

c. A condition of the muscular fibers which renders them unable to bear moderate strain, a state of affairs found in tissues for a long time subject to congestions, indeed analogous to the fatty infiltrations and degenerations. ‖

d. Excessive width or length of the perinæum.△

II. From condition of the bony parts.

a. The narrow pubic arch, "male pelvis," or, what amounts practically to the same result, a thickened condition of the urethral structures.

b. Too little inclination of the pelvis.◊

III. On the part of the child.

a. Incompressibility or excessive size of the head.

b. Malpositions and malpresentations.

Lastly, the feeling on the part of the accoucheur that, "if laceration is inevitable, treatment to prevent it can be of no avail." ↕ In the three classes mentioned it is assumed that the conditions present do not exist to such an extent that birth is not possible without other operative or instrumental interference. It is to hasten the result and to avoid the unfortunate consequences of perineal rupture that this operation is demanded.

That unavoidable perineal rupture takes place is proved conclusively by the records of clinics where no one is allowed to practice midwifery until shown competent by examination.

Winckel * states that ten per cent. of all patients suffer laceration. While Hecker,† in over twelve thousand cases, found three and sixty-six hundredths per cent. of lacerations, Spiegelberg,‡ among three thousand cases, found tears over two and a half centimetres long (one inch) in three and one half per cent. of cases; Preiter's# cases, over seven thousand in number, showed tears in three and forty-seven hundredths per cent. of their number.

Considering primiparæ alone, the percentage is much higher, being, according to K. Schroeder,‖ twenty-four and four hundredths per cent. (deliveries in side position); according to Hippold,△ eighteen and seven tenths per cent. In elderly primiparæ, as shown by Ahlfeld,◊ about thirty per cent.; by Hecker,↕ fourteen per cent.; by Cohnstein,↕ three and fifty-eight hundredths per cent.

The relative frequency of lacerations in primiparæ and multiparæ may be inferred from the following figures: B. Schroeder ‡ thirty-four and one half and nine, Kleinwächter ** thirty-four and ten, Olshausen †† twenty-one and one tenth and four and seven tenths per cent., respectively. The last authority, quoted in Lusk,‡‡ believes that fifteen per cent. is not too great for unpreventable tears due to defective distensibility of the perinæum and disproportionate size of the head of the child in primiparæ, although he considers two per cent. too high for multiparæ.

The advantages of episiotomy are not disputed in cases of atresia vaginæ or in any structural contraction.## Granting that a laceration is inevitable, the operation removes it from the median line and locates it in the exact position chosen by the accoucheur. This avoids the danger of a laceration through the sphincter ani, and also relieves the strain upon the recto-vaginal septum, preventing a central rupture.‖‖ Also, as is stated by Elder,△△ episiotomy limits the extent of the lesion. In Credé's cases not a single case of total rupture occurred.

When one compares the spontaneous lacerations, irregular in depth and outline, with the subcutaneous incisions or

* Credé u. Colpe, "Arch. f. Gyn.," 1 Hft., 1884, S. 150.

† "Lucina," 1810, vol. vi, quoted by Credé u. Colpe, *loc. cit.*

‡ S. 148, u. ff.

Carter, "Med. News," 1883, v. 43, pp. 66 *et seq.*

‖ Carter, *loc. cit.*

△ Baker, "Trans. of the Med. Soc. of Penn.," 1882, xiv, p. 236.

◊ Cf. papers of Baker and Carter above quoted.

↕ Duncan, "Papers on the Female Perinæum," London, 1879, p. 16.

* "Die Path. u. Ther. des Wochenbettes," 2te Auf., S. 44.

† "Arch. f. Gyn.," Bd. vii, S. 458.

‡ "Lehrb. der Geburtsh.," 1878, S. 628.

Quoted in Winckel, *op. cit.*

‖ "Manual of Midwifery," Am. trans., 1878, p. 93.

△ Quoted in Credé u. Colpe, *op. cit.*, S. 149.

◊ "Arch. f. Gyn.," Bd. xiv, S. 514.

↕ "Arch. f. Gyn.," Bd. vii, S. 452.

↕ "Arch. f. Gyn.," Bd. iv, S. 509.

‡ Quoted in Credé u. Colpe, *loc. cit.*

** "Grundriss der Geburtsh.," 1877, S. 304.

†† Volkmann's "Sammlung klinischer Vorträge," No. 41, S. 360.

‡‡ "Science and Art of Midwifery," 1882, p. 207.

C. v. Braun, "Lehrb. der Gyn.," 1881, S. 726, and Burns, "Prin. of Midwifery," 1813, vol. ii, p. 14.

‖‖ Lusk, *op. cit.*, p. 210; Glisan, "Textb. of Midwifery," 1881, p. 368.

△△ London "Lancet," 1884, i, p. 1160.

the clean-cut operations (the daily practice in Vienna), he can not but mark the difference and marvel that so simple a procedure has attracted so little attention in America. Not only because the incisions are subcutaneous do they unite so readily, often by first intention, without subsequent attention, as in Spaeth's wards at Vienna, but the fact that the edges are clean-cut is important.* Yet Playfair, in his "System of Midwifery," 1880, has apparently changed his opinion, for, while he now admits, as every one does, that incised wounds heal more rapidly than lacerated ones, he believes that a distended perinæum ruptures with edges as clean-cut as if by a knife.† The testimony of the gynæcologist who meets with extensive cicatrices, deep and irregular in outline, in his daily work, proves that a clean-cut spontaneous laceration must be very rare—far more so than our author would have us believe.

A third reason for the more rapid process of healing after this operation is that the gaping observed from retraction of the transversus perinæi muscle in spontaneous laceration is absent.‡ Although the passage of lochia over an open wound is often unattended by general symptoms or retarded healing, yet the artificial lesion obviates any possible danger from this source so long as the dorsal position is maintained.

Finally, the deformity of the vulva is by no means so great as after spontaneous rupture.#

In marked contrast to the anxiety shown in the paper by Credé as to the patient's future is that inferred from the statements, so often met with, more or less frankly made, "that perineal tears are of no significance if they heal without surgical interference."‖ Perhaps even more unfortunate, and fraught with far more disastrous consequences to the patient, is the opinion occasionally met with that these lacerations are very rare, and in the observers' personal experience never have they been encountered.△ Happily, such opinions are fast becoming less frequent, and one may hope that the practitioners may be led to take measures to prevent what they have hitherto left for others to cure.

It has been justly urged that we can not certainly predict that a laceration will occur, and therefore this operation has no clearly defined indications. In an earlier portion of this paper statistics from various sources are quoted showing that, under any and all systems of treatment, lacerations must occur; but to state that one who has had thorough practical instruction—and none other should be allowed to practice midwifery—can not with reasonable certainty predict that the perinæum, if left to itself, will be lacerated, is, to say the least, begging the question. To operate only when the fact that the accident will occur is absolutely certain would be to debar surgical interference, not only in this, but in every other department of medicine. It is true that we must have a wound when we perform this operation; but in Credé and Colpe's cases (*loc. cit.*, S. 159) puerperal ulcers (episiotomy wounds healing by granulation) occurred only nine times in two hundred and seventy-one cases of operation, but little significance need be attached to this statement. It is also true that the wound may be a point for general infection, but the relative probability of this in a wound not exposed to the lochia, as compared with the sloughing, granulating wounds of a lacerated perinæum bathed in a decomposing discharge, is easy to determine. Further, the wounds most dangerous as regards general symptoms are those about the cervix, and not the external ones. That this operation does not prolong the puerperium will be shown in the figures to be quoted hereafter. The operation causes pain, very slight in amount if it be properly done, but by no means to be compared to the pain that it saves by shortening the period of labor and by substituting a rapidly healing for a slowly suppurating wound.

Apparently Adolphus * is totally misinformed as to the character of this operation when he advises the timely use of the forceps, which will render this operation needless, since, even if a perineal laceration could be avoided, a doubtful contingency, the forceps operation is by far more severe than episiotomy.

The weightiest argument of all against episiotomy is the fact that it will not always prevent a laceration. In Credé's cases the laceration occurred in one and four tenths per cent. of his episiotomies, a small percentage indeed when one considers the value of the operation. Leishman's statement,† that the incision will always be extended as the head advances, is unsupported by the facts and is contrary to our own experience. It is conceded that we can not always estimate the extent of the laceration;‡ thus we can not always avoid slight addition to the incision; but even this is far preferable to the spontaneous laceration. The percentage of extensions given above is far too small to condemn the operation.

In performing episiotomy, the left lateral position for the patient is preferable, since the advance of the child is then under perfect control.# The instrument used by Michaelis was a Pott's bistoury; in Leipsic formerly Cooper's scissors, now the usual straight scissors are employed. In Vienna the ordinary blunt-pointed bistoury is employed. Leishman‖ remarks that the finger-nail may be used, "as has been practiced by some of the most distinguished accoucheurs," a fitting commentary upon his knowledge of the operation. The time of the performance of the operation is of no little importance; according to Credé and Colpe,△ the incision should be made immediately after the acme of the pain, because then one knows exactly the length of the cut, and it gives rise to less pain, whereas, if it be made before or during the pain, a sudden and severe labor-pain may be set up and the head be suddenly forced into the world, and the incision be converted into a rupture. On

* Glisan, Lusk, *loc. cit.*; Leishman, "Syst. of Midwifery," 1875, p. 573; Playfair, "Handb. of Obstet. Operations," 1865, p. 173.

† P. 282. Cf. Duncan, *op. cit.*, p. 23, and Ahlfeld, "Arch. f. Gyn.," Bd. iv, S. 516.

‡ Lusk, *op. cit.*, p. 210.

Credé u. Colpe, *loc. cit.*, S. 165.

‖ Charpentier, "Traité prat. des accouchements," 1883, t. ii, p. 225.

△ Cf. Griswold, "N. E. Med. Monthly," 1883–'84, pp. 455, 456.

* "Jour. of the Am. Med. Ass.," ii, p. 526.

† *Op. cit.*, p. 573.

‡ Schroeder, *op. cit.*, p. 93.

McGaughey, "Am. Jour. of Obstet.," v, xviii, p. 589.

‖ *Op. cit.*, p. 280.

△ *Loc. cit.*, S. 152.

the contrary, Lusk* advises that it be made at the beginning or end of the contraction. The incision is made two to three centimetres (three fourths to one inch and a fourth) above the frænulum,† toward the tuber ischii—in other words, perpendicular to the rima.‡ In the Vienna wards it is generally submucous or subcutaneous. Spiegelberg # advises that the open wound be made chiefly in the skin. The length of the incision is fairly given as from one to three centimetres, by Lusk‖ as not over three fourths of an inch. One incision only is recommended by Credé and Colpe, to be upon the side which bulges most,△ while Carl Braun◊ and Schroeder‡ seem to prefer the bilateral. The structures divided are, omitting the skin or vaginal mucous membrane the so-called constrictor cunni,‡ or, as Lusk‡ explains, the, resisting ring formed by the constrictor cunni, transversus perinæi, and sometimes the levator ani.

To recapitulate: The patient being in the ordinary side position, the operator, controlling the advance of the child's head with his left hand, takes the blunt-pointed, straight bistoury in his right hand. He inserts it, at the commencement of a labor-pain, between the presenting head and the thinned edge of the vulvar outlet, flatwise, and where the outlet bulges most, generally at the distance above indicated from the commissure. The bistoury is held in this position during the increase and until the acme of the pain, the left hand being likewise kept in place. Immediately after the acme has been reached the edge of the bistoury is turned at a right angle to the edge of the vulva, the head being prevented from being forced out by a sudden exacerbation of the pain; the incision is made outward, from one half to one inch, through the resisting structures. The labor now is conducted as usual, the head, as a rule, passing out at the next pain. In most cases no after-treatment is required, as the wounds almost invariably close by first intention if carefully cleansed. If the operator believes the suture to be necessary, it is done in the following manner: The first suture should enter at the junction of the skin and mucous membrane, at the upper angle of the wound, coming out at the corresponding lower angle, and be tied. The second suture is to cover in the two small surfaces left, the one in the skin and the other in the vagina. This suture passes through the skin into the vagina, over the vaginal wound, out through the skin, and is tied over the skin wound. Iodoform dressing is then applied. The sutures are removed about the sixth day, and one will find, with difficulty, a fine cicatrix, if he examines the parts, at the end of the third week.

In presenting the numerical results of this operation, the writer is indebted to the excellent paper of Credé and Colpe, as indeed all others who are interested in this procedure must be. One of the strongest objections to this operation has been that it offers a point for general infection. That infection more frequently results from coincident tears in the vagina or cervix is stated above; the observations in the Leipsic clinic confirm this view, there being a difference of only three tenths of one per cent. in cases of puerperal fever in patients suffering from injured perinæum over those occurring when the perinæum was intact. Indeed, among the fatal cases of puerperal fever, two hundredths of one per cent. represent the difference of death-rate in favor of *injured* perinæa, conclusively showing that the condition of the perinæum had nothing to do with either mild or severe cases of puerperal fever. Nor are figures wanting to show that this operation shortens the time of convalescence, for the cases of episiotomy that remained over fourteen days were twenty-one and two tenths per cent.; cases of ruptured perinæum remaining over the above time, twenty-six and nine tenths per cent; cases of rupture in spite of episiotomy remaining over the same time were thirty-one per cent. of the whole number. The percentage of all cases of injured perinæa remaining over fourteen days in the hospital was twenty-three and one tenth, while the corresponding percentage for episiotomy cases was twenty-one and two tenths. That is to say, the percentage of patients undergoing the operation of episiotomy, and who, without this operation, would have suffered rupture of the perinæum, whose convalescence necessitated a stay of more than fourteen days in the hospital, was less than that of ruptured perinæa requiring the same length of after-treatment.

To explain the cases of rupture in spite of episiotomy, twenty-nine in number, it is necessary to state the conditions present. Fifteen of these patients gave birth to children of over thirty-five hundred grammes (seven and seven tenths pounds), four suffered from vaginitis granulosa, three underwent forceps operations, and in one case the blades were badly placed. Of the remaining fourteen cases, three were vaginitis granulosa, three syphilis, one was an antero-frontal presentation, one a case of hydrocephalus, two tears were caused by the shoulder, thus leaving four cases in which rupture took place after incision, which only shows that in these four cases the incision was not long enough, and is in no case to be considered an argument against the operation.

No further argument seems to be necessary to show that incision is preferable to spontaneous rupture.

To demonstrate the effect of the operation upon the frequency of rupture, the statistics of one thousand cases of primiparæ, delivered by five successive assistants at Leipsic, are here given:

	Percentage of Incisions.	Percentage of Ruptures.
First assistant	10·3	20·7
Second "	20·4	11·8
Third "	26·3	11
Fourth "	28·5	7·4
Fifth "	32	7·2

From this the conclusion may be drawn that, as the operation of episiotomy becomes frequent, in just the same ratio do perinæal ruptures become infrequent.

1050 Lexington Avenue, *January, 1885.*

Note.—Since the foregoing was written, an article on this subject, by Dr. W. P. Manton, has appeared in the

* *Op. cit.*, p. 210.
† Credé u. Colpe, *op. cit.*, S. 151.
‡ Kleinwächter, *op. cit.*, S. 305.
# *Op. cit.*, S. 373.
‖ *Op. cit.*, pp. 210, 211.
△ Ballandin, quoted by Credé, *loc. cit.*, S. 152.
◊ *Op. cit.*, S. 726.
‡ *Op. cit.*, p. 93.
‡ C. v. Braun, *op. cit.*, S. 726.
‡ *Op. cit.*, p. 210.

"American Journal of Obstetrics," vol. xviii, pp. 225 *et seq.* It is hoped that others may study out this operation, until the attention of American obstetricians has been called to its value.

TYPHOID OR ENTERIC FEVER.

(ABORTIVE TREATMENT.)

By EDWIN R. MAXSON, M. D., A. M., LL. D.,
SYRACUSE, N. Y.

Definition.—*Typhoid* or *enteric* is a continued fever, and, when not arrested, is liable to be of long duration, may be attended with diarrhœa, and is usually characterized by intestinal lesions, an eruption of small rose spots, sudamina, and often enlargement of the spleen and mesenteric glands.

Symptoms.—At first the appetite may fail, the tongue become furred, and very soon there is headache with general depression, and muscular weakness with wandering pains, the patient being indisposed for exertion of any kind, mental or physical.

After an indefinite prolongation of these premonitory symptoms there may be chilliness, more or less marked. The headache increases, being sometimes attended with epistaxis. The prostration becomes greater, with sensations of chilliness along the back, alternating with flushes of heat.

If typhoid fever is prevailing in the vicinity, or the patient has been exposed to the causes known or supposed to produce the disease, the physician, if a person of ordinary sagacity and diagnostic ability, will suspect the disease. If the suspicion is well founded, in addition to the symptoms already stated, there will be found the usual symptoms of the febrile state. The pulse is increased in frequency; the temperature rises; the tongue is coated of a white or yellowish color, of various degrees of thickness; and the urine is diminished in quantity and high colored, as a rule.

If, on further examination, no local inflammation can be found to account for the pyrexia, and the patient looks heavy and oppressed, being more prostrated than the duration of the illness, without the influence of the typhoid poison, would be likely to have caused; and if the abdomen is tumid, with slight tenderness over the right iliac fossa, or even if there is not, with the other typhoid or enteric symptoms—the physician of discretion, prudence, and common sense will not need to wait for further symptoms, which will, of course, be developed at a later stage of the disease, the result of a *continuance* rather than essential symptoms of the disease, but will resort to proper means for its arrest. For he may thus destroy the poison, reduce the temperature by gentle perspiration, subdue the intestinal incipient disease, equalize the circulation, sustain the sinking powers of the system, and very generally thus arrest not only the local but the general disease.

But when these plain indications are not fulfilled, or if the attempt fails, as may sometimes happen as the disease progresses, other symptoms are developed, as might be expected.

The temperature rises from day to day, being from one to two degrees higher in the evening than in the morning, by the third or fourth day being 103° or 104° F., perhaps, as a rule. And by the end of the first week there will have been developed the symptoms peculiar to the *continuance* of the disease, as the flushed face, pulse from 80 to 120, often a cough, tumid abdomen, a gurgling of liquid with gas, and slight tenderness in the right iliac fossa, with either constipation or diarrhœa, turbid urine, and sometimes the appearance of small rose spots of the size of a pin-head over the abdomen and chest.

By the end of the second week sudamina will usually have appeared. The patient may lie mostly on the back, red patches being on the cheeks. The hands have become unsteady, delirium may attend, and the sudamina may have extended over the chest, neck, and other parts of the body. The spleen may become enlarged, and the diarrhœa, if present, more troublesome; and from the latter part of the second week onward various complications, as pneumonia, hæmorrhage, or perforation from intestinal ulceration, may occur.

By the end of the third week the patient may be deaf, dull of comprehension, and half unconscious. The body becomes emaciated, the skin harsh, the muscles wasted, the tendons contracting or rising up, and, if the disease passes on uncontrolled, the tongue becomes dry and dark, the pulse indistinct, the heart weak, the abdomen distended, the stools involuntary, and the patient generally, either with retention or incontinence of urine, passes on to dissolution, either by asthenia or else from some local lesion or complication, as hæmorrhage, perforation, peritonitis, albuminuria, pneumonia, pulmonary gangrene, pleurisy, thrombosis, embolism, or suppurative parotitis, which may have supervened.

But, should the patient rally, the temperature gradually falls, the pulse becomes less frequent and more distinct, the tongue cleans, the abdomen subsides, the diarrhœa ceases, and the strength gradually returns, subject, of course, to relapse and various accidental complications that may arise.

Diagnosis.—When typhoid or enteric fever is prevailing in a locality especially, or, when it has not been prevailing, if the patient has been exposed to influences known or supposed to produce the disease, and there are symptoms of unaccountable weakness, with loss of appetite and a look of illness and prostration not dependent upon some local inflammation and altogether disproportionate to any assignable cause other than the typhoid poison, the disease should be suspected.

If on a careful examination, now, not only local inflammations, but tubercular meningitis, acute pulmonary tuberculosis, gastro-intestinal catarrh, pyæmia, ulcerative endocarditis, etc., can be excluded, and, in addition to the symptoms already enumerated, the patient has a severe headache with epistaxis, and a temperature of 101° or 102° F. in the morning, or at evening 103° or 104°, the case may very safely be regarded as typhoid or enteric fever; and an effort should be made for an arrest of the disease.

If the disease can be arrested at this stage, no further symptoms peculiar to it need be developed. But, if not arrested the first week, there may be a diarrhœa, tympanites, the rose-colored eruption by the tenth and sudamina by the

fourteenth day, obtuseness of hearing, delirium, coma, getting down in bed, *confirmatory* but not necessary for correct diagnosis, being rather consequences of a *continuance* than necessary symptoms of the disease, if arrested during the first week. Taking, then, all these precautions, it is my opinion that very few, if any, mistakes need be made in the early diagnosis of typhoid or enteric continued fever.

Causes.—It is probable that a multitude of causes may operate in *predisposing* to typhoid or enteric continued fever—such as hereditary predisposition, age, violent physical exertion, damp sleeping-rooms, impure confined air, insufficient clothing, scanty or unwholesome food, impure water, filth, great depression of spirits, taking food at unseasonable hours, the use of tobacco, drunkenness, and the entire train of depressing influences whereby the system may be reduced to a condition in which the fluids and solid tissues of the body are in a more or less abnormal state, deranging the cutaneous, alimentary, and other functions.

The *exciting* cause of typhoid or enteric fever, doubtless, consists of a poison generally derived from a pre-existing case, probably the *typhoid bacillus*, which has been found in the lymphatics, blood, and tissues, but sometimes arising, as all contagious diseases did originally, from an equivaleut poison, "generated anew by the decomposition of sewage" and "of other forms of animal filth." In either case the typhoid poison is "reproduced in the system during the fever, and it appears that its chief, if not exclusive, outlet is in the intestinal discharges."

But while, however, the *contagium* may doubtless be present in the fæces when voided, its virulence appears to be heightened by exposure, warmth, stagnation, and accumulation, probably by a sort of fermentation, which may go on indefinitely, the product becoming mingled with water, milk, and other liquids and even solids, thus producing, especially in towns, quite a general prevalence of the disease. It is probable, however, that the *contagium* may be generated by the "fermentation of fæcal matters, independent of any specific germ introduced in typhoid evacuations," precisely as in the first cases which occurred at the origin of the disease, as already suggested.

The most common vehicle of the poison appears to be drinking water, contaminated through sewage, either when drank alone or with milk with which it has been mixed.

Anatomical Characters.—While the "primary change is in the blood," and in most fatal cases local congestions and inflammations are met with in the lungs and other organs, the "special and characteristic lesions are those taking place in the intestines and mesenteric glands."

The intestinal mucous membrane of the ileum usually "presents the appearance of acute catarrh," the chief seat of morbid changes, however, being in Peyer's patches, consisting of an infiltration of the glands, followed by ulceration.

It appears probable that the first few days of the disease are attended with *congestion and irritation*, with, perhaps, slight *infiltration*. Afterward, if not arrested, infiltration goes on into incipient *ulceration*, and ultimately to extensive *ulceration* or *resolution*.

These stages, perhaps, occupy, as a rule, about a week each in cases not arrested. And it appears that the patches first affected are those "at the lower end of the ileum, near the ileo-cæcal valve," the lesions here being the most extensive and farthest advanced. The ulcerations may involve only the superficial layer of the mucous membrane, or its entire thickness, and in some cases the muscular and even peritoneal covering may be implicated, with or without perforation. Small points of extra-glandular ulceration may also be found scattered along the mucous membrane of the *small* and even *large* intestines. The mesenteric glands are also more or less enlarged, being firm and of a pinkish color. The spleen may also be found enlarged.

Pathology.—Taking into account an hereditary or accidental predisposition, the typhoid poison from a previous case, or generated anew from animal filth, sewage, etc., introduced into the system in drinking-water or otherwise, once in the blood, doubtless not only directly depraves that fluid, but, being carried by it through the brain and all the tissues, prostration—attended with more or less chilliness, and this followed by fever, headache, a torpid skin and liver, with consequent gastro-intestinal irritation, congestion, inflammation, and, if not arrested, ulceration—may be the result, the symptoms, developed during advanced stages of the disease, being a result of its *continuance* rather than essential to the disease if arrested.

Prognosis.—While the poison of typhoid or enteric fever, operating upon a system fearfully predisposed, may, in some cases with bad surroundings, so far deprave the blood, depress the nervous system, and derange the various functions as to render an arrest or even ultimate cure of the disease beyond the power of human skill, I can readily believe, especially if neglected during the early stages, two of which I have had the painful experience of treating during the past ten years; I as firmly believe, from careful observation during that time in a large number of cases, that, with good surroundings, proper care, and judicious treatment in season, nearly every well-marked case may be arrested so as not to require further personal attendance within one week, and on strictly rational, common-sense principles.

Treatment.—On diagnosticating a case of typhoid or enteric continued fever, the blood is found poisoned, the nervous system prostrated from the poison and inefficiency of the depraved blood, the skin and liver are torpid from the same cause, and, as a consequence of all this, the thoracic, abdominal, and pelvic viscera, including the gastro-intestinal mucous membrane, and especially Peyer's glands, from the ileo-cæcal valve upward, are in a more or less congested, irritated, and inflamed condition; and, from a want of due exhalation from the skin, animal heat accumulates, raising the temperature to from 101° to 104° F.

The indications, then, are plainly: to destroy or neutralize the poison in the blood; unload the liver; call the skin into action, thus reducing animal heat; to call the circulation to the extremities; to sustain the powers of the system; to subdue abdominal, thoracic, and other irritations, and especially gastro-intestinal; to suitably nourish; and to keep the patient properly encouraged.

Now, while there are many agencies by which some of

these indications may be fulfilled, I will state only the means which I have found the most convenient and effectual, and by which I have succeeded in arresting within one week nearly every case clearly diagnosticated as typhoid or enteric fever that I have treated during the past ten years.

To destroy the poison in the blood I give to an adult four grains of the sulphocarbolate of sodium every six hours—at 6, 12, and 6 o'clock—dissolved in a teaspoonful of water.

To sustain the sinking powers of the system, and as a further antiseptic, two grains of cinchonidine with ten drops of the muriated tincture of iron are given every six hours, alternating with the sulphocarbolate, in four ounces of warm crust-coffee without milk; and these medicines are continued for at least a week after discontinuing my visits, the doses being gradually diminished at the last.

To unload the liver I give an improved compound cathartic pill at first, and then give one a day if the bowels are confined; but, if not, a grain pill of leptandrin instead till the tongue cleans off, and afterward one only of either, as required for constipation.

To call the circulation to the extremities and the skin into action, thereby reducing animal heat, as it becomes latent in the evaporation of perspirable matter from the surface of the body, a warm foot-bath is used morning and evening till the fever is arrested and the skin becomes soft and of a normal degree of heat, as it generally will within three days by the aid also of warm drinks required for nourishment, and a strict avoidance of everything cold, internally and externally.

But should the headache continue in spite of all this, which is rarely the case, a teaspoonful of blood is taken from the back of the neck by cups, and repeated if necessary, or blisters applied back of the ears or neck.

To subdue thoracic, abdominal, and other irritations, I apply daily from the very first warm sinapisms over the chest and entire abdomen mornings and evenings, taking care not to blister but to keep as near to it as may be necessary, and continue them till every symptom of the local and general disease has disappeared.

Avoiding cold, the patient takes only warm crust-coffee, one half milk, for drink and nourishment, thus favoring the sensible and insensible perspiration; plain nourishing food, at meal times only, when tolerated, being allowed with tea if desired.

To keep up the spirits, the patient is kept dressed and out of bed days as far as consistent with safety, being allowed to recline on a lounge or to occupy an easy-chair, thus securing better sleep nights.

Here, then, my abortive treatment of typhoid or enteric continued fever really ends. But should a case, from neglect, bad surroundings, or inefficient early treatment, continue on for more than a week, I would treat such local inflammations as might have arisen before or in spite of treatment by cups, blisters, etc., and the gastro-intestinal disease especially by blisters to the epigastrium and abdomen if necessary. And the only addition I should make to the abortive treatment already suggested—except to meet emergencies, as diarrhœa, hæmorrhages, etc.—would be to give with the iron and cinchonidine eight drops of turpentine, in emulsion, as an alterative for the gastro-intestinal disease, and two drops of the tincture of nux vomica with the sulphocarbolate, as a tonic for the digestive organs and nervous system, meeting, of course, any other indications that might arise from a continuance of the disease on strictly rational common-sense principles.

Concluding Remarks.—It may not be improper to add, in conclusion, that the treatment of typhoid or enteric continued fever here suggested has been arrived at by careful observation for a term of years, my success in arriving at the abortive treatment having been largely due to my observations with Prof. Lister, in the Royal Infirmary of Glasgow, in 1867, bearing on antiseptics, before the typhoid bacillus was known as the probable cause of the disease, though according admirably with that view as now generally held.

I have found, however, that, in order to succeed in the abortive treatment, the warm foot-baths must be regularly had and continued each time till there is a gentle perspiration, the sinapisms being kept on long enough each time to insure a continued redness all over the abdomen and chest; also to guard against pulmonary complications as well as to arrest the intestinal disease, though short of blistering; and that the drinks must be restricted rigidly to warm crust-coffee, half milk, with warm tea at meal hours, if desired, half milk; absolutely nothing else to be taken into the mouth except such suitable warm digestible food as may be proper at meal hours only, as eggs, toast, etc., and the plain antiseptics, tonics, and laxatives suggested, or their equivalents, though I have found these remedies the most convenient and successful, and therefore recommend them. Finally, I may state here that I have found a corresponding course of abortive antiseptic treatment available in all putrid fevers—as typhus, diphtheria, spotted fever, etc.—and cutting short scarlet fever and measles nearly one half.

No. 208 Madison Street, Syracuse, N. Y., *May 25, 1885.*

ON THE CORRELATION OF ALCOHOL RHEUMATISM, AND PHTHISIS.

By TANDY L. DIX, M. D.,
SHELBYVILLE, KY.

Owing to the feverish state of the public mind as touching the temperance question, he who approaches any proposition looking to the encouragement or supplying an excuse for the use of alcoholic drinks is regarded as perpetrating an act of temerity. But science is positive in presenting facts which, as well as the laws pertaining thereunto, must be strictly observed; and, however desirable it may be to retard the devastation which is being wrought in our midst by the abuse of alcoholic drinks, science can not compromise herself for the sake of expediency, as some moralists do when they teach that the wine mentioned in the Testament was not an intoxicating drink. And he who follows the teachings of science can not err. It is not our intention to produce arguments either for or against temperance, but strictly in the interest of science. The medical man who lets his predilections influence his views in regard to the

chemical and physiological action of alcohol within the human economy is more dangerous to the community than alcohol itself.

In the course of my professional duties my attention was specially called to this subject, and, upon reflection, several reasons presented themselves which favored the proposition that those who use alcoholic drinks enjoy, to some extent, an immunity from rheumatism and phthisis. In order to learn whether facts would tend to confirm or refute this proposition as regards rheumatism, I have considered every case of indulgence within the scope of my acquaintance and memory, and have drawn upon the experience and observation of as many physicians and laymen as my opportunity and acquaintance would permit. I have also considered cases of rheumatism as regards the habits of the patients. In the reckoning, drinkers who suffered with rheumatism which was attributable to specific causes have been omitted.

In gathering information concerning this topic, it is necessary to make close inquiry, and to consider the views which the informant may entertain in regard to the liquor traffic. A bartender can not discover rheumatism among his customers, and the extreme temperance man can discover rheumatism in every one who indulges. The information that I have been able to obtain confirms the proposition, and, if the proposition is true, it must be founded upon physiological and chemical facts which I propose to consider as follows.

In approaching this topic, the first inquiry that engages our attention is the physiological and chemical origin and elimination of the very complex substance—*fibrin*. Fibrin is found in its most perfectly developed state as its exists in the muscles and fibroid tissues, and is held by the blood in solution as a product of both progressive and retrogressive metamorphosis. The following ultimate constituents of *albumin*, *fibrin*, and *casein* show a successive increase of oxygen as we pass from the former to the latter, and a decrease of sulphur and phosphorus. This is the result of the oxidation to which reference will be frequently made as we proceed with the argument:

	Albumin.	Fibrin.	Casein.
Carbon	55·46	54·45	54·66
Hydrogen	7·20	7·07	7·15
Nitrogen	16·48	17·21	15·72
Oxygen	18·27	19·35	21·55
Sulphur	2·16	1·59	·92
Phosphorus	·43	·33	

In the retrogressive metamorphoses the sulphur and phosphorus are converted into sulphuric and phosphoric acids. This is the source of those acids which are found in the urine and perspiration of rheumatic patients. The sulphur and phosphorus being thus extracted from the fibrin, the gases are left to arrange themselves into other forms known to chemistry as osmazome, creatin, creatinin, uric acid, and urea. These transformations are the conditions through which the nitrogenous matters are to pass in order to be eliminated from the system. These successive formations, and perhaps others unknown to chemistry, may be either intra- or extra-vascular—*i. e.*, in the latter case, take place in the muscles or fibroid tissues, where they act as irritants to which may be ascribed the pain and inflammation of rheumatism, and the consequent thickening of the tissues affected and the stiffness of the joints which so commonly attend this disease.

Another product of fibrinous metamorphosis is a low form of protein compound capable of being deposited in all, or nearly all, the tissues of the body, but finds the lungs to be its favored site, and is known to the pathologist as *tubercle*. In support of the view that tubercle is the product of the metamorphoses of nitrogenous matter, whether originating from fibrinous blastema or from fibrin itself, Rokitansky says: "Many blastemata, distinguished for their coagulability, do not rise above the lowest grade of form development, and not alone do they stop at the grade marked out by the process of coagulation, but their ulterior tendency is to liquefy. An example is afforded in tubercle." . . . "Chemically considered, all blastemata for pathological new growths are protein compounds, for the most part in various degrees of oxidation." Again: "In the first place, the ground-work of rapidly solidifying tubercle blastema is, without the least doubt, *fibrin*." And Dr. Glover, in his analysis as quoted by Dr. Aitken, says that very little difference in ultimate composition has yet been detected between recent tubercle and the other so-called compounds of protein.

Upon the hypothesis that tubercle finds its origin in fibrin, an intimate relation between the fibrin-crasis and tuberculosis must necessarily subsist; consequently, an inquiry into some facts and circumstances attending the fibrin-crasis may be made with a hope of finding not only the cause of tubercle, but also a remedy for the evil. And, in addition to these, we may find some interesting facts which pertain alike to tuberculosis and rheumatism. With this threefold purpose in view, we will consider the two diseases in their correlation with hyperinosis, as follows:

1. The two diseases are attended with hyperinosis.

2. The two diseases have a common origin in the causes which produce hyperinosis.

3. The two diseases result from retrogressive metamorphosis of the fibrin.

4. The two diseases find a common remedy in those means which correct the hyperinosis.

In regard to the *first* of these, it is not necessary to adduce evidence of a fact which is already established.

2. That *the two diseases have a common origin in the causes which produce hyperinosis* finds a solution in the conditions and circumstances which surround those who are engaged in pursuits that require great muscular exertion. Among these may be recorded "tumblers," men who perform in the circus-ring, mechanics, miners, and operatives in mills. Now, it is worthy of note that these classes, as a rule, enjoy an immunity from tubercle while most actively engaged in their business; but when their health declines, so that they can not labor so hard, or when, from any cause, they cease to labor in any degree, or change their manner of life from active to sedentary habits, *tubercle finds its most favored opportunity of presenting itself*. We find a most beautiful and convincing illustration of this

principle as it obtains among wild animals when in captivity. These animals, when in their native lands and enjoying a mode of life that is natural to them, are comparatively exempt from tubercle; but when in captivity, they are prone to this disease. "The Austrian runners," Dr Aitken says, "are another class who are instances of breaking down by over-exertion in running at ages unsuited for their strength. They seldom live beyond three or four years, and gradually die of consumption" ("Remains of Mrs. Trench," p. 72). This same thing occurred in the person of a little girl, a near relative of the writer. Her father conceived the idea that his daughter should be actively exercised in the open air, and to this end he would take his daughter on long and fatiguing walks. The result of this vigorous exercise was phthisis pulmonalis. In this case there had not been a trace of tubercle on the mother's side (and the ancestry was known for several generations), and none, so far as the writer has learned, on the father's side. This case may be safely placed to the credit side of muscular exertion.

Another evidence that fibrin is intimately associated with tubercle is found in the well-known fact that mothers afflicted with phthisis pulmonalis enjoy an abatement of the disease during pregnancy; but after childbirth the disease assumes a fresh impetus, and the mother finds in the grave an early termination of her sufferings. This temporary relief is obtained by a consumption of the fibrin in fœtal construction. And, again, there are three periods of life most favorable to tubercle: *First*, in early life, including intra-uterine existence, when the vital forces are exerting themselves in fibrin construction; *second*, when the body has about obtained its growth and there is a surplus of fibrin; *third*, in the declining periods of life, when there is an absorption of fibrinous waste. Dr. Bennett places "hard work" among the causes of tubercle. In confirmation of this, all of the five thousand six hundred and twenty-seven persons affected with phthisis, as tabulated by Dr. Aitken, were working people.

"On the other side," says Rokitansky, "the pre-eminent immunity afforded by exquisite venosity and cyanosis, against fibrin-crases, more especially the higher (croupous) grades, and most particularly against tuberculous crasis—taking, we say, all these circumstances duly into account, we are forced on to the momentous conclusion that *arteriality*—that is, *the arterial development of fibrin—pre-eminently constitutes the cardinal character of tuberculosis.*" He says again: "There exists undeniably a habit, expressed in a delicate construction of the soft parts, in imperfect development of the muscular, with preponderance of the vascular, system, and in a so-called phthisical build of the thorax, commonly deemed ominous of pulmonary tubercle. It is essential, however, that this build should not, according to the vulgar notion, be imputed to the smallness of the lungs within a seemingly insufficient thorax, but rather to very voluminous lungs within a thorax the obvious narrowness of which, in its antero-posterior diameter, is amply compensated for by its length, with a relatively small abdominal cavity and small abdominal viscera."

Active muscular exertion induces an expansion of the breathing capacity, increased arterial circulation, and, consequently, increased arterial development of fibrin. This increase of fibrin finds a reservoir in the developed muscles, thus far filling the conditions most favorable to tubercle, which will obtain when there is a cessation, in some degree, from muscular exertion. This will cause a quantity of fibrin, when in the process of retrogressive metamorphosis, to be thrown into the blood-mass, and supplies the tubercular pabulum. This pabulum is supplied to the blood by whatever circumstance may cause the fibroid tissues to break down; and, as this obtains in inflammatory fevers and wasting disease, we have tubercle as a consequence.

In the habit, as just quoted, the delicate construction of the soft parts seems to be due to the accompanying preponderance of the vascular system, which retains, as it were, the fibrin, and thus prevents its assimilation, and the development of those tissues into which fibrin enters so largely; hence, "a delicate construction of the soft parts"; and the fibrin, instead of performing its proper function in the construction of tissue, is converted into tubercular matter.

3. The retrogressive metamorphosis of fibrin into tubercle, as well as in rheumatism, consists in oxidation. And the first results of this oxidation is the conversion of the sulphur and phosphorus of the fibrin into their respective acids. In this we have a sufficient explanation of two conditions which usually attend patients with incipient phthisis—viz., *first*, an acid condition of the system, especially of the digestive organs; *second*, an aversion to fatty ingesta. The latter is due to the fluids which emulsify the fats preparatory for digestion being rendered neutral or even becoming acidified instead of retaining their normal alkalinity. When the fibrin is freed of its sulphur and phosphorus, it must undergo further oxidation in order to become tuberculous matter. In this transmission the caseous matter assumes a taint just as fruit does when undergoing oxidation or rotting; and, as this taint is capable of being communicated to other and yet healthy fruit, so this tubercular taint is capable of being communicated to other and yet healthy fibrin.

This taint may find its origin in an individual from one of the following four causes: *First*, it may be transmitted from parent to offspring; this obtains when tubercle appears in the fœtus or in infancy; *second*, in cases of excessive lung capacity, and a preponderance of the *arterial* over the venous system—these conditions of the organism may be congenital, or acquired by following such pursuits as will increase the lung capacity; *third*, by local oxidation, as when phthisis pulmonalis follows fistula in ano, or tubercular inflammation of a joint—these form foci from whence tubercle is disseminated to other and distant parts of the body; *fourth*, by a healthy person inhaling the breath of a consumptive patient. This obtains by constant and intimate association of a healthy person with a consumptive patient.

In the latter case, it is reasonable to presume that the taint is carried by the micrococci of Koch. These microorganisms may be considered as a product, as mildew or fungus is the result of organic matter being exposed to oxidation.

4. The two diseases find a common remedy in those means which correct the hyperinosis. This proposition necessarily involves the treatment of the two diseases. As much of that which can be said of the one is alike applicable to the other, we will, for the present, speak of tubercle; and the treatment may be considered under two headings, viz.:

1. Preventive.
2. Curative.

In considering the preventive means, we are met on the threshold with a very pertinent question—viz., How are we to prevent hereditary phthisis? In answer to this, only a like pertinent response can be made, which is: If the parents can not be cured, then *forbid them bearing children.*

Aside from an inherited taint, an organism which is conducive to tubercle may be congenital—viz., large lung capacity and arterial predominance over the venous system. A person with such an organic construction should strenuously avoid vigorous exercise, and those circumstances and pursuits which occasion deep and prolonged inspirations. His diet should be of the carbohydrates; and as these belong, almost without exception, to the vegetable kingdom, and constitute the non-nitrogenous food, his diet should be vegetarian and not of meat. He should avoid the inhalation of an atmosphere laden with dust of any kind, as well as the breath of other people, inasmuch as this contains highly oxidized matter from the lungs. Such unwholesome atmospheres are found in crowded sleeping apartments, schools, and places where many people are assembled. But all the means of avoiding the inhalation of large quantities of air should be adopted. To this end the corset or moderate lacing is beneficial if not carried to such an extent as will interfere with the stomach and liver in the performance of their functions. Another and a most efficient means of lessening the amount of air taken into the lungs is to live in a warm climate. This constitutes the sole benefit that consumptives derive by going to Florida or other warm climates. There the atmosphere is rarefied by the higher temperature, so that less air is taken into the lungs at each inspiration. There are also two other circumstances to be met with which are important to the consumptive; viz., *first*, the higher temperature produces a lassitude which prevents so much exercise being taken—consequently less breathing; *second*, the diet consists more of fruits and vegetables and less of meats than in the more northern States; thus the fibrin is diminished. In this we find an ample solution of the problem involved in the rheumatic and consumptive patients declaring themselves greatly benefited by a winter spent in the Southern climes.

2. The curative treatment will involve a continuation of the preventive means as just enumerated. The next urgent matter to be considered is the acid state of the system which usually accompanies tuberculosis. A most efficient means of meeting this is the administration of one drachm of saccharated lime-water, and one grain each of hypophosphite of lime and of sodium, to be taken half an hour before each meal, dissolved in as much water as the patient can conveniently drink. The next important step is the correction of the taint. The means best adapted to this end lie in the use of the carbohydrates. The most prominent are alcohol and cod-liver oil. In order to obtain the greatest benefit from these, it is necessary to observe the condition under which they are administered. If the system is not freed from its acid condition, the oil can not be digested. And the object of administering the alcohol and oil would be defeated by advising the patient to take more exercise than is actually necessary, as it would be a great folly to give these agents to consume the oxygen and then direct the patient to inhale more oxygen by taking excessive exercise. In exercising, the patient should be as passive as possible—as in riding in a carriage or light horseback exercise. The use of alcohol and the oil will prove more efficient where the patient is strictly kept upon a pure vegetable diet. These agents act in preserving the fibrin from oxidizing in a manner similar to preserving fruit by keeping it free from the influence of oxygen; *i. e.*, by combining with the oxygen instead of the fibrin.

The parallelism of rheumatism and tubercle subsists in the hyperinosis and oxidation, and ceases with the latter. In rheumatism this consists in the oxidation extending only so far as the conversion of the phosphorus and sulphur into their respective acids; and not so far as to change or to rearrange the remaining elements of the fibrin into the form of caseous matter, but leaves it to pursue a more normal course in its metamorphic processes.

As the treatment of the two diseases in detail does not fall within the scope of this paper, it only remains to observe that, inasmuch as oil, alcohol, or a non-nitrogenous diet lessens the quantity of fibrin in the blood, the foregoing sufficiently demonstrates the proposition that drinking men, under ordinary circumstances, enjoy an immunity from rheumatism and tubercle.

Book Notices.

Manual of General Medicinal Technology, including Prescription-Writing. By Edward Curtis, A. M., M. D., Professor of Materia Medica and Therapeutics, College of Physicians and Surgeons, etc. New York: William Wood & Co., 1883. 32mo, pp. viii–234.

Dr. Curtis has made a very systematic and useful little book and a very accurate one. The information it contains should be in every work on materia medica and therapeutics, and yet usually the subjects handled are very scantily treated of in such books. The technicalities of prescription-writing are discussed at considerable length. The naming of medicines, their forms, and the determination of the quantities of medicine to be used, are all carefully discussed. The methods of medication and dosage receive appropriate treatment. The questions of compatibilities of drugs, both chemically and physiologically, are also discussed. The book is for students, and is calculated as a reminder. The United States Pharmacopœia is followed, and the metric system is given a place.

Student's Manual of Electro-therapeutics. By R. W. Amidon, M. D., etc. New York: G. P. Putnam's Sons, 1884. Pp. v–93.

Dr. Amidon's book contains a very clear and straightforward account of the physical principles which underly electro-thera-

peutics. Indeed, we do not recollect having anywhere seen condensed in so concise and yet satisfactory a shape the laws governing electrical currents, and the facts regarding the physiological and pathological reactions of the human organism to electricity. The electro-therapeutical deductions from these facts are given very briefly and are mainly drawn from the author's personal experience, and are hence perhaps more valuable—certainly more authoritative—than if taken from hearsay or at second-hand.

The book is well adapted to its purpose—namely, to supply to the student of practical electro-therapeutics some elementary notions upon the subject; enough to enable him to employ a battery intelligently and understand the reactions which are involved.

Chemistry: Inorganic and Organic, with Experiments. By Charles Loudon Bloxam, Professor of Chemistry in King's College, London, etc. From the fifth and revised English edition. With two hundred and ninety-two illustrations. Philadelphia: Henry C. Lea's Son & Co., 1883. Pp. xxvii–33 to 738, inclusive.

This, the fifth, edition of Bloxam's well-known treatise has been subjected to careful revision, and the sections occupied with the principles and theory or *science* of chemistry have been brought "into harmony with modern views." The fundamental conceptions of chemistry relating to the constitution and properties of matter are amply and clearly, yet withal briefly, presented to the student in their most developed forms. Still, we miss any consideration of the import and relations of heat to molecular exchange, a growth of modern physics which promises to absorb the entire philosophy of chemical science.

As a practical treatise, responding to the demands of the medical student and working chemist, the present work will make secure the place won by previous editions.

BOOKS AND PAMPHLETS RECEIVED.

Outlines of Psychology, with Special Reference to the Theory of Education. A Text-book for Colleges. By James Sully, M. A., Examiner for the Moral Sciences Tripos in the University of Cambridge, etc. New York: D. Appleton & Co., 1885. Pp. xxiv–711.

A Text-book of Physiology. By M. Foster, M. A., M. D., F. R. S., etc. Third American, from the Fourth and Revised English Edition. By Edward T. Reichert, M. D., Demonstrator of Experimental Physiology in the University of Pennsylvania. With Two hundred and seventy-one Illustrations. Philadelphia: Lea Brothers & Co., 1885. Pp. 911.

Poisons: their Effects and Detection. A Manual for the Use of Analytical Chemists and Experts. With an Introductory Essay on the Growth of Modern Toxicology. By Alexander Wynter Blyth, M. R. C. S., F. C. S., etc. With Tables and Illustrations. Volume I. New York: William Wood & Co., 1885. Pp. xxxiv–333.

Tracheotomy in Laryngeal Diphtheria; After-treatment and Complications. By Robert William Parker, Surgeon to the East London Hospital for Children, etc. Second Edition, Revised and Considerably Enlarged. London: H. K. Lewis, 1885. Pp. xvi–124.

Medical Thoughts of Shakespeare. By B. Rush Field, M. D., Member of the Shakespeare Society of New York. Second Edition, Revised and Enlarged. Easton, Pa.: Andrews & Clifton, 1885. Pp. 86.

Lectures on Pulmonary Phthisis. By Ernest L. Shurly, M. D., etc. [Reprinted from the "Medical Age."]

Minutes of the Thirty-second Annual Session of the Medical Society of North Carolina.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, AUGUST 15, 1885.

FERRÁN'S FIASCO.

It would be wrong to jump to the conclusion, from the utter collapse of Dr. Ferrán's vaunted procedure in the preventive inoculation of cholera, that inoculation may not yet be so carried out as to answer the purpose. But the tendency is a natural one to settle down into the stagnation of such a conclusion whenever a grand scheme of any sort is proved to be a bubble, and especially when, as in this instance, its promoter takes a position where he shows himself rather a seeker after pecuniary reward than a devotee of either science or humanity. It is of little consequence to the world when a person who has posed for a time as a great discoverer and a benefactor of the race drops to the level of a charlatan, except that the occurrence tends to create a disinclination on the part of competent and well-balanced men to enter upon a path which, whatever promise it might otherwise have seemed to hold out, has been in a certain sense defiled. To be sure, this feeling of aversion is always outgrown in time, but results that, but for its existence, would in all probability have been arrived at with rapidity are postponed many years, to the great detriment of progress.

If failure had been all that was to be chronicled of Dr. Ferrán's process, that in itself would not have brought him down to the station he now occupies in the eyes of the profession; he would simply have been set down as one who had generalized from insufficient data—a proceeding not unheard of in men who have nevertheless continued to enjoy the respect of their fellow-laborers, and even done subsequent solid service to science. Nor would his reserve—to use no harsher term—as to the details of his laboratory work, if indeed he has done anything worthy of the name, have aroused any special distrust, provided it had gone before his bold announcements. He might have been as silent as the tomb, and sported his oak like a miser, so long as his project was in that part of the experimental stage which ought unquestionably to have been worked out to the last detail before inoculations of human beings were resorted to as the final test: and it could not reasonably have been objected that he was straying from the legitimate course. But, when he appeared, so to speak, vaunting a perfected process with one breath and smothering investigation with the next, the weakness of his position was all but demonstrated.

It was natural, too, that he should look forward to a pecuniary reward when he had satisfied the world of his success. And under such circumstances, beyond all question, the recompense would have been forthcoming, and it would have been a handsome one. Jenner not only accepted, but took means to obtain, a substantial recognition of his great services to mankind,

and the fact has never dimmed the luster of his fame. His countrymen were glad and proud to afford him a tithe of the money that his discovery had saved, to say nothing of its other beneficent consequences, although the whole world gained by it as well as themselves. But Jenner worked patiently for years before he even announced his conclusions, and he countenanced no movement looking to a pecuniary recompense until all civilized communities had had the soundness of his doctrine and the utility of his practice demonstrated to them over and over again and on a large scale.

As matters stand, however, a practice abundantly shown to be well-nigh if not altogether useless, secrecy as to details—not for purposes of undisturbed study, but apparently only for mystification—and a hand held out after the manner of Artemus Ward's showman when he said to a would-be dead-head: "You can pay without going in, but you can't go in without paying"; all these features make the contrast sharp between Dr. Ferrán's case and that of any one of the world's few great discoverers. Let us hope that this very pointedness of the contrast may to a certain degree rob his fiasco of the retarding influence it might otherwise have had on researches in the preventive inoculation of cholera.

MINOR PARAGRAPHS.

ARTIFICIAL VIABILITY.

Perhaps this term may properly be applied to the results which seem capable of achievement by following certain devices that have been brought forward by the Paris obstetrician, M. Tarnier. Until lately, it was the practical difficulty of maintaining them at a uniform temperature of the required degree that made the survival of children born on the bare attainment of viability so decidedly improbable. M. Tarnier's success in doing away with this obstacle, by means of the *couveuse*, is well known to our readers. But this is not all. At a recent meeting of the *Académie de médecine*, as we learn from the "Progrès médical," M. Tarnier insisted upon the necessity of forced feeding (*gavage*). Through a urethral catheter passed into the stomach, and provided with a glass funnel at its free end, a nutritive liquid is to be poured, preferably human milk. In the case of very young infants, two drachms of milk are injected every hour, and, after a time, the breast is given in alternation with these injections. The cautions are mentioned that the catheter should be withdrawn rapidly after the milk has reached the stomach, and that care should be taken not to throw in too much at any one time. By resorting to these expedients, it is thought, children born so early as the sixth month may be reared.

A FRENCH VIEW OF THE AMERICAN TRADE PROPENSITY.

"Lyon médical" has noticed an advertisement of an American device termed a "menstrual receptacle," and, under the caption "On s'arrêtera l'industrialisme américain?" remarks that the advertiser has devised a little cup which, embracing the cervix uteri, is intended to receive the catamenial dew without the loss of a drop. The dimensions of the shank which supports the cup give rise to reflections, says our contemporary, the first of which is, that it is surely impossible to push progress farther—or deeper.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 11, 1885:

DISEASES.	Week ending Aug. 4.		Week ending Aug. 11.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	27	5	14	4
Scarlet fever	23	4	8	2
Cerebro-spinal meningitis	2	2	2	1
Measles	21	4	16	2
Diphtheria	33	17	20	14
Small-pox	2	0	1	0

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, August 4th. *Acapulco, Mexico.*—For the week ending July 19th: Free from epidemic diseases. *Cape Haytien, Hayti.*—For the week ending July 25th: Free from epidemic diseases. *Cardenas, Cuba*, and *Laguayra, Venezuela.*—For the week ending July 25th: Free from epidemic diseases. *Callao, Peru.*—For the week ending July 4th: One death from yellow fever and one from small-pox. Fever reported as declining in the town. Small-pox prevailing very generally among the lower classes. *London, England.*—For the week ending July 20th: 118 cases of small-pox admitted to hospital during the week; 15 deaths reported. Total number of cases in hospital at the end of the week, 782; deaths from diarrhœa and dysentery, 210, and from simple cholera, 4. *Paris, France.*—For the week ending July 25th: No cholera or small-pox reported. *Nice, France.*—For the two weeks ending July 15th: Free from small-pox and cholera. *Barcelona, Spain.*—By cable, August 4th, the consul reports cholera present, but not officially declared. *Denia, Spain.*—July 28th: Cholera officially declared; there are from 3 to 6 deaths daily. *Gibraltar, Spain.*—August 9th: 1 death from cholera at the civil hospital. *Malaga, Spain.*—August 7th, the consul reported 4 cases of cholera; on the 11th the civil authorities announced that the cases reported on the 7th were not cholera. *Genoa, Italy.*—For the week ending July 12th: Free from epidemic diseases. *Venice, Italy.*—For the week ending July 11th: 2 deaths from small-pox. *St. Petersburg, Russia.*—For the week ending July 18th: 3 deaths from small-pox. The presence of yellow fever at *Vera Cruz, Mexico*, has been announced by telegram from the consul, but no further information has yet been received.

The Mount Sinai Hospital Training-School.—We learn that Miss P. B. Washburne, the principal of the school, has resigned, and that Miss A. F. Jones, who lately resigned the position of superintendent of nurses at the Charleston, S. C., City Hospital, is to succeed her. Both ladies are graduates of the New York Hospital Training-School.

Medical Department of Yale College.—It is reported that Dr. F. E. Beckwith has resigned the chair of Obstetrics and Diseases of Women and Children.

Carney Hospital, South Boston, Mass.—Dr. William A. Dunn has been appointed visiting surgeon, and Dr. G. H. Monks and Dr. H. W. Cushing have been appointed surgeons, to the out-patient department.

The Illinois Register of Physicians and Midwives.—The Illinois State Board of Health gives notice that it is now engaged in revising the "Register," and that it will regard any notification of changes, omissions, or errors as a favor. Corre-

spondents should address: "The Secretary of the State Board of Health, Springfield, Ill."

The Death of Dr. George A. Bates, of Worcester, Mass., occurred suddenly on Saturday, August 8th, in his sixty-fifth year. He was graduated from Harvard Medical School in 1844, and the greater portion of his professional life was spent in Worcester. He was a member of the Massachusetts Medical Society.

The Death of Dr. Joseph R. Draper, of South Boston, Mass., took place on Wednesday, August 5th, in his fifty-fifth year. He was a native of Wayland, Mass., and was graduated from Berkshire Medical School in 1863. He was a member of the Suffolk District, and of the Massachusetts Medical Societies.

The Death of Dr. William Wood, of East Windsor, Conn., took place on Sunday, August 9th, at the age of sixty-three. He was a native of Waterbury, Conn., and was graduated from the Medical Department of the University of the City of New York in 1847. He was a member of the Hartford County, Conn., Medical Society, the Lyceum of Natural History of Williams College, and a corresponding member of the Nuttall Ornithological Club of Cambridge, Mass., and was a recognized authority in ornithology.

The Death of Dr. Thomas B. Jewett, of Birmingham, Conn., took place on Sunday, August 9th, in his thirty-seventh year. He was a son of the late Dr. Pliny A. Jewett, of New Haven, and was graduated from the Medical Department of Yale College in 1879.

The Death of Professor Milne Edwards is announced in the "Gazette hebdomadaire de médecine et de chirurgie." He had reached the age of eighty-five years, and had been a teacher for many years. At the time of his death he was a member of the *Académie des sciences* and of the *Académie de médecine*, honorary dean of and professor of comparative physiology in the *Faculté des sciences*, and professor at the Museum of Natural History. Early in his career he made numerous contributions to practical medicine, but the greater part of his life was devoted to physiology.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 2, 1885, to August 7, 1885:*

Brown, J. M., Surgeon; Ewen, Clarence, and Taylor, A. W., Assistant Surgeons. Ordered to rejoin their proper stations in the Department of the Platte. G. O. 7, Division of the Missouri, August 1, 1885.

Edie, G. L., and Black, C. S., Assistant Surgeons. Ordered to rejoin their proper stations in the Department of Texas. G. O. 7, Division of the Missouri, August 1, 1885.

Powell, J. L., Captain and Assistant Surgeon. Assigned to temporary duty at Fort Leavenworth, Kansas. S. O. 110, Department of the Missouri, July 30, 1885.

Dietz, William D., First Lieutenant and Assistant Surgeon. Ordered from Fort Selden to Fort Stanton, New Mexico. S. O. 111, Department of the Missouri, July 31, 1885.

Society Meetings for the Coming Week:

Monday, *August 17th:* Hartford City, Conn., Medical Association; Chicago Medical Society.

Tuesday, *August 18th:* Medical Society of the County of Kings, N. Y.; Ogdensburg, N. Y., Medical Association.

Wednesday, *August 19th:* New Jersey Academy of Medicine (Newark).

Thursday, *August 20th:* New Bedford, Mass., Society for Medical Improvement (private).

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of May 21, 1885.

The President, Dr. A. Jacobi, in the Chair.

Observations on the Treatment, Medical and Surgical, of Acute Peritonitis.—Dr. T. H. Burchard read a paper on this subject. [See p. 169.]

Dr. A. L. Loomis did not believe in idiopathic peritonitis; for five or six years he had searched diligently at autopsies for a case in which no local or constitutional cause of the peritonitis could be recognized, but he had found none. As the author had stated, we could group all cases under three heads—those in which the cause was constitutional and dependent upon blood poisoning, those arising from extension of inflammation from neighboring parts, and those dependent upon perforation or rupture of some form. He had yet to see a case of peritonitis end in recovery in which there had been unmistakably an escape of intestinal gases into the peritoneal cavity. He recognized the escape of the intestinal contents into the peritoneal cavity as one of the most fatal of accidents. It was not always possible to determine just what part of the gut was involved, even in cases in which the symptoms were localized, for previous adhesions, etc., might have caused a displacement of the several portions of the intestine. But, if the commencing point of peritoneal inflammation could be determined exactly, he would most heartily indorse all that had been said in favor of laparotomy. He had seen more than one such case. Where there was perforation of the vermiform appendix there often existed localized peritonitis, with fixed pain, increased on firm pressure, arrest of abdominal respiration, and feebleness of heart power which did not correspond to the amount of pain or the apparent gravity of the disease. When such symptoms came on rapidly or suddenly, he thought we were justified in resorting to surgery, or, if the symptoms did not yet point positively to perforation, the physician should stand by his patient prepared to perform the operation when the first signs of perforation should appear. He had on several occasions pointed out to surgeons the indications for the use of the knife in acute peritonitis. Experience had shown that the peritonæum was not such a dangerous membrane to invade as it had formerly been regarded. If, however, general peritonitis had developed, with shock and collapse, the pulse at 160, and the respirations altogether thoracic, an operation offered but little chance of success. It was in the early stage that the operation should be done, to give the best chance of recovery. He believed thoroughly in the opium treatment of peritonitis, but with restrictions, such as had been pointed out in the paper. For a long time he had guarded his first doses of opium with atropine; later on in the disease it was not so necessary to combine atropine with the opium.

Dr. R. F. Weir thought that during the past ten or fifteen years surgeons had taken a long stride in advance in the treatment of diseases and injuries of the abdomen, especially the latter. Dr. Loomis, he thought, had struck the key-note when he stated that there was no such thing as idiopathic peritonitis. In no case of peritonitis should the patient be allowed to die without receiving the benefit of an exploratory operation. He agreed with Treeves that there was no mesocolon which led to connective tissue behind the peritonæum; perforations always took place inside the peritoneal cavity. He called attention to the importance of earlier interference in so-called perityphlitic abscess; surgeons should not wait until they were able to withdraw pus with the aspirator-needle before cutting down and

establishing drainage. In traumatic cases it was difficult to determine whether the patient was simply in a state of collapse, whether there was escape of the intestinal contents, or whether there was hæmorrhage. But the comparative safety of exploratory incision of the abdominal cavity justified us in such cases in opening the peritonæum. He referred to the success of two operations under such circumstances, one being performed by Mikulicz and the other by Kocher. He was entirely in accord with the author of the paper as to the importance of an early operation.

The PRESIDENT said it was a question with general practitioners whether in every case of perityphlitis an early operation should be resorted to. He believed that we were not all fully prepared to operate at once, even though the diagnosis might be satisfactorily made, and for the reason that in a large number of cases the local inflammation did not extend. We knew of recoveries, too, in cases in which a perityphlitis had become a general peritonitis. For the general practitioner, it certainly was a responsible position to decide the question whether or not an operation should be done at once, or whether we should wait for some time. He had met with just such a case within the last two weeks, that of a boy fifteen years of age who gave a history of perityphlitis—sudden pain, local swelling in the right inguinal region, some dullness on percussion, slight elevation of the thigh, a moderate amount of fever, and absence of collapse. In such a case, then, the question would be raised, Should an operation be performed at once? The patient was given morphine with atropine, and they applied ice, ice, ice! The peritonitis became general, but the symptoms were not urgent; the temperature rose above 103° only once; there was pain over the abdomen, with thoracic respiration. He hesitated to recommend an operation, because the general condition of the patient seemed to justify a little more waiting. If in such a case death should occur, perhaps the physician might be reproached with not having proposed an operation. He heartily agreed with the statement that there were hardly any cases of idiopathic peritonitis. He was not prepared to say, even after hearing this paper and the discussion, that he would at once propose laparotomy in the class of cases mentioned, but he would propose it if peritonitis had set in suddenly after an attack of perityphlitis, and extended very fast. Dr. Loomis had said, Operate when the first sign of perforation makes its appearance; but perforation was frequently the first thing which occurred.

Dr. LOOMIS thought he had said that the surgeon should be prepared to operate in all of these cases as soon as the evidences of perforation became known. He would beg to question the statement that perforation was the beginning of a perityphlitis. He mentioned a case in which he saw the patient on a Thursday, when there were localized symptoms in the right iliac region, not severe, but the facies pointed to some serious trouble. On Friday the patient felt well and got up, but on Saturday there was sudden collapse, and death occurred with general peritonitis. Autopsy showed lymph about the local trouble, of two or three days' formation, and evidence of subsequent perforation and general peritonitis. Had an operation been done at first, the patient might have recovered.

Dr. WEIR remarked that in speaking of an early operation he did not mean that it was necessary to resort to laparotomy, but to the ordinary operation for perityphlitis, with the insertion of a drainage-tube.

Dr. LOOMIS had stated at the beginning of his remarks that there was no cause of peritonitis which was so fatal as the escape of the intestinal gases into the peritoneal cavity. He could understand how the vermiform appendix might be plugged at its opening into the intestine, and ulcerations occur farther on which might set up an inflammation in the connective tissue, give rise to hardening, etc., and recovery finally take place; but, when the ulceration was situated near enough to the intestine to cause an escape of the intestinal gases, he could not see how it would be possible for the patient to escape acute general peritonitis.

Dr. BURCHARD, in closing the discussion, said he had seen six cases of perityphlitis attended by perforation, in five of which he made a post-mortem examination and verified the diagnosis. It was a peculiar fact in these cases, and was commonly true, as had been pointed out in the discussion, that prior to the perforation which caused death there had been one or more attacks of perityphlitis, and that he considered a very strong diagnostic mark. If we found a patient in complete or partial collapse who had had preceding perityphlitis, he thought we were justified in concluding that there was perforation, and particularly if there had been previous constipation and the patient had been taking an active purge. If there was but very little collapse, he thought we were justified in concluding that, if there was perforation at all, it was so minute that it could not be diagnosticated. If the collapse was profound, as it was in most cases, and developed rapidly, we were justified in inferring that there was perforation.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Meeting of June 11, 1885.

The President, Dr. E. O. SHAKESPEARE, in the Chair.

The Relative Malignancy of Different Forms of Sarcoma.—Dr. H. R. WHARTON presented a large tumor which had been removed from the posterior portion of the thigh of a patient in the University Hospital, under the care of Dr. Ashhurst. The patient was a man, thirty-two years old, who, some eight years ago, had first noticed a small tumor of the posterior portion of the left thigh, about six inches above the popliteal region. Since that time it had gradually increased in size, and at the time of his admission it was larger than a man's head and oblong in shape. Its growth had been accompanied by paroxysmal attacks of severe pain. The patient did not remember any injury of the part. The tumor was enucleated without difficulty, laying bare about six inches of the sciatic nerve, which was directly in contact with the capsule of the tumor, over which also portions of the semi-tendinosus and biceps muscles were stretched. The tumor was found to consist of one large cavity containing a reddish-brown fluid, surrounded by a fibrous wall varying in thickness from an inch to two inches, and in places presenting numerous points of calcareous degeneration. The inner surface of this wall was lined with irregular flocculent masses. Microscopical examination showed the growth to be a spindle-celled sarcoma with scattered areas of calcareous degeneration. The chief points of interest in the case were the large size of the tumor, its slow development, and the ease with which it was removed without injury to adjacent structures.

Dr. TYSON thought it would be interesting to determine if this cyst—which was a typical example of cyst-formation by softening—had an endothelial lining. He also asked as to the nature of the liquid contents.

Dr. DE SCHWEINITZ replied that he had been foiled in his efforts to make satisfactory sections, from lack of time to decalcify the growth. He had determined, however, that it was unquestionably a spindle-celled sarcoma. The contents of the cyst had been spilled during the operation; they were of a chocolate color.

Dr. BARTON said that at the previous meeting Dr. Nancrede

had shown two growths with a similar clinical history and of analogous histological characters. It would be interesting to examine both growths with reference to the state of the walls of the blood-vessels, as suggested by Dr. Nancrede, to ascertain if any light could be thrown on the question of the non-malignancy of the so-called recurrent fibroid tumor of Paget.

Dr. Nanorede remarked that at the previous meeting he had specially called attention to the fact that the *so-called* recurrent fibroid of Paget was a small-spindle-celled sarcoma. The position which such growths occupied—viz., in the subcutaneous connective tissue—did not seem to him, as had been suggested by Dr. Simes, a satisfactory explanation of their non-recurrence. He was under the impression that a careful study of the histology of their vessel-walls would demonstrate that they more closely resembled those of a fibroid tumor than those of other sarcomata in not being merely channels through the tissue, directly or almost directly in contact with the tumor-cells. He thought that "recurrent fibroid" was a good clinical term, as applied to a certain class of sarcomata, since other tumors much resembling them in histological character pursued a far different course.

Dr. Tyson said that he had early made a study of the growth first known as the fibro-plastic tumor of Lebert, and afterward named by Paget recurrent fibroid, but now correctly included among the sarcomata of Virchow. He thought that the explanation of its non-malignancy was to be found in the fact that the physiology of sarcomata varied greatly in this respect, some being scarcely more malignant than certain fibromata, while others vied with the worst cancers in this characteristic. The former were represented by the hardest of the sarcomata, which, again, were the small-spindle-celled growths and might be said to be the type of the recurrent fibroid of Paget. He agreed with Dr. Nancrede that the term was a good one clinically, designating a small-spindle-celled sarcoma recurring *in loco*, but seldom by metastasis.

Dr. Formad said that no true tumor ever had arteries or veins; their blood-vessels were merely blood-channels without muscular walls, even in fatty tumors. The cancers were an exception to this; they had true blood-vessels and nerves, and hence were painful.

Dr. Nanorede replied that, as Dr. Formad's statements were totally at variance with those of all reliable observers, he was not prepared to accept them at present, and still thought that careful study of the histology of the vessel-walls in the various sarcomata might reveal something of practical interest.

Dr. Formad said that, to him, the relative non-malignancy of these growths was plain; spindle cells could never move from their position, especially if the blood-vessels were small. The small-round-celled sarcomata had small cells and were more vascular; hence they were very malignant by metastasis. Giant-cells never traveled.

The President remarked that the suggestions of Dr. Nancrede and Dr. Barton, as to a possible difference in the blood-vessel walls of sarcomata of differing malignancy, were doubtless based upon the well-known fact that these growths became generalized through the blood-channels. This seemed to him a matter of interest, and it also raised a point which might be found of importance, if properly investigated, as explaining the clinical differences. It was indeed true that the tendency to malignancy by metastasis was due in large part to the ease with which cells could be detached from their place, and this had as much to do with metastasis as the supposed mobility of elements. As to the condition of the vessel-walls in recurrent fibroma, he was very sure that, in the primary tumors which had been diagnosticated, after removal, as pure fibromata with numerous endothelial cells along the bands of fibrous tissue, recurrences had shown a change of type to that of perfect sarcomata; yet the blood-vessels in the first were those of connective tissue, while in the second they had the character of simple blood-channels.

Dr. Hughes would call attention to a theory of a recent German observer, that all sarcomata arose from the endothelia of blood-vessels. On that supposition it could easily be understood how they became generalized; these cells set up the same change in the endothelia wherever they touched them, while cells derived from other structures had no effect. This distinction might be made between sarcomata that remained local and those that became generalized—that the former arose from fibrous tissue, and not from endothelium.

Dr. Nancrede was of course perfectly familiar with the fact that mobility of cells had much to do with malignancy, but he felt compelled to deny positively, upon the basis of experience, the so-called fact, so positively asserted by Dr. Formad, that large-spindle-celled sarcomata never could become generalized, because their cells, from their form, must "stick" in the vessels. Some years since he had presented to the society a specimen of the most malignant growth he had ever had the misfortune to deal with. (Here he repeated its history.) He thought that Dr. Formad had examined that specimen at the time, and had not then dissented from his opinion. He would relate other instances presented to this society, but further remark was unnecessary, since all observers except Dr. Formad had repeatedly called attention to the special malignancy of large-spindle-celled sarcomata, save in certain situations. He would suggest that positive statements founded on any one observer's experience were apt to be delusive.

Specimens from an interesting case of pneumonia in a child, with extensive consolidation, were shown by Dr. M. H. Fussell, and Dr. G. de Schweinitz showed two specimens of sarcoma of the choroid.

Reports on the Progress of Medicine.

OBSTETRICS.

By ANDREW F. CURRIER, M. D.

The Influence of Temperature upon the Life of the Fœtus, and upon the Progress of Gestation.—Doré ("Arch. de tocol.") has made three series of experiments upon animals bearing upon this subject. He compares these and their results with similar investigations which were made by Runge, with whom he disagrees in most respects. His conclusions are as follows: 1. The first conclusion of Runge can not, with our present knowledge, be refuted—namely, that the temperature of the fœtus is always higher by some tenths of a degree than that of the mother even when the latter is above the normal. 2. No well-conducted experiment has ever proved that the fœtus dies a long time before the mother. [Presupposing that the mother is in a dying condition, from whatever cause.] When the mothers were opened after death the fœtuses were invariably found dead, but when this operation was performed before death, even though the mothers were *in extremis*, the fœtuses were found alive. 3. A temperature of 41·5° C. is not always lethal for the fœtus. Runge thinks that when maintained at this point for a few minutes it is necessarily fatal. The author's experiments showed that it might in some cases be continued for two hours without producing death. 4. A temperature of 43° C., if arrived at by slow and cautious elevation, may be endured for a short period without interrupting the pregnancy or affecting the vitality of the fœtus. 5. Excessive elevation of temperature *alone* is insufficient to produce abortion or premature parturition. In all of the author's experiments, whether the mother succumbed to the heat or successfully

resisted it, this proposition was sustained. 6. There is great difference, even with animals of the same species, in the normal temperature point and in the rapidity with which hyperpyrexia is acquired, the same rate of increase of external heat being observed in all cases.

The Influence of Age upon Labor in Primiparæ.—Kleinwächter ("Ztschr. f. Geburtsh. u. Gynäk."), after analyzing the statistics of nine hundred and twenty primiparous cases, which were recorded at the Innsbruck clinic, the patients varying in age from sixteen to forty-one years, draws the following conclusions: 1. As a rule, the greater the age at which conception occurs for the first time, the older the individual when menstruation began. 2. The reason of this is to be found, at any rate in part, in precedent disturbances in the ovulation process. 3. Pain occurring either with the first menstruation, or in a subsequent one soon after it, among those who begin to menstrute at a period which is later than the usual one; likewise irregular menstruation, and pain during coitus, which renders that act imperfect, are causes which tend to retard the period when conception first occurs. These factors are most potent in women of an advanced stage of life, less so in those who are midway in the child-bearing epoch, and least among very young women. 4. Pathological conditions which have no immediate relations with the pregnant state interfere with conception least frequently in young women, but very commonly in older ones. 5. The pain and annoyance attending the pregnant state are most common with very mature primiparæ, and less common with primiparæ of the middle than of the earliest stage. 6. Hæmorrhages during pregnancy occur most commonly among the young, least commonly among the old. 7. As to an increase in the quantity of liquor amnii, age does not seem to be a determining factor. 8. The duration of labor is most frequently prolonged beyond the normal time among old primiparæ. 9. Inexpulsive and ineffective pains are most common among primiparæ of the latest period. 10. The forceps is most frequently called for with those primiparæ who are more than twenty-nine years of age. 11. Though the duration of labor is longer with old primiparæ than with young ones, it does not follow that this is an inevitable and unvarying fact. 12. (This proposition simply qualifies its predecessor.) 13. The percentage of mortality in primiparæ following forceps operations increases in the same ratio with the age. 14. The older the primipara, the more likely is the perinæum to be torn. 15. The older the primipara, the greater the probability that post-partum hæmorrhage will occur. 16. Increase of age brings increased predisposition to kidney troubles. 17. The same rule applies in regard to œdema. 18. The older the primipara, the less the probability that she will suffer with inflammation of the breasts, or that she will be able to nurse her child. 19. Old primiparæ are most frequently the subjects of puerperal fever; least frequently affected are those who are between twenty and twenty-nine years of age. 20. The same rule holds in regard to puerperal mania. 21. Equally true is it in regard to morbidity and mortality with reference to puerperal diseases in general. 22. The same rule obtains in regard to spontaneous abortions; the older ones are most frequently the sufferers. 23. Abnormal presentations are most frequent with old primiparæ. 24. As to the narrow or deformed pelvis, age has no bearing upon the question. 25. The older the primipara, the greater the probability that the offspring will be a boy. 26. The children of old primiparæ are apt to be heavier and longer than those of young ones. 27. The older the primipara, the more likely is she to give birth to twins. 28. The same is true in regard to deformed offspring. 29. Also the rule applies in regard to the vitality of the offspring.

The Treatment of the Perinæum in Pregnant and Parturient Women.—W. A. Duncan ("Lancet") shows that an operation upon a ruptured perinæum is not necessarily an efficient cause of abortion in a pregnant woman by the narration of a case in which it was performed upon a woman in the third month of pregnancy. She had already borne two children, and the perinæum had been ruptured at each labor. The rent had been closed after the first accident, but not after the second, until the operation was performed by the author nine months after labor. Four deep wire sutures were used, and a sufficient number of superficial catgut ones. The operation was entirely successful, pregnancy was completed, and no accident occurred at the subsequent labor. In regard to supporting the perinæum during labor, the author thinks that the plan is sometimes a very good one, though accidents will sometimes happen in spite of all precautions. The plan which is recommended is to dilate the perinæum with the fingers closed in the form of a cone, and applied carefully when the head has reached the perinæum. He also approves of the plan of lateral incisions of a rigid perinæum, and thinks that the forceps, properly used, will prevent rather than encourage perineal rupture, on account of the dilating action of the blades. The supporting power of the perinæum to the pelvic organs is considered to be too important a matter, as regards the comfort and welfare of parturient women, to be overlooked or lightly regarded.

The Treatment of Placenta Prævia.—Murphy ("Brit. Med. Jour.") reports fifteen cases of this complication, in all of which the mothers recovered, recovery being delayed in one case, however, by an attack of phlegmasia dolens. Five of the children were born alive, but three only survived, and four of the others were dead when the patient was first seen. In regard to the causes which produce hæmorrhage (ante partum) in cases of placenta prævia, the author follows Matthews Duncan in considering that they may be (1) rupture of a utero-placental vessel, (2) rupture of a marginal utero-placental sinus, (3) partial separation of the placenta from accidental causes, as a jerk or a fall, (4) uterine pains from attempted miscarriage which is arrested at an early stage. Müller is quoted as stating that hæmorrhage is most frequent in cases of complete placental presentation between the twenty-eighth and thirty-sixth weeks; in the incomplete forms it usually comes after the thirty-second week. After such a warning as is given by hæmorrhage at this period, the sooner labor is induced the better the chances for both mother and child. The operation which will be required is the same in principle, whether labor has begun or not, and the author is very decided in his opinion that the vaginal tampon is *not* the means which is required. Immediate dilatation of the os is the end which is to be attained. Tents or the finger may first be used, and then Barnes's hydrostatic bags, or Steele's modification of the same. After a moderate degree of dilatation has been effected the finger should be passed into the uterus, and should separate all the placenta which is contiguous to the os internum. If uterine pains occur, the hæmorrhage will cease, the theory being that the vessels in the detached portion of placenta contract with the contractions of the uterus, and do not drag upon the vessels which are still intact as they did before the placental separation was effected. If hæmorrhage does not cease, ergot should be given. Dilatation being accomplished, the case may be left to nature. Rapid delivery may be effected with the forceps, but in the majority of cases version will be the most appropriate operation.

Defective Lactation.—Dolan (*Ibid.*) cites the following general principles upon this subject: 1. All therapeutical agents intended to act on the mammary gland must first enter the blood, or be capable of stimulating the blood supply in the mammary apparatus, the principle being that nutrition is dependent on blood supply. 2. Drugs from the families *Liliaceæ*, *Cruciferæ*, *Solanaceæ*, *Umbelliferæ*, etc., enter the blood and impregnate the milk, so that poisons in any of these classes must be administered with caution to the mother or nurse. 3. There is no true galactagogue, but jaborandi is the nearest approach to one. Its action is not persistent, however, and it affects the mammary secretion only temporarily. 4. Belladonna is an antigalactagogue. 5. In inaction of the mammæ the milk may be increased and influenced by medicines. 6. The salts of milk may be improved, as to quantity, by the action of medicines. 7. Various physiological actions, purgative, alterative, diuretic, etc., may be produced in the child by the administration of drugs to the mother. 8. Diet and hygiene must be regarded in order to effect improvement in the milk-secreting power. In regard to the causes of defective lactation: 1. They may be mechanical (*a*) through non-development of the lactiferous tubes; (*b*) through non-development of the cæcal terminations of the ducts; (*c*) through non-perfection of epithelium. These conditions can not be remedied. Plethora can be remedied by suitable, non-stimulating, nutritious diet. 2. Torpor of the mammæ may be overcome by repeated applications of the electric current, by irritation of the nipple, warm poultices, and the breast pump. 3. The commonest cause of defective lactation is anæmia, which is associated with constitutional degeneration. This radical defect is shown to be a very common condition, especially among the overworked and underfed laboring population in manufacturing communities. A degeneracy of the race, at least in so far as these classes

are concerned, is steadily progressing. One great remedy which is suggested consists in counteracting the vice of intemperance. The number of places of refreshment and entertainment for the poor should be greatly increased, and coffee, cocoa, tea, milk, soup, vegetables, etc., be furnished at low prices, the object being to displace with establishments of this character the present evil system of public-houses and dram-shops. The best mothers and the least amount of degeneracy are, says the author, in the middle classes. Woman's mission must ever be regarded in its association with motherhood, for the accomplishment of which important evolutional and nutritive changes must be undergone. If the forces which are involved in the process of reproduction are weakened, the result is necessarily a weakening of the race. Therefore the necessity of surrounding the function of lactation with proper safeguards can not be overestimated.

Miscellany.

The International Medical Congress.—Dr. D. Bryson Delavan, of New York, authorizes us to announce that he has declined to take part in the Congress as at present organized. The "Medical News" announces the withdrawals of Dr. Hunter McGuire, Dr. S. P. Moore, and Dr. James B. McCaw, of Richmond; Dr. Le Grand N. Denslow, of St. Paul; Dr. John L. Atlee, of Lancaster; and Dr. Joseph R. Smith, of the army.

The situation continues to be made the subject of comment by several of our contemporaries. The "Kansas City Medical Record" says: "In the June number of the 'Record' we partly gave way to our feelings regarding the outrageous action of a few supercilious nabobs, who have nothing to lose by any disturbance created in the medical profession. In our article we suppressed much of our disgust, with the hope that all dissatisfaction might be peacefully settled, and the profession appear as a unit in trying to make the international meeting what it should be—a well-merited credit to the American medical profession. It now seems that we are to be sadly disappointed in this our wish.

"The new committee appointed at New Orleans met at Chicago about the end of last month. A few members of the original committee met with them, but, of course, being in a hopeless minority, were forced to submit, which they did with apparent grace. Dr. Austin Flint, Sr., chairman of the original committee, sent in his resignation, which was quickly accepted. This showed the direction of the wind, which has nearly destroyed the Congress.

"Dr. Flint did the correct thing in resigning, as he was not the chairman of the new committee; but the committee did a very unwise thing in accepting the resignation. This first act of the committee was a direct blow at the original committee. The leading physicians of Philadelphia led off in their unqualified condemnation of the action taken at the Chicago meeting, and were soon followed by the profession of Boston, Baltimore, and other places. We are sorry to see this growing dissatisfaction, which, if it continue, will ruin the Ninth International Medical Congress. It may be noticed that the men whose names appear among the disaffected in the different organizations are the recognized leading members of the profession, who have always occupied a front rank in medical association meetings. Hence, with these men withdrawing from the committees, it looks very cloudy for the Washington meeting in 1887."

The "Columbus Medical Journal" says: "The fear that we expressed a couple of months ago bids fair to be realized; the Texas kick has 'overturned the fat into the fire.' In other words, the officers of the Congress, as selected by the new committee, are very generally refusing to serve; at least, such is the case with those from Philadelphia, Boston, Washington, Cincinnati, and Baltimore, while numerous other resignations have come in from other cities. Many of the most important sections have thus been left without officers. Five of the original committee of eight have resigned, including Dr. Billings, and the secretary general has also declined to serve. Matters have, indeed, assumed such a shape that no one with any self-respect can afford to take the places thus left vacant. To be a *second choice*, even under the most favorable circumstances, is always sufficiently humiliating; but to consent to be such in the present crisis would certainly indicate an utter absence of professional pride. We are told of three London tailors who once met and 'Resolved, that we, the people of England,' do thus and so. It now looks as though about the same number of 'kickers' would gather themselves at Washington, two years hence, and call themselves an International Congress."

. . . . . .

"The cry against the 'new-code' men was all bosh. It was raised at New Orleans simply to divert attention from the real purpose of those who uttered it, on precisely the same principle as the matador flaunts his red flag in the face of the bull. A few sharp and unscrupulous politicians—who had no claim to recognition in the organization of the Congress, and had hence received none—used that cry as a means of foisting themselves into prominence. They succeeded in their *ruse*, but 'vaulting ambition o'erleaped itself,' and the Congress, under their management, is hopelessly fated. They have come to a realizing sense of this fact, and, anxious to stand from under, are now wildly endeavoring to make themselves, and others, believe that the blame for the failure must rest on those who have withdrawn! They may deceive themselves by such audacious claims, but surely no one else."

The "Medical Record" publishes an open letter addressed to Dr. John V. Shoemaker by Dr. Henry D. Noyes, of New York, from which we extract the following: "With the excisions and withdrawals of our ophthalmologists and of other medical men can we still offer inducements powerful enough to bring to us the men we want from Europe? Can I explain to my *confrères* in Germany, Switzerland, Paris, and London, who expressed their intention of coming and who loaded me with hospitalities—can I account for these withdrawals and exclusions in any way which will not bring disgrace upon our medical profession?

"The situation is profoundly critical, and failure is certain unless an absolute reversal of the present policy is quickly effected. The delegate idea must be abolished. The pledges given at Copenhagen must be carried out in good faith to the letter. This means that men who have been treated with indignity must be invited back. To do this is not pleasant to human nature, but it is manly, and it is imperative. The Congress must be free to all physicians of honorable standing. Better to have a sprinkling of unworthy men, or of irregulars, than to persist in the mischievous and suicidal course now causing disintegration. Nor can we long delay. To wait until next May is to multiply difficulties and aggravate evils. The officers of the American Medical Association and the new committee should take the responsibility of such measures as will be radical enough to restore confidence, to bring back harmony, and to counteract the distrust which will spread through Europe most rapidly and be counteracted very slowly."

The "Virginia Medical Monthly" says:

"We are not surprised, and must confess being glad, at seeing with what almost unanimous action on the part of the leading members of the profession the result of the Chicago session of the newly appointed committee has been met. The resignation of nearly every prominent appointee on the full committees and sections made at that session shows a feeling of dignity and self-respect; and the fact that so many physicians in different parts of the country have expressed their sympathy with that action is plainly indicative of a feeling that something is more than wrong in the position taken by the American Medical Association at its late meeting in New Orleans. The thing to be sorry for is not the fact of these meetings in different cities and the action there taken by the doctors present, but the fact that all this was made a necessity by the personal ambition of some men who felt that they had been slighted.

"The medical press of England has already referred in no complimentary terms to this last-mentioned subject, and the action of the association has not tended to increase the respect of our professional brethren across the water.

"It is most certain that, unless some new action is taken in reference to the committee formation, the Congress will be a failure—a thing which must not be allowed to occur, and, although we acknowledge the shortness of the time which will elapse between the 1886 meeting of

the American Medical Association and the 1887 meeting of the International Medical Congress, it seems to us the only thing now to do is at the next association meeting to wipe out by carefnl legislation all existing committees, and appoint an entirely new one—not on the narrow basis of a printed set of rnles rapidly becoming obsolete by the advance of thought and charity—but on the broad platform of fraternity, honesty of purpose, and dignity."

The "Medical News" publishes the following preambles and resolution, adopted by the Dallas County (Texas) Medical Soeiety, at a special meeting held July 25th:

"*Whereas*, The American Medical Association, at its meeting in Washington city, in May, 1884, recognized a general desire of the medical profession of the United States by adopting a resolution under which a committee was appointed whose duty it should be to extend an invitation to the International Medical Congress, shortly to assemble at Copenhagen, to hold its next meeting in 1887 at Washington city, D. C., and

"*Whereas*, The said committee, by the letter and spirit of this resolution, was fully empowered to act, not only as a committee of invitation, but as an executive committee as well, and

"*Whereas*, The said committee, in pursuance of the objects of the above-mentioned resolution, and duly exercising the nnlimited authority delegated to it, enlarged its membership and otherwise provided for the successful holding of an International Medical Congress at Washington city, in 1887, all of which arrangements were considered by us as judieious, and, contrary to what has been charged by some, wholly disinterested as to personal or local aggrandizement, and

"*Whereas*, The American Medical Association, at its last meeting at New Orleans, did, in our judgment, unwisely and nntimely, virtually rescind its former action, which reactionary movement has deranged, if not indefinitely suspended, the work of the original committee which was satisfactorily progressing, and created an indifference to the Congress among recognized leaders of medical thought and interest throughout the country, and

"*Whereas*, There are those who persist in urging the so-called justice of their claims for the organization of the International Medical Congress on a territorial basis, which unfortunate idea has been unwisely further extended by some members of the profession in Texas in a manner calculated to arouse a sectional prejudice, which has little if any existence in our State; therefore be it

"*Resolved*, That the Dallas County Medical Society deplores what must be considered the present interregnum in the affairs of the contemplated International Medical Congress, brought about, as we believe, by an ill-considered and hasty action at the New Orleans meeting before mentioned; that this society was fully satisfied with the work of the original committee, which was composed of able, eminent, and conscientious members of the profession; that this society repudiates any attempt to inject a sectional feeling into a purely professional matter which has reference to scientific investigations only, and that said attempt, if offered in behalf of the medical profession of Texas, is, in the opinion of this society, both unauthorized and gratuitous; and that, looking beyond a narrow-minded policy of personal aggrandizement and sectional interest, we heartily commend the recent action of Philadelphia and New York brethren, as well as those elsewhere, who have retired from the Congress until a more dignified and unselfish view of the arrangements can be had; and we pledge them our hearty support and good-will in their efforts to advance the interest of the American medical profession in future meetings of International Medical Congresses, where the truly representative medical abilities of our country shall be enlisted uncontrolled by geographical lines or personal preferences."

In its editorial columns, the same journal says:

"Rapid disintegration still characterizes the new organization of the Congress. This week we are called upon to chronicle more resignations, and the list includes one vice-president of the Congress, three vice-presidents of sections, and several members of councils. The very large number of appointees who have declined to accept office under the New Orleans committee are all old-code men, both in principle and practice, and for the most part they are members of the American Medical Association. They recognize the falsity of the issues which were raised at New Orleans, and they have promptly placed their emphatic seal of condemnation npon the most disgraceful piece of intrigue which has yet marred the history of that body, and which is in imminent danger of placing an ineffaceable stigma upon the good name of the whole American medical profession.

"Although the hollowness of the code cry has been fully exposed, we still find it being freely used by the new committee, and we learn that a circular, to which signatures are invited, has been extensively circulated through this State, expressing approval of the exclusion of the new-code men from membership in the Congress and applauding the work of the committee at Chicago, and it is headed 'The Action of the American Medical Association indorsed.' The first response it appears to have elicited was the resolutions condemnatory of the action at New Orleans, which were passed by the Alleghany County Medical Society and published last week, and this week we hear the echo from Texas.

"The profession recognizes that on account of recent events there is imminent danger of its not being able to meet the obligations which it incurred by the invitation extended in its name at Copenhagen, and its members naturally look around to see what means can be found to avert the impending disaster which threatens to defile its good name.

"The clearest and cleanest way out of the false position into which the profession has been entrapped by the plotters at New Orleans is for all appointees to discredit them completely by declining to accept office at their hands, and thus their organization must, of necessity, collapse. Already this has been largely done, and upward of one hundred and twenty of the most eminent of their appointees have declined to be tools in their hands, and the sooner the remainder follow suit the sooner will the way be opened to the profession to redeem its plighted honor."

The "American Practitioner," of Louisville, says:

"At its meeting in 1884, the American Medical Association selected eight of its members to visit Copenhagen and invite the International Medical Congress, then in session in that city, to hold its next meeting, in 1887, in the United States. The invitation was given by the association in the name of the profession of America. It was accepted, and the committee which conveyed it was at once adopted by the Congress as its own, and invested with the necessary powers of organization and all its *et ceteras*. The committee, while away, acquainted itself with the accustomed mode of organizing and the methods of work of the Congress. It was informed by the founders and chief promoters of the Congress that the work of this body was confined to science, pure and simple; that every other business was vigorously excluded; that its membership was catholic in the broadest sense of that term; that it knew neither geographical lines nor sectional lines, but embraced the workers of every clime and nationality; and, finally, that the only ethical test required of applicants seeking admission was that they should belong to the universal brotherhood of legitimate science. The committee returned home and entered without delay upon the discharge of the duties with which it had been intrusted. These duties involved much labor and great responsibilities. They were completed in season to present the result in detail at the meeting of the association in New Orleans in May. The plan of organization advised by the committee was that under which all previous sessions of the Congress had been held. In a word, the committee simply acted upon information derived while abroad. This information it embodied in its report. The report itself was modeled on that of every preceding Congress.

"When the secretary of the committee read this report at New Orleans, it met with the most extraordinary reception. It was not even accorded the common courtesy of being received. Instead, it was assailed on the floor of the association in language too coarse to be repeated, and the committee itself was openly charged with narrow-mindedness, partiality, selfishness, bargain, intrigue, and corruption.

"The committee, as originally composed, consisted of Austin Flint, John Billings, Minis Hays, H. F. Campbell, L. A. Sayre, George J. Engelmann, Christopher Johnston, and John M. Browne, of the navy.

"Acting under the resolutions which called it into existence, it had added thirty-four other members, representing names in every respect worthy of being associated with the foregoing. Of this committee, consisting now of forty-three members, but five were present when the handful of agitators bent on revolution rose in the association. The

names of none of these men had appeared in the organization of the Congress, as reported by the committee.

"Many persons profess to have seen in this omission the mainspring of their action. They spoke much and often and well. They appealed to sectional prejudice and were applauded. They indulged in endless personal animadversion. The air was made thick with charges against the committee which their authors could not have believed to be true, but which, serving their purpose for the hour, they used with no little effect. The most offensive of these was reiterated with great vehemence by one of the speakers. Not many days after it was proved to be groundless, and its author branded in the public prints as a deliberate falsifier.

"During the time just described the wildest confusion prevailed on the floor of the association. Cries of 'Order' went up from all parts of the house. Scores of men rose simultaneously to their feet in attempts to catch the eye of the speaker, or to clamor for the preservation of order. The gavel of the presiding officer fairly rattled, but in vain. There was no order. An eye-witness likened the hall of the association at this moment to pandemonium.

"It is reported that one of the more violent of the revolutionists expressed a desire to see certain officers of the Congress strung up by the neck, and declared himself willing to adjust the fatal noose.

"The secretary-general of the Congress finally succeeded in getting the floor. He made a plain and manly statement of the work of the committee, counseled conciliation, and gave a flat denial to every charge reflecting upon the honor, fair-mindedness, and integrity of the committee. But his effort to stem the current was quite unavailing. The sober-minded members present sat bewildered, and the association was hurried into the deplorable blunder of repudiating the report of the committee and practically impugning the motives of the committeemen.

"In the face of its own resolution passed the year before, and under the sanction of which the work of organization had been carried on, the association declared void every addition to its members made by the committee, and took the business into its own hands. It at once appointed a member from each State and Territory, and a representative each from the army and navy—in all, thirty-eight. It then clothed this new committee with the power to undo, if it thought fit, the entire work of the committee of 1884. It gave it no instructions.

"The committee organized at once by electing a temporary chairman and secretary. It held its first meeting for business at Chicago in June. There were present twenty-five of its own members and three members of the original committee. After electing the temporary officers to the same positions in permanency, they proceeded to eject the new-coders from office and fill their places with men loyal to the old code.

"They then lessened the number of sections, as created by the original committee, by merging here and there two sections into one. They subsequently cut out many names from the North and East which they replaced by names from the West and South. They added largely to the list from the latter portions of the country, and procured a representation from a much more extensive territory than had been embraced by their predecessors in the work.

"They withdrew the right of presidents of sections to have a voice in the selection of their co-workers and associates, whereby these officers were dwarfed into mere creatures of the committee. They finally denied representation in the Congress to such physicians as were not members of the National Association, or of societies in affiliation with it. The committee then adjourned. So much by way of history. The committee made no report of its work; but its operations soon came to be known.

"The behavior of the association but sixty days before was yet fresh in the public mind. There was a widespread feeling of misgiving and regret, coupled with the hope that the Chicago committee would in some way atone for the wrong and injustice done the profession at large and the original committee at New Orleans. But its action instantly destroyed such hope and confirmed the gloomiest forebodings. The committee chose as its officers men who, whatever may be their talents, had led the movement at New Orleans, and secured themselves in office. Many physicians who had accepted position in the Congress from the original committee, despairing of the success of the undertaking in its new hands, determined to withdraw from the organization. Others, saying openly they would not serve under such officers, also withdrew.

"The meetings of the profession in Philadelphia, Boston, Baltimore, Washington, and Cincinnati, not to mention individual instances in other places, bear witness to the extent and earnestness of this feeling. Every day has brought fresh accessions to the list of those who decline to follow such leaders. And, as the facts of this unfortunate business become more generally known, it is safe to say that the list of those who distrust the leaders of the revolution inaugurated at New Orleans will grow apace.

"Much was said at New Orleans and elsewhere about the code question in connection with the Congress. Such gentlemen as have seen fit, for reasons, to withdraw from the Congress as at present organized, have been accused of being unfriendly to the code and supporters of the new code. Philadelphia was the birthplace of the code. There it was ingrafted on the constitution of the American Medical Association, and first offered as the creed of the profession in the United States; and there, if anywhere, is its spirit a living spirit, and does its letter carry the force of law. And yet Philadelphia physicians were the first to take up arms against the New Orleans movement; but the question of code was not in their minds. They well knew how adroitly and with what effect it had been used at the National Association, but, when they met to record their objections to the Congress passing into the hands of its present leaders, the code was never once mentioned. It was not thought of. The motives which influenced them and the causes which led them to decline to accept office in the Congress under its new organization were of another and very different kind. They raised no objection to the action of the committee on the code, though some of the more conservative of them may have doubted the wisdom of a step which turned upon a point that the Congress had never considered, and, from the very nature of its organization and the spirit by which it was guided, could but believe was beneath its dignity to consider.

"The Philadelphians were fully alive to the fact that, notwithstanding the war of the factions in New York, the code men continued to associate with the new coders in school, hospital, and society, and even meet them in consultation.

"When Dr. Leidy and Dr. Agnew, Dr. Da Costa and Dr. Stillé, Dr. Horatio Wood and Dr. Gross and Dr. Parvin and their coadjutors met, their purpose was to withdraw from the Congress for the simple reason of distrust in its new management. They felt aggrieved at the behavior of the association at New Orleans. They were dissatisfied with the action of the committee at Chicago, and they went to record to this effect.

"Whether the gentlemen who in other cities have come to book in similar resolutions were influenced by similar reasons is not germane here. Philadelphia led off in the movement. That this same feeling of distrust—not to use a stronger word—reaches to very many other places, no observant man will deny. That it exists to such degree, that it exists at all, affords cause for the liveliest apprehension. That it will acquire such proportions as may lead the National Association to call a halt and undo some of the work it did in such unseemly haste at New Orleans, remains to be seen.

"The conjecture is certainly grave enough to make such action reasonable. And if wisdom united to courage and the charities direct and control the association, it may still recover from the stab inflicted with its own hand at New Orleans, and bring the sessions of the International Congress in 1887 to a successful close. Otherwise the fate of the association, no less than that of the Congress when it meets on American soil, is easily read. The end of one will be disintegration and decay. That of the other will be mortifying failure. These are strong words, but sober withal.

"A medical man of Philadelphia, of enviable name, was asked a short time since by the secretary of the new committee if he could suggest a way by which the differences between the profession and the association could be adjusted. He answered, 'By your resigning.' This may, or may not, afford a key to the situation. But it clearly signifies that certain things done both at New Orleans by the association and at Chicago by the new committee must needs be undone before

surcease can be had of the present discord. If this be not effected, those who have thrown up commissions derived from the new leaders will take neither part nor lot in the matter. And while it goes without the saying that this action will in no wise affect the coming of the Congress at its appointed time, it will surely rob the meeting of all international character, which, in the opinion of its founders and its friends, has been the chief and most valuable feature of the organization.

"One or two thoughts, growing out of events which have occurred since the association meeting in New Orleans, here suggest themselves. When it is considered that almost every man who has declined to serve under the present *régime* of the Congress is a member of the American Medical Association, does it not mean that there is a strong feeling of dissatisfaction with the action of the association? When this feeling is made manifest from Massachusetts to Maryland, from the District of Columbia to Missouri, from New York to Ohio, and from Pennsylvania to Kentucky, does it not mean that the feeling is a somewhat general one? Nor should it be lost sight of that there are many sections of country which have not yet expressed themselves on the subject.

"The question has been under discussion for now a full month. Both sides have had a hearing. How stands the medical press on the subject? Let the reader turn to his journals and see. Can any of these things be denied? Is the man not purblind who fails to see that the National Association has, by its conduct, imperiled its influence and usefulness, if not its very existence? There is a profession outside the association whose voice it would be well for the present managers of that body to give ear to. The invitation to the Congress was given in the name of the profession of the United States. Perhaps the association had no authority to do this, but it was done nevertheless. The membership of the association represents but three thousand of the forty thousand men who win their bread by the practice of medicine in America. The Congress, in whatever kingdom it has hitherto held its sessions, has thrown wide its doors to all respectable members of the profession throughout the world. Neither ethics nor the matter of membership in this or that society ever came before the Congress. Its plane of work was broader and better than that. It has hitherto represented the beneficent spirit of science and that only. It has remained to the National Association of the United States to set up a new standard for admission. Fortunately, it is not too late to remedy that blunder, and such part of it at least as affects the profession at large will be changed when the new committee meets in New York in September. This will add both to the membership and dignity of the Congress.

"What will be the outcome of this deplorable muddle it is altogether impossible now to say. The committee, aided by older and wiser heads than those who have hitherto directed its movements, may hark back and find a path which will lead the association out of its present dilemma, and up to the point of organizing a truly International Congress worthy alike of its noble aims and of the great guild which bids it come to our land. If the committee fails, especially if it fails through unworthy ambition, love of patronage, or, worse than all, through greed of office, it will realize before this business is finished that wreckers are sometimes wrecked, and revolutions are often fatal to their leaders."

The "Kansas City Medical Index" says:

"It seems too bad that sectional jealousies in the United States are so great that they may be the means of wrecking the next International Medical Congress appointed to meet at Washington in 1887.

. . . . . .

"We are exceedingly sorry the affair has assumed this shape. It appears to be the opinion of many that the American Medical Association at New Orleans acted rashly and hastily in interfering in the matter, and whether they had the authority to act at all is questioned.

"There will be two more meetings of the association before the International Congress meets, hence we hope there will be time to heal old sores, and everything be made harmonious."

In a pamphlet entitled "Shadows in the Ethics of the International Medical Congress," Dr. Levi C. Lane, of San Francisco, Professor of Surgery in the Cooper Medical College, says:

"For the information of readers who have not followed the International Medical Congress through its phases of change since it was decided to hold the next meeting in this country, it may be stated that the original committee of seven men, to whom the American Medical Association in 1884 gave the matter in charge, being invested, in accordance with the act creating the committee, with full powers to perfect such arrangements as would secure a successful meeting, proceeded to outline the work that was to be done, by the creation of nineteen sections, representing in detail every department in the science of medicine.

"This division of the work, copied mainly from the method pursued at the preceding sessions of the International Medical Congress, was assigned to a like number of committees, composed of medical men selected from different sections of the United States.

"The American Medical Association, at its recent session in New Orleans, declined to accept the work done by the committee appointed the previous year, and created a new one, with instructions to revise and change the work of the former committee in whatever way it might see fit. No impartial mind will admit that there was need of revision and change of the work done by the first committee; and it is greatly to the credit of nearly one third of the delegates at New Orleans that they strenuously opposed it. What a chaplet is this discord to place on the grave of Dr. Thomas, who, in the discharge of his duties as a co-laborer with the old committee, lost his life! What a recompense to Drs. Flint and Billings, through whose personal efforts at the last meeting the Congress was induced to hold its first session in the New World! Their scourging finds an analogue in the fate of Columbus, who was borne in chains over the ocean across which he was the first to lead the Old World. How edifying this spectacle to the eyes of the Pasteurs, Charcots, Virchows, Volkmanns, Esmarchs, Listers, and Pagets, who are expected to honor with their presence the coming Congress!

. . . . . .

"I am not now, nor have I ever been, connected with the new-code movement, either here or elsewhere; in fact, the subject has never been a matter of division on this coast. I am a member of the American Medical Association, and, as a duly accredited delegate, I represented that body not long since in the British Medical Association, and my mission was not dishonored by ostentatious show there or elsewhere, during a sojourn of over two years, during which I met the leading men connected with the medical institutions of Great Britain, Sweden, Russia, France, and Germany. I am a member of, and very recently president of, the State Medical Society of California, from which Dr. Cole was sent as delegate to New Orleans.

. . . . . .

"The honors conferred on me by the original Committee of Arrangements were given unasked for. I had already sketched out some work as a contribution on a topic of surgery, in which I have had much experience; besides, I was in negotiation with a man of wealth for the establishment of an international medical prize for researches upon typhoid fever. These facts are here mentioned to show that I had not entered on this labor with an idle hand."

The "Lancet" for August 1st says:

"We regret to have to inform our readers that the ill feeling which has been excited in the United States by the action of the committees appointed to carry out the preliminary arrangements are such as to imperil not only the success of the Congress in 1887, but the very existence of the Congress itself. We have already mentioned the main facts in the dispute. At the meeting of the American Medical Association held in Washington in 1884 a committee of seven was appointed to act as a deputation to the Congress in Copenhagen to invite the Congress to the United States for its meeting in 1887. The invitation was accepted, and the committee forthwith proceeded to carry out various preliminary arrangements, and, among other matters, to make nominations for the officers of the different sections in the Congress. At the meeting of the American Medical Association in New Orleans in May of this year, a resolution was passed repudiating this latter action of the committee as being *ultra vires*, and another and larger committee was appointed to make all the preliminary arrangements for the Congress. This committee was nominated largely on a geographical basis, each State sending a representative. Very naturally this action of the association gave great annoyance to the members of the earlier committee and to their associates in the earlier steps of the proceedings. The larger committee recently met at Chicago, and issued a long list

of officers of the various sections in the Congress and of the members of committee. Many of the names on the earlier list are not to be found on the latter, and it is stated that the new list contains the names of some men introduced for geographical reasons rather than on account of their high scientific attainments—that an attempt has been made to have the officers representing as much as possible all parts of the Union. Into the merits of this question we can not enter. And now we learn that many of the leading practitioners in New York, Washington, Boston, Philadelphia, and Baltimore are so offended at the action of the American Medical Association and its new committee that they have publicly severed themselves from the Congress, and allege that they will have nothing to do with the meeting in 1887 if the arrangements for it are to remain in the hands of the present committee. We can not discuss the merits of this far from edifying quarrel, but we are too greatly interested in the International Medical Congress not to raise our voice in protest against a state of matters which is both a professional scandal and a serious peril to the continued existence of the Congress. Hitherto it has been considered binding upon all participating in the Congress that medical politics shall be entirely excluded from all its proceedings. But, apart from that, we must impress upon our American friends the simple consideration that, unless the whole profession in the United States combine cordially in the work of the Congress, the meeting in Washington is foredoomed to failure. Party spirit is so alien to the whole spirit of the International Congress that a large proportion of those who have previously joined in the meetings would certainly, and with justice, refuse to visit the United States to be the guests of a faction. But we have too high an opinion of our Transatlantic friends to believe that this unseemly quarrel, which is disgracing them throughout Europe, will be allowed to continue. We trust that moderating influences will be brought to bear upon both parties, and that, forgetting the past and their own personal predilections, they will cordially unite to promote the success of the meeting in 1887. If, however, the breach now formed is allowed to widen and deepen, it will be the duty of the officers of the Congress in Copenhagen to seek at once an invitation from some country in which the medical profession will not find it impossible to combine for international purposes."

The Health of Michigan.—We are indebted to the secretary of the State Board of Health, Dr. Henry B. Baker, for a summary of returns for the month of July. It appears that diphtheria was reported from sixty places, scarlet fever from thirty-four, and measles from fifteen.

Errata.—In Dr. Craig's article, published in our last issue, the following errors should be corrected: Page 155, in the formula, for "℥ iv" read ℥ vj; page 156, first column, twenty-third line, for "September 30th" read *September 3d.*

Phrenology and Traumatism.—"You have large imagination; you ought to write poetry," said a phrenologist to a man whose head he was examining. "I do write poetry," replied the individual, "and the bump of which you are now feeling was caused by a blow from an editor to whom I offered a poem. Please don't bear on so hard."

THERAPEUTICAL NOTES.

Odorless Iodoform.—Oppler ("Ctrlbl. f. Chir.") states that he has accidentally found that coffee completely masks the odor of iodoform. Roasted coffee should be very finely powdered, and mixed with the iodoform in the proportion of thirty, forty, or fifty per cent. The following formulæ are given:

Iodoform	2 parts;
Coffee	1 part.

Mix, with the aid of a few drops of Hoffmann's anodyne. [It is stated that the addition of the latter is not essential.]

Iodoform	3 parts;
Paraffin ointment	30 "
Coffee	1 part.

Mix; make an ointment.

The antiseptic power of coffee is mentioned as in itself an advantage.

Quillaia as a Substitute for Senega.—Kobert ("Ctrlbl. f. klin. Med.") has found senega open to certain objections as an expectorant, although its efficiency is undeniable. Its taste is disagreeable and it is apt to provoke either vomiting or diarrhœa. Its action, he states, depends on two glucosides, both of which are found in various proportions in different commercial specimens of the drug. Moreover, it is dear. The author has found that quillaia, which is much cheaper, contains about five times as much of the same glucosides, and in more constant proportion, while it is much more agreeable to the taste, and does not disturb the digestion. Clinical experience has shown him that its expectorant powers are unquestionable. He uses a decoction of 5 parts of quillaia to 200 parts of water, of which the dose is a teaspoonful for children and a tablespoonful for adults. Intestinal and gastric ulceration is a contra-indication to its use, as undue absorption by the ulcerated surfaces may lead to poisoning.

The Use of Cocaine during Labor.—Dolèris ("Compt. rend. hebdom. des séances de la soc. de biol."; "Ctrlbl. f. klin. Med.") has used cocaine in six cases of labor, either in solution or in the form of a four-per-cent. ointment, with the view of mitigating the pain of the dilatation period or that of the expulsive period. In two cases the measure failed, probably because the cocaine was decomposed by the remnants of a corrosive-sublimate injection that had previously been thrown into the vagina.

The Use of Iodine in Diphtheria.—Adamson ("Practitioner") adds his testimony to the efficiency of the iodine treatment. He lost only two patients out of fifty-five treated with the tincture alone, although some of the cases were very grave. For adults he gives from five to seven minims every hour, and for children between six and twelve years of age from two to three minims every two hours. Special mention is made of syrup of quinee for disguising the taste of the drug.

Hopeine.—This alkaloid, which appears to be different from the lupuline of Griessmayer, is described by W. T. Smith, of London ("Dtsch. Med.-Ztg."), who refers to previous investigations by Williamson and Springmühl, who gave it the name of hopeine. It is said to be most abundant in the American wild hop. It occurs as a white crystalline powder, or in the form of needles a third of an inch long. It is very sparingly soluble in water, but dissolves freely in alcohol, the solution having the most intense bitter taste and a pronounced smell of hops. Chemically, it bears a close resemblance to morphine. In its physiological action it is a pure narcotic, even fatal doses producing no irritant effect; but it contracts the pupil, raises the temperature, and increases the frequency of the pulse at first, but afterward diminishes it. The deep sleep which it induces is apt to be preceded and followed by peculiar hazy hallucinations. The author has used it as a hypnotic, in doses ranging from one third to six tenths of a grain for adults, and in his own person he found that three quarters of a grain produced symptoms of poisoning. He finds that the dose does not have to be increased on account of the system becoming habituated to the drug. He thinks that the "toxic dose" is not much above a grain and a half for adults, and not over nine tenths of a grain for children.

The Treatment of Puerperal Eclampsia with Hot Baths.—Breus ("Arch. f. Gynäk."; "Rev. méd. franç. et étrang.") reports that he has continued his experiments in the use of hot baths as a remedy for puerperal convulsions, and has now treated seventeen patients by that method, with only one death. If there is albuminuria, that, too, is favorably affected by the baths. He first puts the patient into a bath of about 100° F., and gradually carries the temperature up to 104° or 106°. He has not found that either abortion or hæmorrhage is favored by the treatment.

The Treatment of Acute Nephritis.—Aufrecht ("Berl. klin. Woch."; "Lyon méd.") advises the greatest caution in medication, and particularly the avoidance of diuretics and diaphoretics; at the most, he uses iron to combat the anæmia only after the lapse of several weeks. At the outset the patient must keep his bed, and be allowed only a minimum of nitrogenous food. Light vegetables are to be preferred, and it is only at the end of a fortnight that milk and broth are allowed. He cites the case of a child with scarlatinal nephritis who recovered under this treatment, although there had been suppression of urine for eighty hours.

Original Communications.

THE EARLY STAGES OF HUMAN DEVELOPMENT.

BY CHARLES SEDGWICK MINOT, M. D.,
BOSTON.

PART I.—OVA OF THE SECOND WEEK OF PREGNANCY.

THERE is no comprehensive account of what is at present known of the history of the human ovum during the first month of gestation. It is the object of the present series of articles to meet this want.

The only tolerable account of what is known of the very early stages of man's ontogeny is the very admirable review indeed given by His in the first part (pp. 147–166) of his great work on the "Anatomy of Human Embryos," a work which is a veritable masterpiece of accurate and thorough research. I take the more pleasure in speaking thus as Prof. His has recently been bitterly attacked by Haeckel in a manner equally unwarrantable and ungentlemanly. It is much to be regretted that the critic should have forgotten his own repeated falsifications, instead of recollecting that Prof. His was a model whose truthfulness his critic would do well to imitate. It will be found that, although Prof. Haeckel has written a large book upon anthropogeny, yet he has contributed very little of the slightest value to the science of human embryology, while Prof. His is one of those who have done most. It is therefore most unbecoming for the former to denounce the latter with such virulence as he has displayed. Haeckel's personal dislike is not likely to affect the recognition of the sound worth of Prof. His's researches. As I shall have occasion to frequently cite the latter, it seemed desirable, in view of the criticism alluded to, to express my estimation of His's work.

The two next best general accounts are: one given by Kölliker, in his smaller Embryology ("Grundriss der Entwickelungsgeschichte," 1884); the other by Allen Thomson, in the ninth edition of Quain's "Anatomy." These authors give, I think, only inadequate summaries of our present knowledge, which is much more extensive than appears in their writings. As regards Kölliker, it should be remembered that his book is chiefly occupied with a presentation of his own observations and bears largely the character of a series of original investigations, and gives, therefore, less attention to summarizing the writings of others than might be considered desirable in an avowed text-book. The embryology in Quain, on the other hand, is professedly a summary, so that it is specially to be regretted that the distinguished author did not prepare an exhaustive revision of the literature of the embryology of the first month. The other "embryologies" appended to various "anatomies" and "physiologies" are, for the most part, second- or third-hand compilations, none of which, so far as I know, call for further notice.

Having myself undertaken to prepare a "Treatise on Human Embryology," to be published, before very long, by Messrs. Appleton & Co., it became necessary to go over the literature of the subject afresh. This study leads to results in many respects widely different from the statements which have found general currency, so that, pending the appearance of the treatise above mentioned, it has been thought desirable to publish a review of all that is at present known as to the course of development of man during the first month, adding at the same time a sufficient number of illustrations to fully elucidate the meaning of the text. This review will form a short series of articles in the pages of this Journal.

We may begin by stating that the known human ova may be divided into two categories—(1) those before, and (2) those after the appearance of the embryo. The number of the former is very small, only seven observations of any value being known to me. No ova are known which show the manner in which the embryo arises from the blastoderm, and no satisfactory description exists of any embryo younger than His's embryo L1, in which the neural tube was already formed and the brain marked out, the auditory vesicle present, etc. In fact, we possess an extremely insufficient knowledge of ova under three weeks, and it is a matter of rare interest and importance to secure and properly investigate more specimens of this period. A certain number of these come into the hands of practicing physicians; I therefore earnestly exhort the members of the profession to bear the needs of science in mind and to preserve material which none but them can secure. It may assist those who are willing to thus aid science to have some guide for finding and keeping the desired specimens; therefore a few brief directions are given below. I need hardly add that I am very desirous of obtaining young ova and embryos for purposes of research, and shall feel under deep obligation to every one who contributes material for my studies in this field. Of course I shall be happy to meet any expenses which may be incurred in sending specimens.*

1. HOW TO OBTAIN AND PRESERVE YOUNG HUMAN OVA AND EMBRYOS.

It is probable that pregnancy usually begins with the first menstruation omitted. If a woman, in whom pregnancy may be expected, and who, being otherwise in good health, has been menstruating regularly, skips a period, it is an indication that she has become pregnant. It is by no means rare that at some time after the omitted period a discharge of blood occurs, and such discharges are frequently accompanied by abortions. If, therefore, a patient, suspected of pregnancy and having uterine hæmorrhage within two months of an omitted period, be carefully watched, there is a probability of finding an ovum or an embryo among the discharges from the uterus, and all such discharges of blood or decidual tissue should be carefully examined.

If the disturbance occurs within fourteen days of the omitted period, search should be made for a small, flesh-colored vesicle, either with short villi or with a partly or wholly smooth surface. The vesicle will be from one ninth

* Dr. Minot's address is: Harvard Medical School, Boston, Mass.—EDITOR.

to one fourth of an inch in diameter (3 to 6 mm.). It should be treated with the greatest care, and on no account be placed in water or opened. If the disturbance occurs after a longer interval, a larger vesicle must be looked for, with the villi much longer and more ramified. As long as the vesicle measures less than three fifths of an inch (15 mm.), it should be preserved *unopened*. If the ovum is larger than this, it should be carefully examined to ascertain where the embryo is attached to the walls (chorion) of the vesicle, and then the opposite side of the vesicle slit open with fine scissors, to allow the preserving fluids to penetrate.

To Preserve Ova and Embryos.—Above all, NEVER place them in water or in strong alcohol; when possible, put a little cotton-wool in the preserving fluid for the specimen to lie upon. If it is necessary to carry it a short time before the preserving agents can be obtained, wrap up the specimen in a damp, soft cloth, taking care to avoid all pressure upon it.

The best method of preservation is, on the whole, by Kleinenberg's picro-sulphuric acid, which is made by dissolving 0·1 gramme of picric acid in 100 c.c. of water, and adding 0·6 cubic centimetre of concentrated sulphuric acid. Leave the specimen in this solution for one or two hours, according to its size, wash it for a few minutes in alcohol of 30 per cent., place it for an hour in an alcohol of 50 per cent., and then transfer it to alcohol of 70 per cent., in which it may be kept permanently; but the alcohol must be renewed until it is no longer discolored by the picric acid.

A good method, and much simpler, is to put the embryo or ovum for five minutes (but on no account longer) in a mixture of one part of concentrated nitric acid with ten parts of water. Then transfer to 70-per-cent. alcohol.

The third and simplest method is to place the embryo directly in 60-per-cent. alcohol, in which it may be kept, or, better, placed after two days in alcohol of 70 per cent.

Apothecaries can furnish alcohols of the desired strengths. All these methods require care; but the value of the specimens fully repays the trouble.

In sending or transporting the specimens, the jar or bottle should be very lightly stuffed with fine cotton-wool, and it must be remembered that a very slight pressure of the wool will distort the specimen. All that is needed is to prevent the specimen from shaking about.

2. KNOWN OVA OF THE SECOND WEEK.

Reichert's ovum (1) is to be considered the youngest normal human ovum hitherto described. It was thought by Reichert to be twelve to thirteen days old, and probably correctly so, as it was obtained at a post-mortem examination of a young German girl under circumstances which render the estimate of the age quite trustworthy. The ovum itself was very imperfectly examined by Reichert, whose very lengthy memoir deals largely with cognate subjects and contains much speculative matter. The actual description of the ovum is brief (pp. 25–28); but, as far as he went, Reichert worked with exemplary accuracy, and this renders his research valuable.

The ovum in question was a flattened sphere, with a short diameter of 3·3 mm. and an equatorial diameter of 5·5 mm.; smooth around both poles, and with a marginal or equatorial zone of villi separating the two smooth areas.

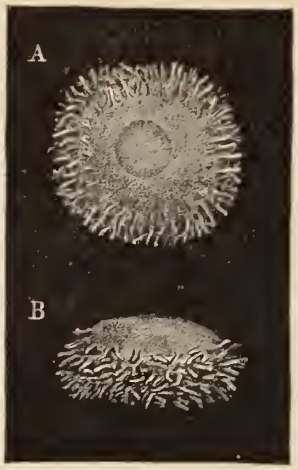


FIG. 1.—REICHERT'S OVUM. Two views engraved from the original plate.

The smaller and flatter of these two areas faced the uterine wall and bore on its inner surface (*i. e.*, within the ovum) a small accumulation of rounded cells. The opposite area was more convex. The villi were short (0·2 mm.), thick cylinders, with rounded ends and no branches. The walls of the vesicle consisted only of epithelium, which also formed the simple hollow villi. The contents of the vesicle were: 1. The inner cell-mass, lying, as before mentioned, at one pole. 2. A network of threads, apparently the result of coagulation of the contained fluid, for no nuclei were found in it. Kollmann (7, 294) thinks that Reichert's ovum must have had really two layers forming the vesicular walls —an inner one of mesoderm (young connective tissue), and an outer one of true epithelium; further, that the true epithelium had been lost, and that only the connective tissue remained, which Reichert mistook for epithelium. This supposition is, I think, not probable. Reichert's ovum is, presumably, younger than any other hitherto described, and may well have been in the stage before mesoderm had grown over the chorion. The villi are described as hollow by Reichert—a statement not compatible with the supposition that he mistook a solid core of mesoderm for the hollow shell of ectoderm. Indeed, it is probable that the young villi contain no mesoderm at first.

Breus's ovum (2) must be considered further advanced than Reichert's, although the author fixes its age as presumably ten days. The total diameter of the ovum, including the villi, was only 5 mm., and, as the villi were about 1 mm. long, the diameter of the chorionic vesicle must have been about 3 mm. The villi, some branched, but mostly without branches, were thick-set, but left one spot bald, agreeing in this with Jones's ovum (see below). The chorion was smooth on its inner surface, and consisted of (1) an outer epithelial layer, and (2) an inner connective-tissue layer, which sent out extensions partly filling the villi. The ovum contained a thready mass which Breus thinks was probably a product of coagulation, and an inner cell-mass about 1 mm. long and 0·5 mm. wide. The presence of villi

and the existence of the mesodermic layer of the chorion, contrasted with the absence of any embryonic structure, led Breus to consider his ovum abnormal. But it is rather the contrary conclusion we must draw, since all our knowledge points to the deduction that, as compared with the embryo, the development of the chorion is very precocious in mammalia. I deem it therefore probable that Breus's ovum was normal.

Wharton Jones (3) long ago described briefly a human ovum the chorion of which measures in his figure (said to be natural size) 6 by 4 mm.

The following is all that can be gathered from Jones's description: The ovum was already covered by the decidua, and bore shaggy villi on the side *toward* the uterus, while the other side was bald. "The whole cavity of the chorion was filled with a fine gelatinous cellular * tissue, imbedded in which, toward one extremity of the ovum, was a small round body; it was evidently the vesicular blastoderma. On being taken out and examined under the microscope, it presented the same friable, globular structure found in the vesicular blastoderma of the rabbit in the preceding observation. There was no vitellary membrane to be seen." To judge from the minute figure given, the villi were already branched; in Reichert's ovum they were still simple.

Ahlfeld's ovum (4) represents, perhaps, the same age as Jones's, but he does not give its diameter, which appears, from incidental references, to have been about 5 mm. The author's description is not exhaustive by any means, but he mentions two points of great interest—*first*, the presence of a layer of connective tissue (mesoderm) underneath the chorionic epithelium, and extending into, but only partially filling, the villi of the chorion; *second*, the character of the villi, which are slightly branched and are constricted at the base; only their tips touched the surface of the decidua (reflexa and serotina). He also states that the epithelium of the villi precedes in its growth the connective tissue. This ovum was supposed to be fourteen to sixteen days old (?). Owing to an accident, no observations of its internal contents were made.

Beigel's ovum (5), of which he maintains that it is the third smallest known, is, if we may judge from his plate, certainly abnormal to an extreme degree. I hold it to be a malformed ovum of the fifth or sixth week. The ovum described by Beigel and Löwe (6) is of an even more questionable character. Moreover, their account is considered by Breus and Ahlfeld to be very inaccurate. It is noteworthy that Beigel and Löwe have also noticed the early presence of the mesoderm under the chorionic epithelium. Löwe (6 A) defends himself against Ahlfeld's attack, and insists, with justice, upon the presence of connective tissue on the inside of the chorion in ova of the second and third week.

Kollmann's memoir (7) is by far the most valuable which has hitherto appeared upon the structure of very young human ova. He describes two ova, *a* and *b*, both preserved in the anatomical collection at Basle. Ovum *a* had been placed in glycerin and water, which preserved the form of the specimen but ruined it histologically; nothing was made out as to the contents of the chorionic vesicle. The vesicle itself measured 5·5 by 4·5 mm., and, therefore, was slightly flattened. This measure does not include the villi, which were from 1 to 1·2 mm. long, and repeatedly branched. Ovum *b*, 5·5 mm. in diameter, was well preserved in alcohol; the villi were somewhat branched; the contents of the ovum were lost. On the other hand, the uterus belonging to this ovum was also preserved, and forms the basis of a very valuable description of the uterus in early pregnancy, to which I hope to recur on another occasion.

Kollmann's two ova are both much more advanced than those of Reichert, Breus, and Jones, as is shown by their greater size and the branching of the villi. It is a matter of profound regret that only the chorion was left, but, fortunately, Kollmann has taken good advantage of his opportunity. His paper also gives an excellent critical analysis of nearly all the previous literature.

He points out that the two primitive layers of the chorion are probably normally present at this age. The chorion of his ova, he says, consists of "einer Lage jugendlichen, embryonalen Bindegewebes, das zahlreiche Rund- und Spindelzellen enthält, und das bedeckt wird von einer einfachen Lage platter Zellen" (p. 293). He then passes the literature in review and insists strongly upon the fact that the two layers have been distinguished in nearly all the very young human ova known except Reichert's. Kollmann, therefore, as was mentioned above, questions, I think, without sufficient foundation, the accuracy of Reichert's account. Concerning the connective-tissue layer Kollmann says but little. As regards the epithelium, he points out that the nuclei occupy a basal position, so that the outer parts of the cells form a granular stratum, which some authors have considered a distinct membrane. The author supposes this granular stratum to become the cuticula described in later stages. Jassinsky (9) has given the extraordinary name of *tunica propria* to this cuticula—extraordinary because "tunica propria" is used technically to designate the connective-tissue layer upon which an epithelium rests, and never for an external cuticula. For his supposition Kollmann gives the reason that in an ovum of four weeks he found that the layer had become thinner, more resistant, and less granular—in short, had assumed something of a cuticular character.

Finally, Kollmann adds (p. 297, ff.) observations on the growth of the villi in ova of the fourth week. The outgrowth of branches is very rapid and occurs with every degree of participation of the connective tissue. There are two extremes: 1. A bud, consisting wholly of epithelium, which may stretch out into a process with a long, thin pellicle and a thickened end, the whole remaining until it has become quite large without any connective tissue. 2. A thick bud with a well-developed core of connective tissue; such a bud probably grows out as a nearly cylindrical branch. Between these two extremes every intermediate state can be found. The various forms of growing branches may lie close together. Probably this complex mode of growth persists in older villi, which would explain the multiplicity of forms in the villous branches

* This was written in 1837. "Cellular," of course, does not refer to cells in the sense of the term as used in modern histology.

Schwabe (9) has described an ovum which he considers thirteen to fifteen days old, but he is certainly mistaken, since both the data he gives as to the age and his account of the embryo show that it is more advanced, and belongs distinctly in the third week.

In connection with Kollmann's observations we must notice those of Orth (10), who has shown that at all ages, even at full term, the villi of the chorion in the placenta have epithelial buds, which are at first hollow and are afterward filled up with a vascularized ingrowth of connective tissue. *Apropos* of this observation Orth discusses Boll's theory of growth, making the point that in this case the shaping of the parts depends primarily upon the growth of the epithelium. Boll had maintained as a general principle that in the development of organs the shaping is dependent on the co-operation of the epithelial and connective tissues. Against Jassinsky (9) Orth observes that the epithelium covering the chorionic villi has only a single layer. There can be little doubt that Jassinsky was in error in stating that at certain stages the villi are covered with two epithelia, one right over the other. This mistake agrees with the false notion that the villi are covered by maternal tissue, for it might be assumed that one epithelial layer was derived from the uterus. All the best observers agree that the villi have only a single layer, the chorionic epithelium, on their surface. It is easy to verify this observation.

Summary.—From the preceding review the following conclusions may be drawn: The result of segmentation of the human ovum is the production, by the twelfth or thirteenth day, of a rounded sac of epithelium, three to four mm. in diameter; at one point there lies against the inside of the vesicle a little accumulation of rounded cells, which, from analogy with the ova of mammals, must be considered as marking the germinal area out of which the embryo is to be formed. The epithelial sac, to which the name of chorionic vesicle may also be applied, bears an equatorial zone of short villi. This stage is represented by Reichert's ovum, Fig. 1.

In the next stage the villi have spread over the germinal area and have become slightly branched; the villi next appear over the opposite pole of the ovum and rapidly increase their length and ramifications. The germinal area faces the uterine wall (Jones's ovum).

By the time villi are present over the whole vesicle there is probably always a layer of connective tissue underlying the epithelium (Breus, Ahlfeld, Löwe, etc.), but no embryonic structures have been recognized. The ova of twelve to fourteen days are already completely inclosed by the decidua (reflexa and serotina); only the tips of the villi adhere to, or are even in contact with, the decidua; this is the only connection between the maternal and fœtal tissue, for neither does the uterine mucosa grow in between the villi, nor do the villi penetrate the cavities of the uterine glands.

The epithelium of the chorion and villi is only imperfectly marked with boundaries for the single cells; its nuclei all occupy a basal position, leaving a distinct outer layer, often mistaken for a separate structure. The epithelium forms buds, which become branches of the villi. These buds may grow out to a considerable size without connective tissue (hollow villi), or the connective tissue may penetrate into them from the start (solid villi).

The human ovum, then, is remarkable for its precocious development of the chorion, both as regards the villi and the connective tissue or mesodermic layer, and for its early complete encapsulation by the decidua. All these events (according to the scanty observations yet made) precede the appearance of the embryo. It is also noteworthy that the villi are first developed around the equator, next over the germinal area pole, and, last, over the area of the opposite pole.

LITERATURE.

1. Reichert, C. B. (1873). Beschreibung einer frühzeitigen menschlichen Frucht im bläschenförmigen Bildungszustande nebst vergleichenden Untersuchungen ueber die bläschenförmigen Früchte der Säugethiere und des Menschen. "Abh. Akad. Wiss. Berlin," 1873, p. 92. Taf. i–v.

2. Breus, Karl (1877). Ueber ein menschliches Ei aus der zweiten Woche der Gravidität. "Wiener med. Wochenschrift," 1877, 502–504.

3. Jones, Thomas Wharton (1837). On the First Changes in the Ova of Mammifera in Consequence of Impregnation, and on the Mode of Origin of the Chorion. (Observation 5, p. 341, describes briefly a young human ovum of the third (?) week.) "Phil. Trans. R. S. London," 1837, 339–345. Pl. xvi.

4. Ahlfeld, Fr. (1878). Beschreibung eines sehr kleinen menschlichen Eies. "Arch. f. Gynäkologie," xiii, 241–248. Taf. vii.

5. Beigel (1878). Der drittkleinste bisher bekannte menschliche Embryo. "Arch. f. Gynäkologie," xiii, 437–439. Taf. xiii.

6. Beigel und Löwe (1877). Beschreibung eines menschlichen Eichens aus der zweiten bis dritten Woche der Schwangerschaft. "Arch. f. Gynäkologie," xii. Hft. 3.

6 a. Löwe, Ludwig (1879). In Sachen der Eihäute jüngster menschlicher Eier. "Arch. f. Gynäk.," xiv, 190–196.

7. Kollmann, J. (1879). Die menschlichen Eier von 6 mm. Grösse. "Arch. Anat. Physiol., Anat. Abth.," 1879, 279–311. Taf. xii, xiii.

8. Schwabe, Gustav (1879). Eine frühzeitige menschliche Frucht. "Zeitschr. f. Geburtsk. u. Gyn.," iv, 196.

9. Jassinsky, P. (1867). Zur Lehre ueber die Structur der Placenta. Virchow's "Archiv," xl, 341–352. Taf. iii.

10. Orth, J. (1877). Das Wachsthum der Placenta fœtalis und Boll's Prinzip des Wachsthums. "Zeitschr. f. Geburtsh. u. Gyn.," ii, 9–21. Taf. iii.

PROFESSIONAL ETHICS.*

By the Hon. W. H. H. RUSSELL.

Mr. President and Gentlemen: When our efficient and ever-zealous brother, Dr. Brill, notified me a few days ago that at this meeting you would expect a paper from me, the inquiry at once arose in my mind as to what *theme*

* Read before the Society of Medical Jurisprudence and State Medicine, May 14, 1885.

would best suit the *complex* mental equilibrium of the members of this association (the term complex is good, because Southworth well observes, "The parable of the wedding supper comprehends in it the whole complex of all the blessings and privileges of the Gospel"). So the complex mental equilibrium of the professions of medicine and law comprehends all there is of worth and glory in those two professions to the outer world, when practically exemplified. We looked over the subjects and titles of the previous productions, and came to the conclusion that perhaps a few thoughts upon *Professional Ethics* might interest and entertain you, and, perchance, awaken new and more vigorous interest in the objects of this and kindred associations. And, after listening to the very able and eloquent address of Parke Godwin the other evening at Association Hall, upon the problems of social science, under the anspices of the "*Institute of Social Science*" (of which he is president), I am pleased with this opportunity of offering a few comments that may at least provoke a discussion on your part and engender a spirit of strict professional pride in the great callings in which the members of this society are battling the stern realities of life.

On the 3d of March, 1883, this society was regularly incorporated under the laws of the State, under the *name* and title, "*The Society of Medical Jurisprudence and State Medicine*," with this significant declaration in its charter and by-laws: "*The object of this society shall be the investigation, study, and advancement of the science of medical jurisprudence and State medicine, and the attainment of a higher standard of medical expert testimony.*"

A most laudable purpose, with a most glaring public necessity for the complete success of its mission.

How can its objects be fully attained? is the question which should most interest its founders and members. As this world goes to-day, most men are actuated by motives of gain, either of a financial or popular nature, and the impatient *push* of business life leaves little inclination or time for calm, reflective, philosophic thought or action. And the standard nowadays by which men are gauged is the accumulation and possession of wealth and the display thereof. Money is the sovereign power before the golden throne of which men and women of genius, talent, and culture must bow, as if involuntarily drawn by her magical wand.

Success in money getting and saving is the best evidence of merit and success, say the neophytes of popular praise and ambition, and the man who clips his coupons and counts his thousands is courted and favored, while the brain worker of true merit struggles along the rugged journey, necessarily content with a bare pittance of subsistence. Parke Godwin's theories and suggestions as to the solution of the difficult problems of social science were very clever and plausible, and, if that learned and cultured gentleman can make his eloquent sayings and doctrines practiced through the medium of the organization which he inaugurated on the evening of the 7th inst. by his very able and interesting address, he is indeed one of the greatest philosophers and philanthropists of the nineteenth century.

All reforms and great remedies must be founded in the proper education of the people as a mass, and all praise and success to his noble enterprise.

Many years ago the "American Medical Association" was organized and founded in the old city of Philadelphia (patriotically known as the cradle of American independence), and, from the various "codes" of "medical ethics" down to that of most recent date, we would naturally infer that the standard of *professional ethics* in that learned profession is fully established and recognized. Section 1, Article I (under the caption), "*Of the Duties of Physicians to Each Other and to the Profession at Large, and Duties for the Support of Professional Character*," third edition, 1882, provides as follows: "*Every individual on entering the profession, as he becomes thereby entitled to all its privileges and immunities, incurs an obligation to exert his best abilities to maintain its dignity and honor, to exalt its standing, and to extend the bounds of its usefulness . . . .*" If that provision was practiced and enforced, there would be no quacks, no charlatans, and no frauds in this great science, which Æsculapius, long centuries ago, would have made the pride and glory of his age and the generations to follow.

On July 1, 1878, some of the most eminent lawyers in this country—William M. Evarts, of New York, Benjamin H. Bristow, of Kentucky, George Hoadley, of Ohio, Henry Hitchcock, of Missouri, Charlton Hunt, of Louisiana, Richard D. Hubbard, of Connecticut, Alexander R. Lawton, of Georgia, Richard C. McMurtree, of Pennsylvania, Stanley Matthews, of Ohio, E. J. Phelps, of Vermont, John K. Porter, of New York, Lyman Trumbull, of Illinois, Charles R. Train, of Massachusetts, and J. Randolph Tucker, of Virginia—issued a call to distinguished members of the Bar to meet at Saratoga in August of that year for the purpose of organizing an "*American Bar Association.*"

The meeting was held, and a constitution and by-laws were adopted, with the name and object declared, as follows:

ARTICLE I. "*This Association shall be known as 'The American Bar Association.' Its object shall be to advance the science of jurisprudence, promote the administration of justice and uniformity of legislation throughout the Union, uphold the honor of the profession of the law, and encourage cordial intercourse among the members of the American Bar.*"

Thus, in a national sense, these two professions have proclaimed, by organic provisions, the promotion of *jurisprudence* and a *higher standard* of professional honor and ethics in the United States. State and local organizations of the same character have been established in every section of the Union, and there can be no question but that, if the objects as declared were carried into effect, we would to-day behold a very different status of professional life and standing in every community. By organized unity of purpose and action, men and people may be educated to recognize the force of discipline and the worth of true merit and character.

For instance, if in the profession of the clergy there could be found the high-toned elements of courteous and genial deportment, in that all their efforts were in harmony with one great purpose, and that the unbounded happiness of the human family, irrespective of any particular

creed or sect, what a halo of glory would mantle every temple of worship that lifts its spires heavenward! If every student, scholar, and expert in medicine were to practice the profession with one common purpose, and that the true relief of suffering humanity, what a world of pleasure this might be! And if every lawyer and disciple of the great Blackstone, Story, and Kent were to exemplify the true principles of law, equity, and justice, what a magnificent system of jurisprudence we would have in this country! Government, society, and religion would then triumize and glow more beautiful than the prospective electric light which is to gleam and glitter from that noble gift of warm-hearted France which is soon to ornament our harbor as the ideal statue of "*Liberty enlightening the World.*"

Professional ethics, if developed, practiced, and encouraged in America, can do more for the future perpetuity of our republic and institutions than any other element in the social fabric.

Necessarily the toilers in the other vocations of life look up to the professions for examples of true manly character, and in the three great professions of *divinity*, *law*, and *medicine* you may find the framers of laws, customs, and usages of society. The moral maxims and the elements of true civilization are more or less formulated, crystallized, and promulgated from these three channels of intersocial and state life. The records of the National Congress of the State and municipal governments show that in the legislation of the country they have been the foremost workers in reforms and great measures (*i. e.*, the true ones of the professions), and they have always been found upon the side of good government as against the false ones of their respective callings.

During the fourteenth century, nearly five hundred years ago, the profession of the law was guarded by special acts of Parliament, which provided, among other prerequisites of admission to the Bar, that none but "*good* and *virtuous*" *men*, "*learned* and of *good fame*," should be sworn as attorneys, and that before their names could be put upon the roll they should be examined by the justices; and that, "*if any such attorney be found in any default of record or otherwise, he shall forswear the court and never after be received to make any suit in the courts.*"

If such a law was in force in this country to-day, what a weeding out there would be! In those days the employment of attorneys was *pecuniary*, *i. e.*, they were entitled to fees, while that of *barristers* was honorary. Attorneys could recover their fees *in assumpsit*, while barristers could claim nothing, at law or in equity. Attorneys were liable for neglect of ordinary care and diligence of their clients' interests.

The attorney could confer directly with his client; the barrister could not. The attorney prepared the facts and the brief, and the barrister took charge of the cause in court; and to a certain extent the same system prevails in England to-day. This system has never been introduced into this country, although Judge Story, who was the exemplar of the exalted functions of the Circuit Court of the United States for the little State of New Hampshire, did confer the degree of Sergeant-at-law upon Jerre Mason and Judge Smith, and that of Barrister-at-law upon Daniel Webster.

It must be admitted, by those familiar with the system of English jurisprudence, that to-day there is greater protection to *life*, *liberty*, and *property* in Great Britain than any other section of the civilized world, and that an English subject is protected in all quarters of the globe. I remember well, while in London in 1871, the impressions then made while in the Mansion Court of that great city. Two boys, about twelve and fourteen years of age, were called up before the magistrate for the violation of some city ordinance; the magistrate was a man of about fifty years of age, and looked the personification of a *human* judge. After the officer who had arrested the boys had given his evidence, the justice told the boys to stand up, and then asked them what they were doing when the officer had found them. The oldest boy replied that they had started for the country, and had got that far, and, not having any money, had crawled into the boxes to sleep during the night. The justice, who was able at a glance to distinguish between a bad boy and an unfortunate one, said: "Boys, go into the country and stay there; work in the fields, and stay away from the great city"; and, turning to the clerk of the court, he said: "Mr. Clerk, give those boys a shilling apiece"; and then, looking at the officer who had arrested them, he said: "And you, Mr. Officer, see them well on their way to the country before you leave them."

I wish some of our American magistrates could have seen the expressions upon those boys' faces as they left that court-room.

It was worthy of the finest touch upon canvas and the most exquisite and delicate chipping of the greatest sculptor. If our court-houses were, indeed, *temples of justice*, what a sublimity there would be in the practice and *magistracy* of the *law!* If the high-minded and good men of the learned professions of medicine and law, and I may add the ministry, would strike hands and say there shall be a higher standard of *professional* ethics in the United States, we would not read of such scenes as occurred the other morning in one of the courts of this city, where the justice from the bench, in open court, rebuked a *pseudo* medical expert by saying: "The city ought to put another such a doctor upon the pay-roll."

NUMBER OF LAWYERS, MINISTERS, AND DOCTORS IN THE UNITED STATES.

It may be of interest to know the proportions of the great professions in this country to each other and the community at large.

In 1850 there were in the United States 23,939 lawyers, 26,842 clergymen, and 40,564 doctors. In 1880 there were 64,137 lawyers, 64,698 clergymen, and 85,671 doctors—in all, 214,506. In the thirty years from 1850 to 1880 the professions more than doubled in membership. In 1850 there was one lawyer to 964 people, one clergyman to 864, and one doctor to 569. In 1880, one lawyer to 782 people, one clergyman to 775, and one doctor to 585.

Of these 214,506 professional brain workers in 1880, there were of the 64,137 lawyers 75 females, of the 64,698

clergy 165 females, and of the 85,671 doctors 2,432 were females; 64 of the 75 female lawyers were under sixty years of age and 11 over; 140 of the female clergy were from sixteen to sixty years of age and 25 over; 2,268 of the female doctors were between sixteen and sixty years of age and 164 over. Of all the three professions, 193,294 were under sixty, and 21,212 over sixty years of age. If the *pro rata* increase of population continues in the next century as in the past, there will then be a population of over 200,000,000, and over 200,000 lawyers, ministers, and doctors, in proportion as before.

Cast your horoscope of thought over the progress in this country for a hundred years to come and, if possible, calculate the effect upon the people at large if every lawyer, doctor, and minister would be true to his calling. If there was a code of ethics with the clergymen of this country which would harmonize with the great doctrines taught by the Founder of their faith, before whom it is said the wise men of the East bowed with reverence and consecrated the lowly manger as the cradle of Christian civilization, there would be no occasion for a congress of churches.

The true and noble-hearted Dr. Howard Crosby, of this city, in his excellent paper before the Congress of Churches at Hartford, on the 11th inst. (as reported in the "Herald" of the 12th), gave three substantial reasons why a code of ethics should be established among the ministry of this country; and, if his suggestions were adopted by every fair-minded worker in that exalted profession, America might become the imperial jewel in the progress of Christian civilization. All praise to his philanthropic efforts.

If in the profession of the law there was a well-established, recognized code of *legal ethics*, there would be no *shysters* and *scapegoats of unscrupulous villainy*. For, as England's great premier, Mr. Gladstone, well said, in a recent address: "Considered as a mental training, the profession of the Bar is probably of its kind the most perfect and thorough of all professions."

If, as a profession, it is followed and practiced in the true spirit of the law and of justice, every conscientious lawyer must be true to the State, the people, his clients, and his cause. He must be as the great Blackstone (the father of the common law) once poetically wrote:

"To Virtue, and her friends, a friend,
Still may my voice the weak defend.
Ne'er may my prostituted tongue
Protect the oppressor in his wrong,
Nor wrest the spirit of the laws
To satisfy the villain's cause."

And yet it is the most abused of all professions, and people are apt to think that a smart lawyer must necessarily be unscrupulous, that his conscience must be as plastic as a rubber band, to contract or expand as the case requires; and history affords some latitude for such insinuations.

It is said that when Peter the Great visited Westminster he saw many oddly appareled persons, whom, upon inquiry, he learned were lawyers, and he was so amazed that he exclaimed: "What, all these lawyers? I had but two in all my dominion, one of whom I hung, and I intend to hang the other as soon as I get home." It is not recorded that he kept his word, and, in fact, it is seldom if ever that you read or hear of a lawyer being hung, while it is not an uncommon event of late years to read of a doctor being executed. It should not be forgotten that the cradle of the resurrection was a lawyer's grave, and that a lawyer was the only man in all Jerusalem who had the moral courage to approach Pilate and demand that the body of the Saviour of mankind should be taken down from between the thief and the robber and placed in his own sepulchre. And, on another occasion, it was a lawyer who, by his undaunted courage and eloquent appeal, saved the Disciples from being set upon by a mob and slain, and thus the greatest authors of the New Testament were saved.

Shakespeare presents us with the ideal advocate in the play of the "Merchant of Venice," and Dickens, the greatest characterizer of later years, gives us his typical jurist in the personage of the "little judge" who presided in the famous case of Bardell *vs.* Pickwick, who was so exact in the rigor and spirit of the law that he would not excuse the chemist whose assistant did not know the difference between oxalic acid and Epsom salts. If some of the druggists of to-day would remember that fact there would be less danger of poison from drugs.

Nice and elegant distinctions should not be made to the detriment of the profession at large—as in the instance of Prof. Huxley, who relates of a distinguished surgeon who (being irritated by the pretensions of some physicians) was asked if he meant to bring up his boy to his own calling, replied: "*No, my son is such a fool I mean to make a physician of him.*" Or as, on another occasion, two gentlemen were discussing the old proverb, "*At forty a man must be either a fool or a physician*," when the other replied: "*True, but don't you think he may be both?*" Or that of the Irish physician who, while dining with Theodore Hook (who remarked: "I should like to place over my door an inscription, either in Latin or Greek, borrowed from one of the great authors"), at once suggested, "Give Italian the preference; nothing can equal that verse of Dante's, '*Abandon hope, all ye who enter here.*'" Sir Astley Cooper, the great surgeon, openly discredited the science of medicine "*as one founded upon conjecture and built upon murder.*" Or as the German wit said: "*Physic always does good, if not to the patient, at least to the apothecary.*" And in France the young medical graduate is spoken of as "*licensed to kill.*"

When a man dies suddenly, without having been attended by a doctor (says a humorous writer), the coroner has to be called in and an inquest held to ascertain the cause of death; but, he adds, when he dies after having been attended by a *doctor*, then *everybody knows why he died*, and an inquest is not necessary.

Or as a German paper has it in humorous dialogue shape, the child going to inform the pastor of the death of it father:

Child.—"Herr Pastor, my mother sends me to tell you that father died to-night."

Pastor.—"Did you send round for the doctor?"

Child.—"No, Herr Pastor, father died of himself."

And again as illustrated by the nurse in the hospital

in reporting to the physician in the morning: "*Six of the fever patients have died, sir.*"

"Why, I wrote prescriptions for seven," mused the doctor as he passed on into another ward.

"Yes," said the faithful nurse, "but one of them wouldn't take his."

In Russia they say the doctor seldom takes physic, and in Spain proverbial aphorisms are numerous, such as "The earth covers the mistakes of the physician," "The doctor is to be feared more than the disease," "Physic is a curse to humanity," "It is God that cures, the doctor gets the money." And one of the most common sayings in Portugal and Spain is, "*If you have a friend who is a doctor, take off your hat to him and send him to the house of your enemy.*"

Or like one of our doctors who upbraided some of the workmen the other morning for the careless manner in which they were replacing the earth over the gas and telephone pipes in the city, one of them looked up and good-naturedly said: "*Faith, Doctor, ours are not the only mistakes the earth covers.*"

These instances are recited for the purpose of showing that the doctors are subject to frequent abuse and unjust insinuations. If the prescriptions and remedies cure, their services are cheerfully rewarded; but if the patient languishes and dies, then follow too often dissatisfaction and unjust abuse. Some other doctor may say that there was not a proper diagnosis, and that from his prognosis the patient might have lived. Professional ethics forbids such deportment, and we believe that if the medical colleges and schools would establish one common medical *curriculum*, with fixed grades of graduation, and then the profession at large would enforce a uniform code of medical ethics, there would be better doctors, physicians, and experts, and less abuse. If the colleges, schools, and societies unite and work together, and the doctors, as a profession, regulate the ethics of practice, you can secure laws in every State that will protect the people from imposition and the profession from quacks and renegades.

An eminent English author, Mr. Palgrave, in his excellent work, "Rise and Progress of the English Commonwealth," says: "Man never begins by introducing any law which is entirely unreasonable, but he frequently allows a law to degenerate into folly by obstinately retaining it after it has outlived its application."

And Goethe in "Faust" thus poetically exclaims:

"Laws, like inherited disease, descend;
They slyly wind their way from age to age,
And glide, almost unseen, from place to place.
Reason to nonsense grows, a benefit to plague.
Woe unto thee, that thou a grandson art
Of inborn law, to which each man has right;
Of that unfortunately there is no question."

It can not be doubted or questioned but that there is need of great reforms in law and medicine. And, if the members of those two professions were guided and governed by well-established *codes of ethics*, they could accomplish any reforms they might wish.

And then we should have medico-legal societies that would produce experts who would be ornaments to the professions and the homes of our country, and an honor to the age. Can we have them? Yes!

The ideal lawyer, as presented by that distinguished Nestor of the New York Bar, David Dudley Field (in his recent address before the law students of Dalhousie College, at Halifax), "*is one who is master of the laws of his own country and a student of other laws as they may serve to elucidate or improve his own; a faithful adviser, a fearless defender, prompt to make use of his learning and opportunities, not only for the protection of his own clients, but for the improvement of the laws themselves, whenever he finds them the instruments of injustice.*"

And may we not look beyond the disc of his immediate orbit and say, in addition, that the ideal lawyer is he who, while faithful to the principles of his profession, does not delay justice by unfounded objections, nor increase the expense of litigation by imposing unjust costs and hindrances?

The present system of costs in this State is one of the most iniquitous ever tolerated in any civilized community; it is in many respects extortion, and almost robbery. It takes from the pockets of the unsuccessful litigant money—not to defray the necessary and legitimate expenses of the court, but to line the pockets of the counsel of the prevailing party; and the Courts have recently held that the attorney has a lien upon the costs as against all equitable offsets or counter-claims. The lawyer should not be entitled to the costs of the case; they should be light and go into the county treasury for the necessary expenses of the courts, in paying the salary of its officers, and the jury-fees. The lawyer should, like every other citizen, make his contract with his client, and stand upon that contract without the aid of the Courts and the machinery of justice to facilitate him in making the costs unjust and burdensome to the litigant and citizen.

Some of you may have noticed the other day, in one of our most enterprising papers, a statement to the effect that a citizen who brought suit on a $400 claim realized $190 on the property sold under execution, and thereby became liable for over $1,200 costs which had accrued in the case during the process of litigation. A code of legal ethics would not permit of such infractions upon the fundamental principles of justice.

The very able paper by Judge Hull upon expert testimony, read before this society, clearly illustrated the necessity of concerted action in the two professions for complete codes of professional ethics.

And the somewhat noted will case now under investigation in the Surrogate's Court reveals the fact that a pretentious lawyer, who, as reported, was a pawnbroker a few years ago, wants $3,500 for the original draft of a will, and $3,500 for attending the contestant in a police court. And the expert in the case, on Tuesday last, when asked by a distinguished substituted counsel if he had prescribed for mania, said, "*Yes; I don't remember what I prescribed, how much I prescribed, or anything about it.*" And then, being asked if he was a mad doctor, replied: "No more than a horse-chestnut is a chestnut horse."

A high standard of professional ethics in the professions

of law and medicine, enforced by such organizations as this, and the Bar and medical associations of the country, would bring about a better class of experts and a more honorable and respected status of the professions.

Lord Mansfield, one of the brightest and greatest of England's jurists, said: "*Jurisprudence is a rational science, founded upon the universal principles of moral rectitude, but modified by habit and authority.*"

What we need to-day in this country is *reform in legal jurisprudence* and *reform in medical jurisprudence*, so that when a man dies, if he is fortunate enough to possess millions, his life and his memory may not be shadowed by the unlicensed latitude of unscrupulous lawyers and doctors, who do not comprehend the domain of decency nor understand the first principles of medico-legal jurisprudence. We could then say, in fact, The true physician is he who has a proper conception and estimation of the real character of his profession; whose intellectual and moral fitness give him weight, standing, and character in the consideration and estimation of society and the public at large. He is to a certain extent the servant of the community in which he resides; he is subject to the call of the sick and suffering in the humblest and lowest walks of life, and even the bedside of the most penitent and worldly may command his presence, his skill, and aid. From the lowly, languishing couch of the weary, wanton, unfortunate waif of society to the sacred sanctum of marital purity he will be summoned at all hours of the day and night to relieve and alleviate the pains of suffering humanity.

His privileges and powers for good or for evil are great; in fact, no other profession, calling, or vocation in this life occupies such a delicate relation to the human family.

In every household, at every fireside and in every chamber, the good and true physician is a welcome visitor; his genial face, his kind and courteous treatment, and his manly deportment will always secure for him the blessings of the domestic circle. The domain of the sacred home is the empire of his glory.

The fond and affectionate mother, in that tenderest and most delicate of human reality, will intrust to him not only her own safety and welfare, but that of her offspring (the brightest jewel of ennobled womanhood); and then, in after years, when the cares of life are over and the mystical spark is about to leave the earthly tenement of frail mortality, the family physician will be called upon in the last moments to close the once beaming eyes that were the windows of the soul, and impart the information to the weeping children and friends that death is triumphant beyond his skill or power; and thus, from the cradle to the threshold of eternity, the *true physician* becomes the ministering angel of wasting mortality. He can not overestimate the responsibilities of his profession as physician and humanitarian. The American *nation* proper are greatly in need of such medical advisers. Fashionable society, in the maudlin light of popular display, is pressing out the fountain-life of true maternity and healthy progeny.

Conceptive preventives and abnormal deliveries are of too frequent use and occurrence for healthy *national growth* and perpetuity. If the family can be limited to one or two children, and perhaps none at all, elegant society is delighted and satisfied.

Child-*birth* and *nursing* have become the dread and horror of the votaries of fickle fortune, whose gods and goddesses live only in the present.

The great physician should and will stand forth in the true light of the science of his profession as the promoter of health and happiness, and the protector of family life and professional honor.

The people love justice and fair play, and the lawyers and doctors who practice with fidelity the great principles of their profession *must* be honorable in their relations to each other and the community at large. As the stars move in harmony with this world and the planetary systems, and reflect their light and beauty in the shadows of darkness, so do the true votaries of these great professions, in their intercourse and contact with struggling and wasting humanity, reflect the light, the glory, and the wisdom of their callings. And if we could only exclaim,

"Could a man be secure
That his days might endure,
As of old, for a thousand of years;
What things he might know,
What deeds he might do,
And all without hurry or care!"

By professional ethics we mean the science of duty as established and recognized in a system of principles and rules governing all licensed lawyers and doctors, and enforced and respected by high-toned and cultured gentlemen —a standard of professional honor so sacred and inviolate that no graduate or regular practitioner will ever presume or dare to violate it.

Can such a standard be established? We say Yes; and you ask How? In the profession of the law the courts are always open and ready to disbar any lawyer who is guilty of unprofessional conduct; and they can do it by summary process, as, in a recent case in Chicago, they compelled a shyster attorney to take down his sign and discontinue his advertisement of "*Divorces obtained with secrecy and dispatch.*" And similar ones have been discontinued in this city. May I suggest how this can be accomplished in the medical profession, so that glaring cards in the papers and distasteful and unprofessional circulars can be stopped and prohibited?

If the medical societies will provide in their codes of ethics that none such shall be recognized in the fraternity, and then some of the leading physicians of this city and State prepare a bill to be introduced in the Legislature providing for a medical commission, with power to sit, hear, and determine all grievances of that nature, and, in cases of guilt, to revoke licenses, and that no one shall be permitted to practice medicine without a license registered in the County Clerk's office, you will have a complete remedy against all the ills of *abortionists*, *quacks*, and *charlatans*. It is the sacred duty of good doctors to see that such remedies are provided at once.

These are times of needed reforms, and, if the great professions will inaugurate complete systems, we may look for better times in legitimate practice and a higher grade

of public morals and professional honor, and, with Hooker, agree that "of law there can be no less acknowledged than that her seat is the bosom of God; her voice the harmony of the world; all things in heaven and earth do her homage; the very least is feeling her care, and the greatest is not exempt from her power, though angels and men and creatures of what condition soever, though each in different sort and manner, yet all with uniform consent admiring her as the mother of their peace and joy."

Such law, properly enacted and wisely administered and enforced, will bring contentment, prosperity, and happiness.

Lord Brougham, one of England's most eloquent jurists, in advocating a great reform in her jurisprudence for the good and benefit of the people, inspiringly said:

"It was the boast of Augustus that he found Rome of brick and left it of marble; but how much more glorious will it be for that sovereign who can have it to say that he found law dear and left it cheap; found it the patrimony of the rich, left it the legacy of the poor; found it a sealed book, left it an open page and a living letter; found it the two-edged sword of craft and oppression, left it the staff of honor and the shield of innocence!"

Note.—A committee, consisting of Dr. Spitzka, the Hon. William Barnes, and Dr. McAuliff, was appointed by the society, to take into consideration the suggestions, and report at the meeting in October.

IS EXPERIMENTAL MEDICINE JUSTIFIABLE?*

By DUDLEY W. BUXTON, M. D., B. S.,
ASSISTANT TO THE PROFESSOR OF MEDICINE IN UNIVERSITY COLLEGE, LONDON; MEMBER OF THE ROYAL COLLEGE OF PHYSICIANS.

Gentlemen, I think it is. I go further. I say that medicine, whether it be a science or the empiric's art, is essentially experimental. This is a proposition I shall seek to prove to your satisfaction. I should say that some men reap the benefit, in their daily medical practice, of the experiment of others. They may not know this fact, having acquired their knowledge by the art of thumb-nail note-taking, but the fact remains. Some men learn their medical practice at the bedside. These men experiment.

Some men attempt to reproduce in their physiological research-rooms phenomena they find in clinical practice, and then strive to remove the morbid conditions; or, it may be, learn how, in the coming time, to protect men, women, and children from the lethal effects of a dread disease. These men experiment.

I hope to show you that, as the footsteps of medicine have traversed the sands of time, they have all along been guided by the staff of experiment, the light of inductive research. That staff, indeed, may have bent and grown warped when its fibers were overtaxed by headlong haste over rugged paths; but it is supple, it straightens itself, and saves the tottering load from falling. That light, too, may flicker, its luster may grow dim amid the scintillations of an *ignis fatuus* which we moderns call quackery, but it shines again bright and steady when it is taken into the darkness of the unexplored regions of the unknown.

With your permission I will state what I include under the term "medicine." I will define experiment, and will attempt to formulate the grounds which appear to me, by the common consent of civilized men, to be taken as sufficient for justification of an act.

Medicine, in this connection, I take it, implies a knowledge of the

1. *Causes* of diseases—ætiology.

2. The knowledge of how best to counteract these causes and so prevent the onset of disease—*i. e.*, state or preventive medicine.

3. The art of recognizing with what disease we are confronted—*i. e.*, diagnosis.

4. As well as the clear knowledge of the train of symptoms which will, in due order and course, supervene. It will be necessary to recognize not only that the disease runs such a course, and that at one particular time we may anticipate this or that emergency, but it is requisite that we should know what consequences may accrue from it, and, by due precaution, obviate the occurrence of the sequelæ. This includes clinical medicine in part.

5. We have yet to include the therapeutic treatment of disease, a branch of medicine of especial interest to us in this connection.

6. To anticipate the issue of a dangerous illness is also the business of medicine as an art. This, the practice of prognosis, has a most important bearing upon human happiness and prosperity. Such, then, is the scope of the science and art of medicine.

Experiments undertaken to further any of the aims and objects I have indicated above will constitute a portion of my theme to-night, and will have to be passed under your judgment, that you may say not, Is this or that individual experiment justifiable? but, Is the principle of applying the experimental method to medicine one which we, first as men, then as practitioners of medicine, can look upon as right and, in the highest sense of the word, legal? It is indeed hard to say what others will allow to constitute justifiability. It may not, indeed, be difficult to invent a wordy law, but this, gentlemen, is useless; old as the days of Butler was the truth that

"He that complies against his will
Is of the same opinion still."

I submit, then, that, for lack of a more comprehensive system of ethical morality, we may hold that those acts are justifiable which tend to promote the well-being of the greatest number. If a member of the intelligent and much-be-sat-upon minority claims attention to the sufferings of the few, with sorrow must I confess that his case is hard but hopeless. If the majority gain benefits from experimental medicine, I submit experimental medicine is not only justifiable, but its pursuit is an honorable duty.

Now, gentlemen, may I remind you that my task here commences? It is incumbent upon me to show that medicine has ever derived advantage from experiment, and, as practiced to-day, is being, week by week and month by month, enriched with new facts, established in sound gener-

* Read before the Medical Society of University College, London, March 4, 1885.

alizations, lopped of mushroom growth of unsound theories and practices of superstition, and that all this is due to the experimental method.

And here may I digress? I would have you to consider the ultimate uses of watch-springs and block-brakes as applied to mineral trains.

If the keen-eyed rhetorician, who is, I hope, ready to belabor my arguments and confute my contentions, should inquire what possible relation watch-springs and block-brakes have to experimental medicine, I would answer, Much in every way. Watch-springs are apt to uncoil with startling and unpleasing celerity when your escapement is out of gear, while brakes are used to stop or check progress. Philosophers tell us that the sum total of human progress is ever increasing, and men of genius, watch-spring like, hurry on this mental advance-guard. Here, then, comes into use the human brake—the Huns, the Vandals of days gone by, the anti-dissectionists of Vesalius's era, the anti-vaccinationists and anti-vivisectionists of the year of grace 1885—and enforces upon the pioneers thoroughness of work and readiness in intellectual combat. I regard the noble Attila, the Hun, and Mr. Hutton as most valuable persons, and daily return thanks for their institution? Can one, gentlemen, conceive any more appalling apparition than that of a man a century ahead of his neighbors? Lully only pretended to transmute copper into gold, but the indiscriminating inhabitants of Africa stoned him. Had he contented himself with the converse process, how great a demagogue he might have been!

Medicine has a long history; it is one which would bear out my main point of contention were it possible for me to bring before you its changing scenes and characters. It would best answer my purpose to permit the story of how medicine has slowly but surely advanced from the feudaldom of mere leechcraft to the epoch of reason which could produce a Laennec, a Louis, a Virchow, or a Jenner. It is a far cry from the mystic incantations of the priests of the Egyptian deity Isis to the systems of medicine which rest on the shelves of every practitioner of to-day; and so it will be impossible for me to do more than indicate a few of the main advances in medicine which have, as it were, marked epochs in the history of its philosophy. I will attempt this. I will strive to set forth how far these advances were due to the experimental method, and, in conclusion, I hope to lay before you the proposition which, coming last, is not the least important part of my argument.

It is difficult for us, who habitually compress into a meager curriculum of four or five years, the subjects which are kindred to medicine and surgery, to comprehend how deeply and inextricably interdependent are these sciences. It is hard for us to realize that in the old days men spent a lifetime in mastering those facts in anatomy which nowadays scarcely insure a student's passing his examination for the College of Surgeons.

Physiology, again, in spite of the work of such men as Vesalius, Servetus, Fabricius, and the long and illustrious roll of the Padua School, can not be said to have commenced until Harvey promulgated in 1619, before the Royal College of Physicians in London, the result of his experiments made three years anterior, and which proved to demonstration the circulation of the blood.

Comparative anatomy, the most important aid to the physiological physician, was studied earlier and more fully than human anatomy. Galen, who, from the pinnacle of the knowledge obtainable in the second century, could deride — which he did *con amore* — the mistakes of the older physicians, learned his anatomy and physiology from the dissection of apes. Nor is the reason for this far to seek. The ancients were as opposed to dissection of the human body as were our forefathers before the passing of the Anatomy Act, and apes in those days were held of little worth. Possibly the assent given to the evolution theory sways, and I think justly, the minds of antivivisectionists of this generation. It was not long ago that we were asked to consider how necessary to medicine is physiology. I am so thorough-going a believer in the absolute indissolubility of these sciences that I think the medicine of to-day is either physiology applied or it is quackery. So that if Galen and Harvey and their following learned their physiology from the story unfolded by experiments, I say these men used the experimental method to gain knowledge of the devious paths of medicine. It will at once be said that none nowadays object to the dissection of the bodies of defunct dogs and cats, or even of paupers. Provided the corses of honest men who die well to do, and of criminals, be respected, scalpel and scissors may run horrid riot as much as anatomists will. I may not pause to expose the shallow sophism of this argument. I will only say that anatomy is tolerated, being preferable to body-snatching, and that for my purpose I must be allowed to show that experiment, whether upon the cadaver or the living body, is equally important for a true knowledge of medicine.

Lizars, the well-known anatomist, dedicating to King George IV, says:

"It is impossible for me, or for any other teacher, in this department of professional education, not to regret, most painfully, that, through the increase of certain prejudices, as illiberal as they are alien to true philanthropy, obstacles are daily arising in your Majesty's United Kingdoms to the prosecution of anatomy. It is equally impossible not to believe, what ample observations demonstrate, that the magnitude to which they have already attained is, in its infallible and invincible operation, signally and seriously injurious to your Majesty's subjects, both in the public service and in all the ranks of private society. Many more of these than unsuspecting benevolence could have imagined are doomed, it were easy to prove, to a premature grave by the consequent deficiency in this requisite science on the part of those to whom the care of life and health is committed. And I will state most respectfully to your Majesty, in evidence of this alarming truth, well known and universally deplored as it is in the schools of medical learning, one circumstance of political importance enough, independently of humane considerations, to justify the freedom which I thus assume.

"In France, in Germany, and in Denmark the prosecution of anatomy is protected by their respective governments, and in them every facility is afforded for its com-

plete and satisfactory study. Hence, in great degree, it is of late years such of the medical youth among your Majesty's subjects as are enabled by their circumstances proceed to these foreign kingdoms in search of information of the most valuable kind, being compelled thereto by the dread of entering on the practice of their profession while ignorant of some of its fundamental principles, and of having, through the unavoidable fault of a merely British education, to collect, by repeated failures in their treatment of the living, that knowledge which they might have early and safely and ably acquired from intimacy with the dead."

These plates comprise within their range anatomy, physiology, and pathology, and what Lizars said of the study of the cadaver may well be repeated to-day of the study of physiological medicine upon the living organism. If experiment be eliminated from our methods, what will result? Instead of well-ordered and carefully planned trials, elaborated and calculated beforehand, and executed by hands deft in practice and ready of resource, we should have bungling and blind empiricism, *a priori* reasoning, and the havoc wrought of unrecognized experiments made by unskilled operators—operators, indeed, who may be serenely unconscious of the fact that they are executing experiments galore upon their patients. We will, however, return to this later on.

My next position is as follows:

To learn medicine we must adopt one of the following plans of study; that which is the best for the greatest number is, I venture to assert, the most justifiable. We must wait for inspiration and miracles; we must wait for accidents, such as when a bull gores a hole in some unhappy person's abdomen and establishes a gastric fistula, as occurred to Dr. Busch's patient, so enabling him to study the action of certain bodies upon the gastric mucous membrane; or, to take another "accident," we must observe the death agonies of some unhappy victim of rat-poison, and learn that strychnine produces tetanus; or (for a third course is open) we may prearrange certain conditions, and then observe the results of various alterations of such conditions—alterations likely prearranged and submitting themselves to our absolute control; we may, in fine, use experimental medicine. May I here again select an illustration?

I would choose the somewhat hackneyed case of nitrite of amyl. The drug was found to dilate capillaries, and hence to bleed the body into itself. The peculiar agony of *angina pectoris* being accompanied with harrowing spasm of the arterioles, was it not justifiable to employ nitrite of amyl for the relief of angina pectoris? I submit it was.

Now, of these three methods—which I will for brevity's sake call the (1) method by supernatural interference, (2) the method of accidents, (3) the experimental method—which is the best? Let us seek an answer in the experience of the past and the practice of the present.

The supernatural method is distinctly a prehistoric mode of going to work, but one that a certain prehistoric sect still extant in our midst confidently practice and preach. Most thinking men accept the wholesome tenet that the Almighty helps him who helps himself. Sir William Hamilton it was who adopted as his favorite aphorism,

"In the universe there is nothing great but Man;
In Man there is nothing great but Mind."

Hence may we, I think, fairly reason that man being endowed with a mind, points out that that mind should, in all humility, work out the ends of science and expect not inspiration and supernatural interposition in matters medical, although it may deeply and fervently be thankful if such unlooked-for aid comes.

There was a flourishing school of medicine in Egypt, over which presided a large sprinkling of demigods, and even the Egyptian Apollo graced the faculty with his company. The priests, male and female, were herbalists, but mainly relied upon superhuman aid. Herodotus said of Egypt: "Every place is full of doctors." Herodotus, had he lived a few centuries later, might, I think, have made the same remark of England. The institution of the school of Alexandria was subversive of the superhuman aids to medicine in Egypt. The accidents methods then came into vogue. All was vague and uncertain, for the method of experiment was as yet practically untried. I desire to avoid wearisome narrative; but it is worth your while, I think, to spare time and thought concerning the growth of medicine. It has convinced me of the justice of the cause I am defending, and I believe it will convince you also. We all know that the Jews were accomplished in many branches of physic. They, like many who flourish among us, believed in hygiene, and were often content with a happy diagnosis, leaving therapeutic details to take care of themselves. I have often heard, and not many miles from this building, the strange formula uttered: "Oh, give him a *placebo;* anything will do; and keep him under observation!" So, in my fancy, I can see the stately Levite, arrogant in his knowledge, diagnosticating "the emerods," "the botch of Egypt," "a withered hand," or "epilepsy," and then dismissing the "botch" patient with directions for a fig plaster. History repeats itself. Before I leave Egypt and Jewish physic lore I must say, in a parenthesis, that, in the first-named country, specialists were rife as now; even limbs and portions of limbs had their individual physicians! How long before a Rameses sits upon the throne of the Guelphs?

India, that profound enigma of buried civilization, knew medicine as she knew the most perfect system of philosophy, while Europe was in the most outermost of outer darkness. But even India seems to have leant solely on inspiration and accident for her medicine lore, and so she, too, never made any sensible progress beyond incantation and herbalism.

China was as inexact. Her physiologists thought that the human body was composed of water, fire, wood, metal, and earth. Even now I have heard it remarked that a common belief obtains that some portions of some human bodies owe their density to wood.

In Greece, medicine in the hands of Hippocrates is commonly held to have commenced its existence as a science. To his efforts in part we owe the first step toward the emancipation of medicine from the espionage of metaphysics and religion. Hippocrates marks a most important epoch, and his mistakes have importance not easily overestimated in our discussion to-night. He used purgatives; he talked of

crises and the *vis medicatrix naturæ;* indeed, the practice was much the same as that of a far more recent medical luminary. But remember, Hippocrates only experimented upon his patients. This he did freely, and cured many. He has, however, as far as a somewhat hasty search has assured me, omitted to put upon record his rate of mortality.

Confessedly a successful practitioner, he failed to lead the oncoming generations in the right way; he taught his humoral theory because his hands knew not the methods of research and his mind was warped by incomplete observations; therefore Hippocrates hindered the progress of scientific medicine for centuries. I have lingered here to show that, for lack of scientific methods of research, a transcendent genius went utterly astray. More than two thousand years have sped since Cos begat her philosopher, and are we endowed with more colossal brains than his? can we afford to throw away methods of which an Hippocrates stood so sorely in need? As the natural upshot of Hippocrates's transgression of his own canon—that no theory should be accepted unless based upon the most reliable of observations—his disciples for generations accepted his conclusions with a faith worthy of a better occasion. For centuries to come medicine was not; herbalism rose rampant, while slowly but surely was growing the foundation of a scientific basis for medicine.

Anatomy was prosecuted with more or less exactness. However, the main object of the physicians of those days was to show how futile was the teaching of their brethren, how ridiculous their practice. How different from the faculty of to-day!

"Blest, thrice blest, the Roman
Who sees Rome's brightest day."

And, as far as medicine is concerned, Celsus was blessed thrice, for it can not be said to have been extant until he undertook its exposition. All, however, who have read Celsus, although impressed by that great man's acumen and remarkable power as a clinical observer, will not fail to find in his writings a great want. Celsus knew naught of physiology; his wildest dreams never carried him beyond the method of experimenting upon his patients. With Celsus may be said to close one epoch, and with Galen to commence another. I have already traced the onward progress of physiology and anatomy through the very dark times of the mediæval ages; it yet remains to learn whether medicine, an older science, had advanced beyond these. Clearly if medicine be a science which can be studied independently of experiment, it should have advanced as facts were observed and classified. But medicine not only made no advance; it even retrograded. Men were for the most part more anxious to kill one another than to cure. Among the Arabs the lore—for we can not give it a more dignified epithet—was cherished.

I am coming now to Saxon medicine, a science somewhat behind what we would have it, but not one whit less fantastic than the practice of him who refuses to avail himself of scientific methods of research. I will offer a few excerpta from a quaint old book called "Leechdoms, Wortcunning, and Starcraft of Early England." For fever it is recommended that a long (? canine) tooth of a black dog be applied; or, failing this, recourse was to be had to a live wasp, which insect it was requisite to tie to the fever-stricken patient's person. Among hæmostatics was the following incantation: "Stupid on a mountain went, stupid, stupid was." Again, colic, we are told, yielded at once to the thrilling words uttered in a low tone: "Stolpus tumbled out of heaven." I do not know who Stolpus was, and, having never tried the remedy, I can not vouch for its success. It would be tedious to wade through more stuff of this sort; we may understand in what the practice of physic consisted in those days, and we can see that in it is another example of how medicine fares when dissevered from experimental research.

Strange companions was poor Dame Medicine to have before she attained her majority—an epoch I place at the time when men wittingly commenced to introduce the scientific spirit of experiment and research into her service. In the seventeenth century medicine was a puny child, supported and overruled by astrology. The science was simple in theory. Herbs were used largely, but only by him who knew the stars in their courses, and had, by toilsome watching and coquetting with the black art, learnt what times and seasons were opportune for each simple. I give the following as an example:

It is "good to purge with electuaries the moon in Cancer, with pills the moon in Pisces, with potions the moon in Virgo," etc.*

The book from which I quote was published only one year before John Evelyn wrote in his "Diary": "16th July. There died of the plague in London this week 1,100, and in the week following above 2,000."

But light was breaking. The alchemists, whose writings are so fascinating from their plausible plans of performing impossibility, were breaking the ground for chemistry. In 1774 came Priestley's discovery of oxygen, and from that date we may trace the steady, if slow, progress of medical chemistry. From hence the test-tube and the crucible were called into requisition as exponents of the probable action of drugs in the human body. But even such learned pedants as Elias Ashmole (1681) were credulous, for I find him curing his ague as follows: "April 11th. I took early in the morning a good dose of elixir, and hung three spiders about my neck, and they drove my ague away. *Deo gratias!*"

Harvey, as I have said, by his experiments actually broke up the systems of previous medical thought, all more or less erroneous, because based upon *a priori* grounds. The inventors of these systems were innocent of experimental methods of research, and hence, when Harvey dared to fly in the face of their pet theories, they declaimed him as infidel and madman. It was as in the story of Galileo. The earth did move and the blood did circulate. Malpighi, looking down the tube of his microscope, a poor enough affair but inexpressibly precious to him, saw little discs rolling and tumbling along. "Eureka!" he cried; the glorious theory was visible to the eye, and seeing was believing.

* "The Husbandman's Practice or Prognostications Forever," 1664.

Then the escapement gave way; mad, reckless experiment followed. Transfusion was practiced to an absurd extent. Stories are numberless of criminals resuscitated and the dead speaking. Even after such an impetus as Harvey's grand work gave, medicine made little progress. An age of unreason as bad as that of the astrologers followed upon the Paracelsian and chemical epochs. Newton's vast genius caused all the lesser lights to gravitate toward him, and led them to regard all the universe and its workings through mathematical spectacles. Those who, by a fine flight of fancy, deemed themselves physiologists, reduced that science to one of pure numbers. Each organ was duly calculated up, and its functions converted into logarithms. The heart was said to execute its movements by dint of a force of 180,000 pounds—that is, with the force of a small locomotive engine.

At this time the experimental method was being pushed by men whose names still linger in our midst and impart some element of historic interest to our hand-manuals, which, little thanks to the crude hurry of this generation, are usually written in as cut-and-dried and uninteresting a way as ever quill-driver could execute. Now flourished Lower, Malpighi, Bartholin and Steno, Swammerdam, John Mayhew, Raymond Vieussens, John George Wirsung, and Thomas Wharton, with Thomas Willis and Francis Sylvius. These names should be coupled with Glisson's, Scherner's and many others.

Sydenham, called England's Hippocrates, seems to have done little experimental work save in the domain of therapeutics. His clinical descriptions will, if you ever care to shake off the lethargy which induces so many of us to forget that we belong to an historical profession and should know its history, reveal how accurately he observed and how truthfully he delineated. Time, however, presses, and the story lingers mid many shallow places—shallows of thoughts and depths of ignorance.

The theory of Stahl need not detain us; he taught that the bodily necessities of the organism were presided over by the soul. Hence he advised an expectant treatment (this was the origin of the term), and sought to provoke the soul into reacting remediably upon the body. This, of course, is practically an excrescence from the supernatural system. Stahl, as one would expect, opposed the use of opium and cinchona bark, and pushed tartar emetic and the cupping dish.

Cullen it was who, collaborating the systems of Boerhaave and Hoffmann, reduced physiological phenomena to varying motions. The derangement in these internal movements normal to an organ constituted disease.

Cullen was confronted by Dr. John Brown, one of the ablest exponents of a hopelessly ridiculous system of therapeutics that ever retarded the progress of medicine. To his philosophy, disease was dynamic or sthenic and asthenic. His diagnosis, necessarily as often faulty as accurate, was followed by bleeding and purging to the *n*th, or stimulants pushed to a barbarous extreme. Dr. Erasmus Darwin next comes to point the moral of the preceding narratives. Like the humoral theory of Hippocrates, Stahl's, Hoffmann's, and Brown's each rushed headlong into a perfect quagmire of folly and illogical hypothesis, and all this arose from the fact that these men formulated theories, as ladies make patchwork quilts, from fragments left by others. Darwin, in spite of his bombast and inconsistency, was enabled to set these men right, because he, going to the fountain-head of knowledge, direct experience, showed by his own experiments that many of the premises upon which his predecessors based their theories were untenable.

William and John Hunter are worthy names to mark an epoch, and I need no evidence more emphatic than theirs in support of the proposition which stands at the head of my paper. With John Hunter there lived in the ties of the closest friendship one called Dr. Edward Jenner. The two Hunters and Jenner did more toward establishing the science of medicine than perhaps any triumvirate of contemporaries before or since. John Hunter tells us in very plain English that "my brother William" and I did experiments upon living animals. William Hunter's work upon absorption, in itself and through the subsequent research it excited, has produced results of the last importance to practical physicians. John Hunter's name is indissolubly united with the experimental method; nor can we esteem highly enough his colossal advances in comparative anatomy and physiology. One of his biographers records of him that he esteemed surgical as second to medical aid, "for," he said, "if we have to mutilate a body, which we do when we assume the knife, we fail in the primary object of our treatment to effect a cure."

Of Jenner and the introduction of vaccination what shall I say? To my mind, Jenner, the experimenter, stands out in glorious relief against the dark background formed by his detractors. Some will say that vaccination is not an unmixed blessing. Let us be open to conviction; but we should also remember that there are persons who conceive the earth is a flat surface; are such theorists to be treated as reliable?

Vaccination, involving as it did the whole theory of attenuation of morbific virus, as well as the practice of protection by the use of such attenuated virus, has opened a new research field, and one promising a most ample harvest. It is not too much to say that to Jenner we owe countless precious lives and happy homes; yet this man was an experimenter! Was he not justified?

And now we have passed the most barren part of our history and come upon times when men began to recognize the necessity of treating medicine from the standpoint of science. Floods of light began to be flung upon every page of medical lore. The pathologist no longer spoke in terms of a humoral theory; ceasing to waste time over spirits pervading nerves, he adopted the plain and only safe method of seeing first and believing afterward. Physicians passed beyond herbalism and began to inquire how disease could be explained and how treated upon rational principles. It is not necessary, nor does time permit me, to carry my narrative further. All who are here will readily in his own mind fill in the hiatus. I have attempted to trace the series of circumstances which led up to the introduction of the scientific method in medicine; that task accomplished, it will be not difficult for you to pursue the subject and determine

how far each subsequent observer increased knowledge by experiment and fortified clinical experience by an appeal to direct fact.

We have—I hope not too laboriously—waded through what has been done in the past by way of promoting the advance of medicine. We have seen that that advance has been made by the experimental method, and it has been open to us to appreciate a further fact—that when medicine has touched upon theoretical ground, unsupported by experiment, she has only too often been obliged to retrace her steps. The present aspect of the question has yet to be confronted. In our every-day practice we shall meet with diseases which are grouped according to our nosological systems, but which will, more or less, resist our book methods of treatment.

What are we to do?

Again, we shall daily learn the force of a great truth—that what our books teach us is inapplicable, is even false, when applied by the rigid law of rule of thumb.

What are we to do?

Those of us who care for more than hand-to-mouth work, and certainly those who care for successful treatment, will awaken then to know that all their true learning of medicine has yet to be accomplished, and has to be gained at the bedside of the patient. Nature will give them the problem ready for solution; the answer they will arrive at by themselves.

We shall, each of us, adopt one of two methods: We shall follow, as nearly as we can, in the steps of our teachers, and test, as far as we can, the truth of their statements concerning diagnosis and treatment upon our patients; or we shall soar farther and try fresh departures in diagnosis and treatment. The first method—the more usual one—is still an experimental one.

It will appear to you as clearly as the sun at noon-day that every time drugs are given, baths or what not applied, an experiment is performed, and the success of your treatment will depend upon the accuracy of your diagnosis and the proportioning of your doses. Take the B. P. If any one blindly follows its doses, do you think he would cure any one? The B. P. dose-list is a literary cow-catcher, instituted with the hope of preventing toxic doses being blindly given. No; you must give not only not an excessive dose, but equally important is it not to give an inactive dose. A friend of mine, when salicylates were not so commonly given as now, complained to me that his experience of willow bark was most unsatisfactory. He had seen the salicylism following full doses, and hence had given gr. iij three times a day. Acute rheumatism proved too much for him.

What are we to do? Our B. P. gone, we can only hang upon the lips of our teachers and hunt up stray prescriptions amid our manuals; failing these, we must search for tips in current treatises. No, I venture to say, none of these will suffice; you must learn how to experiment and push your remedies; you must do that which, until it is explained, seems so unhallowed and so cowardly; you must make your patient the subject of an experiment.

Now, see, there is no help for it; you will either experiment when you don't know it (and woe be to your patient), or, armed *cap-a-pie* with therapeutical lore, you will give him the best chance of benefiting from your skill. Now we go a step farther. All modes of treatment are based upon some general basis or ground for action, and it happens often enough that fresh departures in these modes of treatment seem demanded. Take an example. A large experience of fever showed that if the skin were cooled and its discharges removed, the well-being of the patient was insured. Cold water laved over head and arms gave relief; it was determined to try the cold bath. If you have seen—as some of you doubtless have—cases of hyperpyrexia, you will bear me out when I say, to me no case is so terrible, no patient wrings more one's heart-strings, than does the subject of that frightful condition. Is the cold-bath experiment justifiable? I believe yes. I have seen patients stricken with typhoid fever whose temperature, running up, has demanded heroic treatment. I have seen in some cases these poor people scream with fear and horror as they were lowered in the bath, and yet when they have been replaced in bed they have sunk into refreshing sleep and have rallied. That experiment was, I think, justifiable. If in the first cases of hyperpyrexia, the first cases of typhoid fever, the patients had died in spite of the bath, what would have been said?

Again, take drugs. It is a fact that many plants alike in botanical characters show a kindred action upon disease. To determine whether such is so in any case we have two plans to administer the drugs—to animals or to patients. The former method is highly deceptive, and can only be employed tentatively and as a preliminary to the administration to human beings. We are here discussing only the broad principle; there are many by-issues. The danger of the drug, the severity of the symptoms, would, of course, enter largely into the question of justifiability. In the cases above mentioned we have argued upon the question, Is it justifiable to experiment upon patients for their own good? and I have answered in the affirmative. What shall be said concerning the further question, Is it justifiable to experiment upon a man for the good of the community? Here I must adopt another answer. I should say that, at least as far as therapeutic research is concerned, the broad principle upon which we must work involves a negative answer. That there are exceptions I should be ready to admit; that researches which could involve neither risk nor ultimate inconvenience might justifiably be made I am prepared to believe. These cases I should expect would rest each upon its own merits. But that experimental therapeutics is justifiable when contingent dangers and inconveniences are fully put before the persons to be the willing subject of such experiments, I hold needs no championship of mine. Enough, I think, has already been said to show more than amply that the only true progress on the therapeutic side of medicine will occur as the outcome of such experiment.

Yet another side of this question has to be considered—one which ranks high in importance. To the few it occurs to learn medicine from observations of its results. In the dead-house, with scalpel, with microscope, with chemical test-tube, the scientist elaborates there a pathogenesis

which, with logical mind cultured in clinical records, leads him to a rational theory of disease. Now, to complete the chain of his reason, he needs to be able, by employing known morbific influences, to induce in his patient the pathological lesions he has seen and dissected. I can hardly take better instances than those of Ferrier's, Schafer's, and Horsman's experimental work upon brain areas; or, again, the last-named observer's splendid results in myxœdema.

The whole range of miasmatic and infective diseases, tuberculosis, splenic fever, chicken cholera, rabies, and perhaps we may add cholera, all have been elucidated, arranged, and brought within the scope of things understandable by experimental methods. It can not be said that these diseases have as yet been rendered amenable to treatment, but much has been done, and Pasteur has given earnest that in the future much may be done to obviate their occurrence. And, gentlemen, prevention is better than cure.

A CONTRIBUTION TO THE PATHOLOGICAL HISTOLOGY OF ACUTE AND CHRONIC CORYZA.*

By JOHN N. MACKENZIE, M. D.,
BALTIMORE.

In the "Philadelphia Medical News" of October 4, 1884,† I gave an account of the changes found in the different stages of intra-nasal inflammation, which was based upon the anatomical study of a large number of neoplasms removed from the nasal passages by means of the cold-wire snare. The object of the present communication is to call attention to some additional points in the pathological anatomy of that affection, which I trust may prove of general interest, both from a clinical and histological point of view.

The first specimen that I submit to your examination (Fig. 1) represents the microscopical appearances of a section through the inferior turbinated body of a man dead of Bright's disease, the result of long-standing mitral regurgitation and insufficiency.‡

Among the ordinary visceral changes usually found in such cases there were traces of old infarctions in both kidneys and spleen. The nasal passages presented the appearances commonly observed in the condition known as coryza, and in the permanent puffy condition found in more chronic inflammation, the most noticeable being intense engorgement of the cavernous tissue, especially well marked over the lower half of the middle and posterior portion of the inferior turbinated body. Upon cutting into the engorged bodies with a scalpel, the blood, which flowed freely, could be squeezed from them as water from a sponge. The mucous membrane of the maxillary sinuses was not in the slightest degree tumefied, and presented simply a more or less cyanotic appearance.

Under the microscope, the condition which at once attracts the eye is the enormous dilatation of the erectile spaces and the extreme tenuity of the intercellular walls. Here and there rupture of the latter has occurred from the enormous blood pressure, and two or more spaces in this way communicate. Along the inner walls of the dilated spaces are seen congregations of lymphoid corpuscles, and in some of them collections of fibrinous exudation.

The mucous membrane proper presents no noticeable pathological change. The epithelial layer is intact. At some places it seems slightly thicker than at others, but, beyond a moderate amount of cellular infiltration of the tissues beneath the basement membrane, there is nothing in the mucous layers to call for special remark.

Jutting out from and attached to the wall of the central sinus (in the diagram) is a well-formed parietal thrombus, to which I would like to call particular attention.

I bring this case before you for discussion as one of peculiar interest, for it is instructive in many ways. So far as I am aware, the histological appearances in acute coryza have never been investigated. In this specimen we have the probable microscopical picture of that disease. Here, too, is illustrated the minute anatomy of the puffy condition or state of permanent dilatation of the erectile spaces which characterizes the second period of the simple inflammatory stage before hypertrophic changes have developed, and to which I have called attention elsewhere.*

Fig. 1.

* Read before the American Laryngological Association, June 25, 1885.

† "Some Notes on the Pathology of Intra-nasal Inflammation."

‡ I am indebted to Dr. W. T. Councilman, Associate in Pathology in the Johns Hopkins University, both for the beautiful section and notes of the post-mortem examination upon which these remarks are based, and for the accurate drawings which illustrate the text.

* See article referred to, and also a paper in the "Medical News" of April 4, 1885, entitled, "Notes on the Classification, Diagnosis, and Treatment of the Stages of Chronic Nasal Inflammation."

Of great interest, too, is the formation of the parietal thrombus, as illustrative of a mode of obliteration of the erectile spaces heretofore unrecognized.

In connection with the negative post-mortem appearances found in the maxillary sinus I would like to offer some suggestions on the relation of inflammatory affections of that cavity to intra-nasal processes.

While I am convinced that the chronicity of certain forms of nasal disease, the persistency of a fair proportion of neuralgic (and other reflex neuroses) affections of the head and face, are traceable to latent or unsuspected chronic antral inflammation, while it is doubtless true that affections of the maxillary sinus often run their course unrecognized during life, the *secondary* implication of that cavity in acute and chronic inflammatory processes originating in the nasal passages is, comparatively speaking, rare.

Inflammation of the maxillary sinus may result from congenital or acquired defect of the naso-antral aperture, or from its closure by the swollen and hypertrophied nasal tissue, polypi, crusts, etc., conditions which may favor the retention and decomposition of the antral secretion. Inflammation from this cause, however, occurs less frequently than is universally taught by inference from purely theoretical considerations. I base this assertion not only on clinical observation, but also on the results of post-mortem investigation. Those of you who choose to investigate the anatomical aspect of this question will be amazed to find how infrequently the mucous covering of the sinus participates in the inflammatory condition of the nasal fossæ. It is the rule to find the most marked hypertrophy of the nasal tissues, and even complete atrophy, associated with a normal condition of the sinus. What is the explanation of this fact?

On the nasal aspect of the naso-antral opening is a duplicature of the erectile tissue of the turbinated bodies, which in all probability serves the useful purpose of excluding from the cavity of the sinus, by means of the anatomical barrier involved in its erection, various irritants derived from the external world and nasal passages. This tissue ceases abruptly at the antral aperture. On the other side of the opening lies the peculiar loose, vascular membrane of the sinus. In the majority of cases this zone of erectile tissue constitutes the extreme anatomical limit of the nasal inflammation. The thin, loose, serous-looking membrane of the sinus differs essentially from the nasal mucous membrane, and especially that portion which surrounds the entrance into the maxillary sinus, and the abrupt transition of the one tissue into the other would therefore militate, on theoretical grounds, against extension of the inflammatory process into the antrum. In other words, I believe that the so-called extension of inflammatory action from the nasal passages to the antrum—the secondary inflammatory implication of that cavity—is of comparatively infrequent occurrence; and that, when inflammation of the sinus from extension is assumed, the condition will be found, on post-mortem examination, to be one of simple congestion, with possibly some accumulation and retention of the antral secretion from mechanical causes. Even if the amount of secretion be temporarily increased, the great power of absorption possessed by the membrane of the sinus will usually suffice to make it a matter of secondary importance.

I am inclined to believe that too much stress is laid upon the decomposition of antral secretion as a factor in the production of inflammation. Take, for example, a simple coryza. With the general erection of the turbinated tissues the orifice of the antrum is completely closed, congestion follows, with possibly an increased secretion of the antral fluid. Whether this secretion, thus hermetically sealed, so to speak, in the antrum undergoes decomposition before the patency of the opening is restored and the air gains admittance, is questionable; but, on the other hand, that decomposition does occur is beyond dispute, for, when the swelling from the acute rhinitis subsides, the aperture becomes free and, in some instances, the fœtid antral secretion is discharged into the nasal passages, a fact which accounts for the peculiar fœtor of the expired air from the nostrils which is sometimes observed at the close of a severe coryza.

In the second specimen (Fig. 2) are shown the microscopical appearances in the hypertrophic stage of chronic nasal inflammation before complete obliteration of the erectile spaces has taken place. Contrast the condition here

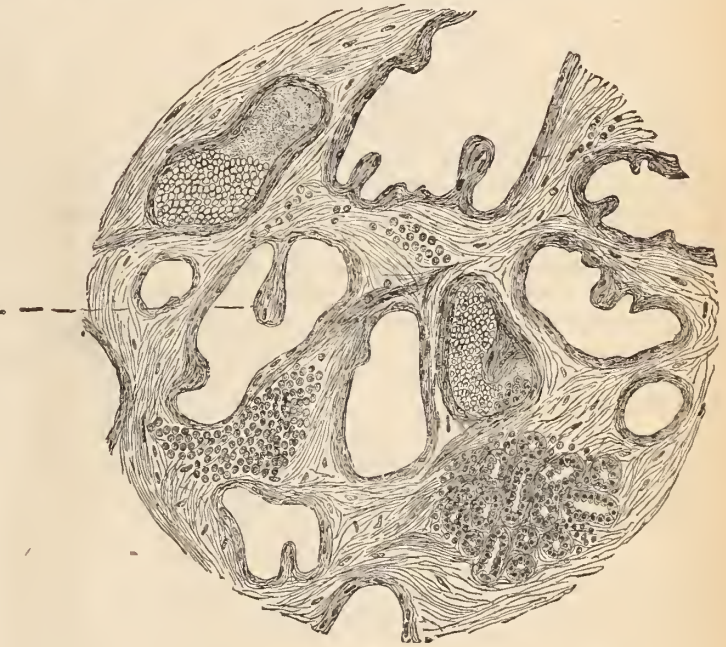


Fig. 2.

with that found in the first specimen and in the acute and earlier stage of chronic rhinitis. Observe closely the little buds or bulbous processes which jut out from the walls of the cavernous sinuses, and which are made up of outgrowths from the newly formed intercellular connective tissue. In my anatomical study of this stage I overlooked these little buds, and my attention was subsequently called to them by my friend, Dr. Councilman, who had taken one of my sections for examination.

Projecting inward, they form bulbous processes or septa of varying thickness, which sometimes interlace, sometimes form bands which connect one portion of the sinus-wall with another, thus constituting another factor in the division and obliteration of the cavernous spaces.

Care should be taken not to confound them with the remains of a thinned and ruptured intercellular wall; in the latter case a similar projection will usually be found at a point diametrically opposite to that occupied by the projecting band.

We have, then, four modes of obliteration of the erectile spaces in nasal inflammation:

1. By the contraction of the newly formed intercellular fibrous bands.

2. By obliteration of their lumen by masses of round cells which resemble the white corpuscular elements of the blood. (See first article in the "Medical News.")

3. By the formation of thrombi in certain cases.

4. By the process of septa formation.

Book Notices.

The Ear: its Anatomy, Physiology, and Diseases. A Practical Treatise for the Use of Medical Students and Practitioners. By Charles H. Burnett, A. M., M. D., Professor of Otology in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. With One Hundred and Seven Illustrations. Second Edition, Revised and Rewritten. Philadelphia: Henry C. Lea's Son & Co., 1884.

The first edition of Dr. Burnett's work, published seven years ago, was in every way worthy of the kind reception accorded it, and it has been a matter of surprise to many workers in the field of otology that so long a period has elapsed before the appearance of the second edition. The science of otology has in this period made very rapid advances, many of them of an exceptionally practical character. These have made necessary many alterations in the first edition, and some of the chapters have been practically entirely rewritten. The result appears in a handsome volume of nearly six hundred pages, printed in large, clear type on good paper, and with numerous illustrations in the text. Large additions have been made to the text, especially in the articles on Abnormities of the Auricle, on the Treatment of Chronic Otorrhœa, and the subject of Aural Polypi. The arrangement of the chapters is much the same as in the first edition, about two hundred pages being taken up with a description of the anatomy and physiology of the ear, and a discussion of the theory of sound and hearing, and the method of the examination of patients. There is a very satisfactory presentation of the subject of otomycosis and its treatment by the insufflation of germicide powders. There are some interesting pages upon Organic Disturbances in certain Diseases of the Middle Ear. The chapters on the Treatment of Chronic Purulent Inflammation of the Middle Ear and on the Course and Consequences of Chronic Purulent Inflammation of the Middle Ear are excellent, and throughout the entire work may be noted the painstaking care of the author in bringing the second edition abreast with the advances made in otological science up to the present time. From a careful perusal of the work in its new dress, it may be seen that the second edition is as worthy of a welcome reception as the first one was.

BOOKS AND PAMPHLETS RECEIVED.

A New England Conscience. By Belle C. Greene. New York: G. P. Putnam's Sons, 1885. Pp. 196.

Report on the Mortality and Vital Statistics of the United States as returned at the Tenth Census (June 1, 1880). By John S. Billings, Surgeon, United States Army. Part I. Washington: Government Printing Office, 1885. 4to, pp. lxiii–767.

Comparative Anatomy and Physiology. By F. Jeffrey Bell, M. A., Professor of Comparative Anatomy at King's College. Illustrated with 229 Engravings. Philadelphia: Lea Brothers & Co., 1885. Pp. xii–555.

Diseases of the Tongue. By Henry T. Butlin, F. R. C. S., Assistant Surgeon and Demonstrator of Practical Surgery and Diseases of the Larynx, St. Bartholomew's Hospital, etc. Illustrated with Chromo-lithographs and Engravings. Philadelphia: Lea Brothers & Co., 1885. Pp. viii–451.

Elements of Modern Medicine; including Principles of Pathology and Therapeutics, with many useful Memoranda and Valuable Tables for Reference, etc. Designed for the Use of Students and Practitioners of Medicine. By R. French Stone, M. D., Professor of Materia Medica, etc., in the Central College of Physicians and Surgeons, Indianapolis, etc. New York: D. Appleton & Co., 1885. Pp. xiv–368.

Second Report of the State Board of Health of the State of Tennessee, October, 1880–December, 1884. Nashville: Albert B. Tavel, Printer to the State, 1885. Pp. xv–600.

Lehrbuch der Physiologie für akademische Vorlesungen und Selbstudium. Begründet von Rud. Wagner, fortgeführt von Otto Funke, neu herausgegeben von Dr. A. Gruenhagen, Professor der medizin. Physik an der Universität zu Königsberg i/Pr. Siebente, neu bearbeitete Auflage. Mit etwa Zweihundertundfünfzig in den Text eingedruckten Holzschnitten. Sechste Lieferung. Hamburg u. Leipzig: Leopold Voss, 1885. Pp. 113 to 272, inclusive.

Medical Legislation: the Annual Address delivered before the Association of American Medical Editors. By Henry O. Marcy, M. D., etc. [Reprinted from the "Journal of the American Medical Association."]

Notes from the Physiological Laboratory of the University of Pennsylvania. Edited by N. A. Randolph, M. D., etc., and Samuel G. Dixon, etc. Philadelphia: J. B. Lippincott Co., 1885. Pp. 88.

Illinois State Board of Health. State Sanitary Survey. Sanitary Schedule, etc. Pp. 44.

The Scientific Transactions of the Royal Dublin Society, July and November, 1884, and February, 1885.

The Scientific Proceedings of the Royal Dublin Society, July, 1884, and January, 1885.

Experiments upon the Heart of the Dog, with reference to the Maximum Volume of Blood sent out by the Left Ventricle in a Single Beat, and the Influence of Variations in Venous Pressure, Arterial Pressure, and Pulse-rate upon the Work done by the Heart. By W. H. Howell, A. B., Fellow of the Johns Hopkins University, Baltimore, and F. Donaldson, Jr., A. B., M. D., Scholar in Biology in the same. [Reprinted from the "Philosophical Transactions of the Royal Society."]

Hints on Digestion. A Brief *Résumé* of the Latest Physiological Investigations. From various English, American, French, and German Physiological Writings. New York: The New York Pharmacal Association.

A Case of Primary Epithelioma of the Tonsil. By F. Donaldson, Jr., B. A., M. D., etc., Baltimore. [Reprinted from the "Medical Record."]

Association of the Alumni of the Albany Medical College. Proceedings of the Twelfth Annual Meeting.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co. Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, AUGUST 22, 1885.

THE BRITISH AND THE AMERICAN MEDICAL ASSOCIATIONS.

BETWEEN the American Medical Association and its really great prototype, the British Medical Association, about as much resemblance may be traced as between "Punch's" little India-rubber effigy of the First Napoleon and the statue of Julius Cæsar, in the cartoon which represented Louis Napoleon vigorously inflating the former and remarking to the statue of the great Roman: "Aha, monsieur, I shall soon make him so big as you!" Faint as the likeness is, however, between the two associations, and rapidly as even the most ambitious aspirations of our American organization are being crushed out of it by mismanagement, it may not be amiss to reflect upon some of the difficulties which beset large bodies of men banded together, in spite of clever management. But, first, in order to set forth more precisely one phase of the difference between the British and the American associations, we will quote from certain comments by the "Medical Times and Gazette," of London, on the affairs of the British Medical Association. "The lamentable muddle into which the sister association in the United States has thrown the medical profession in that country," says our contemporary, "has come upon us as a revelation, to make us grateful for the policy which has kept our own association free, on the whole, from the machinations of self-seeking wire-pullers, and has kept a sufficient place of honor for the scientific leaders of the profession. Reading of what has recently happened across the Atlantic, we ought to be thankful that the powers of our own association have not been abused, as they might have been, to the forcing upon us of leaders whose only claim to leadership is skill in the lobby. An association, again, which can tolerate homœopaths upon its roll contrasts very favorably, in respect of discretion and liberal feeling, with one which, like the American association, ostracizes regular practitioners simply for claiming the individual liberty of holding consultation with whom they please."

But the "Times and Gazette" confesses that it can not help feeling that the success of the British association is "a little hollow," and it proceeds to show the great degree to which the prosperity of the association depends upon the excellence and the acceptable character of its publication, the "British Medical Journal." The article then goes on, in a manner most creditable to the journal in which it appears, to call attention to the pre-eminent ability of the editor of the "British Medical Journal." But the "Times and Gazette" hints that the very mainspring of its present prosperity, its journal, may yet prove a stumbling-block to the association. It fears what may happen with the journal in other hands, and states its conviction that the association "can not be declared to be an assured success until it has weathered, once or oftener, a change in the editorship of its journal."

We have no doubt that any one familiar with the work of editing a medical journal will appreciate the solicitude felt by the "Times and Gazette," even in the case of any important journal, and doubly in the case of one that, like the "British Medical Journal," has to cater at the same time to the demands of its readers at large and to the special interests of the association of which it is the organ. If there is occasion for such a feeling of insecurity with regard to a journal and an association both so well established as those in question, how much greater ground is there for guarding against the contingency of a change of editorial management in the case of the "Journal of the American Medical Association." That publication is still in its infancy; yet on more than one occasion efforts have been made to take it out of the hands of its present editor—efforts which we have always regarded as unwise, and against which we have raised our voice from time to time. If a change in its editorship would be perilous at any time, it would be tenfold more dangerous at a time when the journal is still undeveloped, and the association itself in a condition that has called down upon it the indignation of hundreds who in the past have been among its most efficient supporters, and who are now unable to see any reasonable prospect of its soon resuming the honorable position which it occupied a few years ago.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 18, 1885:

DISEASES.	Week ending Aug. 11.		Week ending Aug. 18.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	14	4	23	6
Scarlet fever	8	2	25	4
Cerebro-spinal meningitis	2	1	1	1
Measles	16	2	31	3
Diphtheria	20	14	30	16
Small-pox	1	0	0	0

Yellow Fever in New York.—It is reported that, on Wednesday last, a sailor, recently arrived from Cuba, was found in a hall-way, in the lower part of the city, suffering from yellow fever.

Anthrax in Illinois.—A disease, said to be of the anthrax variety, is prevailing among the cattle in the neighborhood of Bloomington.

The Health of Chicago.—The "Condensed Statement of Mortality" for July, published by the Health Department, shows that there were 16 deaths from measles, 12 from scarlet fever, 31 from diphtheria, 13 from croup, 14 from whooping-cough, 2 from typhus, 79 from typhoid fever, 15 from cerebro-spinal fever, 19 from malarial fever, 456 from diarrhœal diseases, and 54 from other zymotic diseases. In 1884 the population, according to the School Census, was 630,000.

The Pension Board of New York City.—The Board of Examining Surgeons for this city has been re-organized by order

of the Commissioner of Pensions. The members of the late board were Dr. S. S. Burt, Dr. A. B. Judson, and Dr. W. C. McDonald. The new board is composed of Dr. W. C. McFarland, Dr. Ira Wilcox, and Dr. L. P. Walker. This action of the Commissioner is understood to be based on political grounds.

The University of Vienna. — The "Medical Times and Gazette," of London, learns from its Vienna correspondent that Prof. Bamberger has recently been elected Rector Magnificus of the university. This disposition of the honor, the highest in the gift of the university, is as much a compliment to the medical faculty as to the individual. The post is held for one academical year.

The American Dermatological Association will hold its ninth annual meeting at Indian Harbor Hotel, Greenwich, Conn., on Wednesday, Thursday, and Friday, August 26th, 27th, and 28th.

The International Medical Congress.—It is understood that the American Medical Association's new committee will hold a meeting in New York on the third of September.

The Death of Dr. Francis Ashhurst, of Mount Holly, N. J., took place on Monday, August 17th, in his forty-third year. He was graduated from the University of Pennsylvania, Department of Medicine, in 1867, and, in conjunction with his mother, founded the Burlington County Hospital at Mount Holly. He was a member of the Philadelphia County Medical Society.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 8, 1885, to August 15, 1885:*

Campbell, John, Colonel and Surgeon. Granted leave of absence for one month. S. O. 184, A. G. O., August 13, 1885.

Ives, Francis J., First Lieutenant and Assistant Surgeon (recently appointed). Ordered for duty in the Department of the Platte. S. O. 184, A. G. O., August 13, 1885.

Azpell, Thomas F., Captain and Assistant Surgeon. Retired from active service August 10, 1885. S. O. 181, A. G. O., August 10, 1885.

Chapin, A. R., First Lieutenant and Assistant Surgeon. Granted one month's leave, to take effect when service can be spared by commanding general, Department of the Missouri, with permission to apply for one month's extension. S. O. 179, A. G. O., August 6, 1885.

Wales, Philip G., First Lieutenant and Assistant Surgeon (Fort Cœur d'Alène, Idaho). Ordered for temporary duty at Boise Barracks, Idaho. S. O. 130, Department of the Colorado.

Appointment.

Kendall, William P., to be Assistant Surgeon, United States army, with the rank of first lieutenant, to date from August 12, 1885.

Marine-Hospital Service. — *Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the two weeks ending August 15, 1885.*

Bailhache, P. H., Surgeon. To proceed to Delaware Breakwater Quarantine as inspector. August 15, 1885.

Stoner, George W., Surgeon. Granted leave of absence for thirty days. August 10, 1885.

Society Meetings for the Coming Week:

Monday, *August 24th:* Boston Society for Medical Improvement.

Wednesday, *August 26th:* Auburn City, N. Y., Medical Association; Berkshire District, Mass., Medical Society (Pittsfield); American Dermatological Association (first day—Greenwich, Conn.).

Thursday, *August 27th:* Cumberland County, Me., Medical Society (Portland); American Dermatological Association (second day).

Friday, *August 28th:* American Dermatological Association (third day).

OBITUARY NOTES.

D. Colden Murray, whose death at the New York Hospital on the 17th of this month has brought distress to a large circle of friends, deserves more than a passing notice in our columns.

If such men as he were more numerous in the controlling boards of our hospitals and educational institutions, the future of medical education would cause us no uneasiness. Single-minded, liberal, broad in his estimate of his fellow-men, discriminating, just, there are few to replace him in the ranks where many such are needed. He entered the hospital as a patient because of the advantages of the proximity of the surgeons. His malady was a sarcoma of the bladder, and the operation which was performed gave only temporary relief, which was all that could be hoped.

He was born at the country seat of his father, Robert I. Murray, at Coldenham, N. Y., on October 10, 1821, and comes from Revolutionary ancestry, being a great-grandson of Cadwallader Colden and John Murray, of Murray Hill, whose beautiful wife kept the British officers at luncheon while Washington was crossing the river. He was also a grandnephew of the grammarian, Lindley Murray. The foundations of an excellent education were laid at Haverford College, to which he went at the age of fourteen. He began his business life in the shipping house of De Peyster & Whitmarsh, in this city, and was afterward connected with the firm of Hussey & Mackey, ship-brokers, at No. 62 South Street. This firm was subsequently changed to Hussey & Murray, and still later to Murray, Ferris & Co. The latter firm operated a line of steamers to Savannah, which was known as Murray's Line. The firm also had an interest in a line to Cuba, and owned many sailing-vessels. In 1879 Mr. Murray retired from the firm, and has done no business since, but has devoted his time to charitable objects.

Besides being secretary of the Society of the New York Hospital, succeeding his father, who served from 1824 until his death in 1858, he was treasurer of the New York Dispensary from 1856 to 1884, a director of the Sailors' Snug Harbor, a director of the United States Fire Insurance Company, and was connected with other insurance companies. He was one of the founders of the New York Club, and continued a member of it until a short time ago. He was a member of the Union League and St. Nicholas Clubs. For many years he was a warden of St. Ann's Church, at which his funeral took place on Thursday afternoon, when the Rev. Dr. Gallaudet conducted the services. The burial was at Delhi, where live the family of his wife, who survives him.

His interest and his strong protecting arm have done service which should never be forgotten. To him the Training School for Nurses at the New York Hospital owes its existence and prosperity; to him the Pathological Department of that institution is under the greatest obligations; and his interest in the welfare of the patients and doctors in the Chambers Street Hospital, the Bloomingdale Asylum, and the New York Dispensary has been as untiring as it has been intelligent.

Many of our readers whose success in life has doubtless been in no small degree aided by a connection at some time with the New York Hospital will feel his loss most keenly.

Proceedings of Societies.

PHILADELPHIA CLINICAL SOCIETY.

Meeting of May 22, 1885.

The Vice-President, Dr. Amy S. Barton, in the Chair;

Mary Willits, M. D., Reporting Secretary.

Removal of a Lymphoma from the Neck; Recovery.—Dr. Susan P. Stackhouse reported the case of a woman forty years of age. Sixteen years ago she first noticed a small tumor just below the left ear; it caused no inconvenience except the projection of the ear-ring. On seeking medical advice, she was told that there was no danger attending the growth so long as it remained undisturbed. It increased in size gradually, and was attended with neither pain nor tenderness. The patient entered the Woman's Hospital of Philadelphia, and was operated upon October 17, 1884, by Dr. W. W. Keen. At the time of the operation the tumor extended from the ear to an inch below the cricoid cartilage, and was two inches and a half in width, its size affecting deglutition and respiration. The skin was not involved, but the veins were enlarged, and two pulsating vessels could be felt to enter the tumor. The growth was firm and inelastic, and movable to a certain extent.

After the patient was etherized, an incision four inches long was made, care being taken to avoid the external jugular vein, which crossed the growth. The hæmorrhage, which was quite profuse, was controlled by hæmostatic forceps and ligatures, it being necessary to ligate eighteen vessels. On account of the vascular nature of the growth, and its loose connections with surrounding structures, the adhesions were broken up with the grooved director. The tumor was intimately connected with the internal jugular vein for nearly three inches, and very careful dissection was required in order to preserve the integrity of that vessel. The wound was closed by wire sutures, after the introduction of a drainage-tube and a bundle of horse-hairs. The operation required one hour, and the patient became very much exhausted, but reacted very quickly after a hypodermic injection of brandy. The wound was dressed on the following day on account of there being considerable oozing of blood; the tube was then removed, the horse-hairs being left. After this the patient did very well; the temperature never reached 100° F., the only difficulty being some trouble in deglutition for three or four days. On the eighth day the dressings were removed scarcely soiled; the wound was closed with the exception of one small point. The patient was discharged from the hospital two weeks later.

Complete Retroversion of the Uterus from Distension of the Bladder.—Dr. Stackhouse also reported a case of this affection to which she was called July 22, 1884, it being said that the patient was dying. She found a woman, thirty-five years of age, with normal temperature; pulse 100, feeble and irregular; respirations gasping and rapid; face anxious and eyes injected. She did not complain of pain, but had a constant desire to urinate, and stated that she had passed urine repeatedly. Pressure upon the abdomen caused a slight flow of urine. The abdomen was greatly distended, the patient stating that the enlargement had existed for ten days, and had come on suddenly and without any previous illness. She did not think that she was pregnant. On examining the abdomen, its enlargement was found to be due to an oval, elastic tumor, extending from the symphysis pubis to within two inches of the ensiform appendix. It was regular in outline, and in no way resembled a pregnant uterus. An examination *per vaginam* showed that the tumor had no connection with the uterus, that organ being completely retroverted, the fundus being only a short distance from the vulval orifice, and the cervix behind the symphysis pubis. The uterus was somewhat enlarged and perfectly immovable. The patient insisted that she was not pregnant, and said that four months before her abdomen became enlarged suddenly, that she was unable to urinate, and that a large quantity of urine was drawn off by the catheter, which relieved her condition. A No. 16 (Fr.) male catheter was passed, and fifty ounces of very pale, clear urine were drawn off. The urine was neutral, with a specific gravity of 1·002, and contained a small quantity of pus, but no albumin. The relief was great, the respirations were no longer gasping, and the face lost its anxious expression. A soft-rubber French male catheter was passed into the bladder and kept in place by bands of adhesive plaster. The paralysis of the bladder was complete, and lasted for a week. It was found impossible to restore the uterus to its normal position by manipulation, and the patient was instructed to place herself in the knee-chest position for five minutes at a time frequently during the day. At the end of ten days she urinated without difficulty, and the uterus was restored to its normal position.

Asphyxia caused by a Plate of Artificial Teeth impacted in the Trachea; Death.—Dr. Louise S. Blum reported a case and said that the literature of the subject of foreign bodies in the air-passages was exceedingly rich in rare and peculiar cases of extreme interest. Almost every physician had been called upon, at least once in the course of his practice, to remove some article from the air-passages of a child, who had made the mouth, instead of the pocket, a common receptacle. In such cases there had been found and removed pins, needles, marbles, fish-hooks, rings, buttons, button-molds, pebbles, sticks, pens, slate-pencils, ears of rye, wheat, or barley, fruit-stones, seeds, and numerous other articles. It seemed that this reprehensible practice was not confined to children, for a number of the articles mentioned, as well as some others, had been removed in the cases of men and women. Buckley, for instance, removed a copper umbrella-tip from the larynx of a man; and, in two other cases on record, a puff-dart* and a hard rubber tube were similarly removed. Instances of pieces of the various kinds of food entering the air-passages during deglutition were of such frequent occurrence that they received no mention. The fact that tracheotomy-tubes and corroded pieces of the same, hypodermic needles and various surgical instruments, or portions of them, broken off during operations, also unsecured corks used for keeping the jaws apart, leeches carelessly applied, sponges, etc., had all been found at various times in the respiratory tract, was of far more importance and interest to the medical profession. It was scarcely less interesting to read that matters vomited during anæsthesia, or unconsciousness during apoplexy or epilepsy, as also regurgitated chyme, curdled milk, worms from the alimentary tract, pus from tonsillar, post-pharyngeal, or epiglottic abscesses, necrosed nasal, palatal, and cranial bones and laryngeal cartilages, had all at various times acted as foreign bodies in the air-passages of man. Even a lymphatic bronchial gland, one inch in length, had been known to cause death by becoming impacted in the rima glottidis during a violent fit of coughing. A still more remarkable case was that recorded by Ruehle in "Kehlkopfkrankheiten," in which the epiglottis of a man was drawn into the upper orifice of the larynx during deglutition, where it became firmly impacted, and, acting as a foreign body, caused death. During operations upon the teeth and mouth, one or more teeth or crushed fragments of the same had frequently fallen into the windpipe. More rarely a number of artificial teeth connected by a metal band had become

* See this Journal, November 1, 1884, p. 487.

dislodged during sleep, and had been drawn into the larynx or trachea by the attempts made at respiration. This accident had also occurred during deglutition, although in that case they were usually swallowed with the bolus of food and entered the stomach. Still more rarely had this accident occurred where the teeth were attached to a plate. The only case of the kind on record, so far as Dr. Blum knew, was that reported by Mr. Henry G. Croly, of Dublin, cited by Prof. Gross, in which instance seven artificial teeth, set in gutta-percha, were arrested at the junction of the larynx and trachea. The case which formed the subject of Dr. Blum's paper was a parallel one, but was far more peculiar than the majority of such cases were likely to be, from the fact that the accident occurred in the course of an acute disease, and was not suspected until after the death of the patient.

On February 18, 1883, the doctor was asked to call upon Caroline N., a widow, aged twenty-five. The patient was examined carefully; temperature 104° F., pulse 128. Two calls were made on the following day and the temperature taken in the morning and in the evening, which, with the previous history of the case, confirmed the diagnosis of malarial fever of the remittent type.

February 21st the temperature was 103° F., pulse 115. February 22d, temperature 102° F., pulse 110. Within an hour after the last visit Dr. Blum was hastily recalled to the patient, the messenger saying that she was dying of hæmorrhage. The patient, with livid face and convulsed, was being held down by four people, and as the doctor reached the bedside she gave a few gasps and expired before anything could be done for her relief. With the last gasp of the dying woman and the consequent dropping of the lower jaw the loss of the teeth was noticed by the mother, who called the doctor's attention to the fact; but a thorough search of the room did not reveal them. A history of the patient's condition and actions just prior to death convinced Dr. Blum that the teeth had become dislodged and had entered the air-passages, thus causing death. A post-mortem examination was made on the next day, and showed that the heart and lungs, otherwise normal, presented the usual signs of death from asphyxia. The liver was congested and softened; the spleen was softened and much enlarged, thus verifying the diagnosis of malarial fever. All the other organs were found in a normal condition. The missing teeth were found in the trachea about two inches below the larynx. The plate was of the usual size, of vulcanite, and had four teeth attached to it, and was so firmly wedged that force little short of violence was required to remove it. In the vigorous efforts made to dislodge the plate, one of the teeth, which was imbedded in the walls of the larynx, was broken off and left behind.

Meeting of June 26, 1885.

Dr. Charles K. Mills in the Chair.

Mary Willits, M. D., Reporting Secretary.

Carcinoma of the Uterus.—Dr. D. W. Barr reported a case in which the patient had resorted to the "Faith Cure." Early in January, 1879, he was called to see Mrs. S., forty-six years of age. She had been suffering at intervals for several months from severe uterine hæmorrhages. A vaginal examination revealed a cauliflower excrescence which involved the posterior and a portion of the anterior lip of the os; the vagina was not implicated. An operation was decided upon, and, in the presence of Dr. C. A. Groff and Dr. I. G. Heilman, the cervix uteri was removed close to the body by means of an écraseur. The wound healed kindly and without any trace of local trouble, and for two years and a half the patient's health was good, although she had mental forebodings. At the end of the third year some hæmorrhage occurred, and an examination revealed granulations of a specific character, apparently involving the entire endometrium. The whole surface was thoroughly cauterized with Vienna paste, and the symptoms were arrested for another year, making four years of vigorous health. Hæmorrhage again occurred, and an examination revealed a marked epithelioma involving the vaginal wall. The body of the uterus was enlarged and also evidently involved. Palliative measures were resorted to, but there was no hope of eradicating the disease. The patient was much alarmed, and, although there was neither pain nor hæmorrhage, she gave evidence of speedy dissolution. At this point she made arrangements for the "Faith Cure," sought the prayers of a circle and was anointed, after which she declared herself cured. Her general condition improved, and when Dr. Barr met her three months later he did not recognize her, because of the improvement in her appearance. Her health seemed good for about a year, when she again began to fail, and he was called to see her, after a day of severe suffering. He found a distended bladder, which was relieved by the catheter. An examination showed that the cancer had never been healed nor its progress in any way arrested, but that it filled the pelvic cavity, and the enlarged uterus reached above the umbilicus. This increase in size had taken place in about two years, the growth having steadily progressed notwithstanding the patient's apparent good health. She died soon after. The tumor in itself was painless through the entire period of its growth, death being induced chiefly from its pressure upon the neighboring vessels, firm adhesions having formed between the two.

Dr. Charles P. Turner said, in referring to the "Faith Cure," that he had known of several cases of nervous inertia that seemed to be cured by the influence of a strong will over a weak one, but the benefit was transient. He would believe in the "Faith Cure" when he saw a case of tuberculosis or cancer cured by that method.

Dr. E. E. Montgomery said that the class of cases the cure of which would convince one of the efficacy of the "Faith Cure" were the very ones that were not treated in that way. He instanced the case of a lady with organic disease of the heart who applied for treatment by this method, and was told that her case was not a suitable one for that form of treatment.

Reports on the Progress of Medicine.

OTOLOGY.

By CHARLES STEDMAN BULL, M. D.

Disease of the Nervous Apparatus of the Ear.—Kipp ("Arch. of Otol.") reports three cases presenting, in connection with Ménière's train of symptoms, certain uncommon features. The first case was that of a man, aged forty-eight, who had been totally deaf in his right ear since infancy. In this case Ménière's train of symptoms had been preceded by a febrile paroxysm and followed by neuralgia and erysipelatoid inflammation of the ear. The case resulted in partial recovery of hearing. The facts that the hearing of the left ear was very acute before the initial chill and that absolute deafness was rapidly developed without the slightest objective signs of disease of the middle ear make it tolerably certain that this case was one of primary disease of the nervous apparatus of the ear. The process was probably inflammatory, which started in the cerebral meninges at the base, and thence spread to the labyrinth and afterward to the Gasserian ganglion. This view of the probable seat of the disease is strengthened by the fact that the hearing for speech was partially restored, while deafness for low tones remained.

The second case was that of a man, aged forty-one, in whom Ménière's train of symptoms was followed by neuralgia and erysipelatoid inflammation of the face. It was impossible to say how much of the deafness was due to chronic middle-ear disease. There can be no doubt, however, that, after the attack of roaring in the ear, the hearing was rapidly destroyed.

The third case was that of a woman, aged fifty, in whom there was sudden, complete, and permanent destruction of hearing of one ear, following a tremendous roaring in the ear. Politzer's acoumeter was heard two inches from this ear when the other ear was open, but not at all when this was tightly closed. The watch was not heard when pressed against the auricle or the mastoid. Large tuning-forks of different pitch were not heard when held before the external meatus, but, when placed on the mastoid, were heard in the other ear. The hearing of the right ear was perfect. There was nothing abnormal in the external canal or the drum-membrane of either ear. There was no pharyngeal catarrh. The absence of marked vertigo was a noteworthy feature of this case, and would seem to make it probable that the disease was confined to the cochlea.

Caries of the Temporal Bone.—Sutphen (*Ibid.*) reports two fatal cases of this nature in which openings were made through the roof of the tympanum. The first case was that of a man, aged forty-four, who had suffered from otorrhœa for twelve years. The autopsy showed an immense abscess occupying nearly the whole of the anterior and middle lobes of the left hemisphere, containing a dirty-brown, fœtid pus. The opening made by the operation extended into the cranial cavity on the superior surface of the petrous bone, just in front of the superior petrosal sinus. In the depression just external to this a circle of dead bone appeared. To this the dura mater was attached, and perforated by a small circular ulcer. There was some localized meningitis. The instrument used at the operation had pierced the dura and entered the cavity of the abscess, but the flow of pus was prevented by the soft brain-substance or the dura itself acting as a valve.

The second case occurred in a man, aged twenty-one, who had had otorrhœa for ten years, with an acute attack of inflammation of two weeks' duration, which was evidently intra-cranial. The right external rectus was paralyzed, and there was choked disc in both eyes, with impaired vision. The patient lived ten days after being seen. On the day of his death an incision was made upward through the swollen tissue in the external auditory canal. A probe inserted through this cut passed over bare bone, slipped into a carious passage, and entered the cranial cavity. This bony sinus was enlarged with a trocar, but no pus escaped. The patient died comatose. At the autopsy the right lateral and superior longitudinal sinuses were found occupied by a large and partially organized clot; the walls of the sulcus were carious; circumscribed meningitis existed near the temporal bone, and there was softening on the surface of the middle lobe. The opening into the cranial cavity was found in the depressiou just external to the eminence for the superior semicircular canal, surrounded by carious boue. No accumulation of pus was found. The caries in the temporal bone involved the walls of the tympanum and the mastoid.

The Position of Reissner's Membrane in the Human Cochlea.—Steenbrügge (*Ibid.*) describes the results of his investigations upon Reissner's membrane in a very interesting paper. In a woman, aged thirty-four, who had died of tuberculosis, he found in the anterior lower wall of the left utricle, at the level of the lower margin of the fenestra ovalis, an elliptical perforation, measuring $1 \times 1\frac{1}{2}$ mm., which constituted a communication between the perilymphatic and endolymphatic spaces, which probably existed during life. In the cochlea of the same side, particularly in the second and third turns, there was a considerable deposit of hæmoglobin, with great dilatation of the vessels, which had ruptured at several places, causing extravasation of blood. There was also a peculiar condition of Reissner's membrane, which, owing to the draining off of the endolymph, sank down on the membrana tectoria and organ of Corti, in consequence of an excessive pathological stretching or relaxation. If the sinking down and apparent agglutination of this membrane had occurred during life, the function of the organ of Corti and of the membrana tectoria must have been impaired. If the elasticity of Reissner's membrane is acknowledged, the conclusion seems permissible that, in the human cochlea, a post-mortem relaxation of the vestibular membrane or loss of elasticity occurs in some instances, while in others it may be wanting or be present in a lesser degree. We thus see that the angle formed by Reissner's membrane in the pathological or histological specimen is in no definite relation to the curved shape it probably has in life.

The Terminal Cupule of the Ear.—Coyne and Ferré ("Ann. des mal. de l'oreille et du larynx") have been making some anatomical and physiological investigations upon the terminal cupule of the ear of some of the lower animals. The cupule is situated above the auditory crests and projects into the ampullæ of the semicircular canals. It appears like a brilliant, refracting corpuscle, of semi-hard consistence, at the posterior and superior part of the ampulla. Under the microscope it appears granular, refracting, and striated, presenting bands which are alternately bright and shaded. The number of terminal cupules found in a pyramid corresponds to the number of ampullæ. Their shape varies according to the shape of the auditory crests. The latter consist of several layers: 1. A layer of connective tissue traversed by vessels and nerves. 2. A special membrana propria. 3. A basement membrane. 4. An epithelial membrane formed of two layers. The auditory hairs play a double rôle of protection and of regulatiou of the ciliary vibrations through the medium of the terminal cupule. The entire apparatus seems to be one of accommodation for sonorous vibrations, and is also extremely well adapted for the perception of the irregular vibrations which constitute noise. The membrane of Corti is analogous to the cupule in its structure and relations, and it seems to act physiologically in the same way in regulating the vibrations of the cilia of the cells of Corti.

Traumatic Hæmorrhage into the Internal Ear.—Hardwicke (*Ibid.*) reports a case of this kind in a lad, aged seventeen, who was brought to the hospital at Sheffield completely deaf in one ear; the deafness had occurred four days previously from a blow on the side of the head with a cricket-ball. The watch could not be heard in the right ear, neither could the tuning-fork. Nothing abnormal was found in the pharyngeal mucous membrane or the middle ears. A diagnosis was made of hæmorrhage into the cochlea or semicircular canals. The treatment consisted in the application of leeches to the tragus, a blister behind the ear, and potassium iodide internally. The patient left the hospital cured on the eighth day.

Two Rare Cases of Mechanical Injury to the Organ of Hearing.—Moos ("Arch. of Otol.") reports a case of bilateral labyrinthine disease in a man, aged twenty-six, which was developed fifteen minutes after a stay of thirty hours in a diving apparatus. It manifested itself by nearly total deafness in both ears, tinnitus aurium, and vertigo, followed by staggering gait and inability to stand without support. It was caused by suddenly leaving the diving apparatus, after working in it, under a pressure of two atmospheres with but short intermission, for thirty hours. These symptoms were probably the result of a hæmorrhage in the labyrinth. The second case was in a man, aged thirty-four, in whom both drum-membranes were ruptured by the compression of air produced by the explosion of chlorophthallic ether during the making of eosine.

Loss of Hearing from Mumps.—Kipp (*Ibid.*) reports one case of this disease, in a young man aged eighteen, in which the total loss of hearing was in the right ear only, which was first noticed fifteen days after the commencement of an attack of mumps, while the patient was suffering from a metastatic inflammation of the left testicle. As all signs of irritation of the acoustic nerve were absent, it seems highly probable that the disease was limited to the cochlea. Whether the morbid process here was an inflammation with serous or hæmorrhagic effusion or embolism of the cochlear artery, it is difficult to say. Kipp thinks that an extension of the disease from the parotid gland to the ear along the facial nerve, or through the external canal and tympanic cavity, seems highly improbable; he thinks it much more likely that the inflammation of the parotid, the orchitis, and the ear affection are merely local expressions of the same morbid condition of the blood. Another case was similar to the first, except that there was no orchitis.

Chiseling of the Mastoid Process.—Hartmann (*Ibid.*) reports in detail the histories of fourteen cases in which it was necessary to open the mastoid process, and lays down rules for the performance of the

operation. The incision in the skin and the opening in the bone should be practiced at the line of attachment of the auricle, or at least immediately behind it. The possibility should always be borne in mind that in operating we may chance upon a sharp curve of the transverse sinus. The skin incision and the bony canal should be made so large that a free inspection of the wound cavity may be possible during the after-treatment. In order to keep the wound open, rubber tubes should be inserted immediately after the operation, to be replaced subsequently by thick and still later by thin lead ones.

Round-Cell Sarcoma of the Ear.—Green (*Ibid.*) reports an interesting case of this kind occurring in a man aged twenty-three. There had been a discharge from the left ear for seventeen years, following an attack of scarlatina. When the patient was first seen there was a muco-purulent discharge, and a spongy, very vascular, fleshy mass filled the left meatus, and seemed to be adherent to the wall. The left auricle was pushed outward and forward by a diffuse swelling over the mastoid, which had ruptured, and from the opening protruded a mass of fungous granulations two inches in length, dotted with spots of sloughing tissue, and bleeding freely on being touched. The meatus was filled with the above-described fleshy mass. Three days later the fungous granulations over the mastoid were removed, and the swelling was incised down to the bone, setting free a large amount of fluid and caseous pus. The bone was found extensively softened, and a large opening was made with a gouge in the mastoid antrum. The meatus was cleared from granulations, and carious communications were found to exist between the meatus and the mastoid. The case did well for a time, and then the bad symptoms reappeared, abscesses formed in the auricle and neck, and the growth returned and rapidly increased in size until it measured eight inches long, six wide, and four thick, and extended downward and in front of the auricle. Large masses sloughed away at times, giving rise to repeated hæmorrhages. The patient died from exhaustion about six months after the first operation.

Fracture of the External Auditory Canal by Contre-coup, with Rupture of the Drumhead.—Williams (*Ibid.*) reports an interesting case of this nature in a man, aged thirty-seven, who, while walking on a slippery sidewalk, lost his footing and fell backward, striking the back of his head against the ice with such force as to stun him. He remained for a time unconscious, vomited freely, and lost a large amount of blood from the ear. A splinter of bone from the auditory canal, not entirely detached, protruded through the skin. There was a stellate laceration of the membrana tympani. The piece of bone was removed with the forceps and measured 4 mm. by 3 mm. at its broader end, tapered to a point, and had a smooth periosteal surface on one side and a rough surface on the other. The patient eventually recovered, and the rupture in the drumhead healed. The fracture probably extended into the Glaserian fissure and terminated at the foramen lacerum medium. There was, no doubt, concussion of the entire labyrinthine contents, with a localized pachymeningitis.

Limited Caries of the Fundus as a Frequent Cause of Obstinate Otorrhœa.—Woakes ("Ann. d. mal. de l'oreille et du larynx") has a recent article upon this subject which may be summarized as follows: Certain cases of otorrhœa are very rebellious to treatment, and in these cases an examination will usually show the presence of granulations on the drumhead or in its immediate vicinity. This granulation tissue originates in the tympanic cavity, and by touching it with a probe there is felt a slight sensation of rugosity, the sign not only of simple hypertrophy, but of a carious process at some limited point of the bony wall. This explains the persistence of the otorrhœa. To combat this condition, Woakes employs a solution of sulphurous acid, with which he professes great success. The agent employed seems to dissolve the earthy salts in the particles of dead bone and to disinfect the diseased surface. It also acts as a stimulant to the process of cicatrization.

The Operative Treatment of Congenital Malformation of the Auricle.—Stetter ("Arch. f. Ohrenheilk.") reports in detail a case of deformity of the auricle as follows: The deformity consisted in the auricle being bent from above and behind downward and forward over the opening of the external canal, so that no sound-wave could enter the canal directly, which could only be looked into from below. The operation consisted first in dissecting up a triangular flap of skin, with the apex upward and the base on a level with the attachment of the auricle, and in dividing the subcutaneous cellular tissue by many small transverse incisions. It was then possible to lift up the apex of the auricle and to fasten it by sutures to the skin covering the squamous bone. To make this firm and lasting, two parallel incisions, 3 cm. long and 1 cm. from each other, were then made from the posterior surface of the auricle upward and backward toward the squamous bone. This flap of skin was then dissected carefully up with the subcutaneous connective tissue, and drawn forcibly upward, and by this duplicature of skin the new location of the auricle was made fixed and permanent. Both raw surfaces of this fold of skin, at the base and its further extension, were then united by sutures, and a firm bandage, with pressure on the helix, was applied. The result was satisfactory.

Diseases of the Ear in Typhoid Fever.—Bezold (*Ibid.*) recognizes three varieties of disease of the ear in the course of typhoid fever, viz.: 1. Hardness of hearing, without signs of inflammation and without any symptom in the drumhead or tympanic cavity, which seems to be due to some central changes. 2. Closure of the Eustachian tube with consecutive sinking of the drumhead. 3. Purulent inflammation of the drum-cavity, either without perforation or with perforation of the drum-membrane, and otorrhœa. The so-called nervous deafness is characterized exclusively by subjective symptoms, varying and moderate deafness, and tinnitus. As regards the affection of the Eustachian tube, he does not think that it occurs more frequently in typhoid-fever patients than in healthy persons. Both these varieties of disease are met with in the beginning of the fever, but the inflammatory disease of the middle ear occurs toward the end of the abdominal affection. The results of the autopsies were as follows: 1. A glairy mucus in the Eustachian tube was found in six cases. 2. Secretion in the drum in four cases. 3. Simple hyperæmia of the mucous lining of the drum in two cases. 4. Succulent swelling of this mucous lining in three cases. 5. Succulent swelling and extravasation of blood in a circumscribed spot of the mastoid cells in one case. 6. Extravasation of blood in the drumhead in two cases. 7. Perforation of the drumhead in two cases. 8. Nothing abnormal in two cases. Bezold considers that the purulent otitis media met with in typhoid fever may arise in three ways: 1. The direct propagation of the inflammation of the naso-pharynx through the Eustachian tube. 2. The introduction of septic material from the naso-pharynx directly into the middle ear. 3. Emboli of the vessels of the mucous membrane of the middle ear, from endocarditis and thrombus of the left side of the heart, or from purulent deposits at the periphery.

Clonic Spasm of the Levator Palati which produced a Rhythmic Ticking Noise.—Williams ("Zeitsch. f. Ohrenheilk.") reports a rare case of this kind in a well-developed girl of twelve years of age, in whom the affection was in all probability connected with chorea. The noise was probably produced by the vacuum which was caused at the moment when the upper surface of the velum separated from the roof of the naso-pharynx, with which it was brought in contact by spasmodic contraction. Williams had an opportunity to watch the velum during an attack of acute amygdalitis, and found that the ticking noise was absent, although the spasm of the levator was still present.

Miscellany.

The International Medical Congress.—The "Medical News" publishes the following letter from Sir James Paget, dated London, July 22, 1885:

"Dear Dr. Hays: I am very sorry to learn from some of your journals, as well as from letters which I have received, that there are serious differences of opinion among the members of our profession in your country as to the arrangements to be made for the International Medical Congress which it is proposed to hold in Washington in 1887. The deep interest which I feel in the Congress makes me venture to write to you in the hope of helping toward a right decision of some of the questions in dispute, and chiefly by stating what I believe to have been the custom at former meetings.

"I believe that a principal question relates to the authority, if any,

which was given by the Congress at Copenhagen in 1884 to the gentlemen who conveyed the invitation that the next meeting should be held in the United States of America.

"I believe that it has never been considered that the members at one Congress should give any formal authority for any part of the organization of the next. At each meeting some place has been named at which it was deemed desirable that the next should be held; and at the same time, or soon afterward, some persons of high repute in that place have been asked to take such steps as they might deem necessary or most likely to promote a successful meeting.

"Thus, after the Congress at Amsterdam in 1879, the president, Prof. Donders, wrote, in the first instance to Sir Joseph Lister and Sir William Bowman, and by them, and those whom they asked to act with them, the first and all the principal subsequent measures were adopted for the promotion of the meeting in London. Sir Risdon Bennett, the chairman of the Executive Committee, communicated to Prof. Hannover and Prof. Panum, of Copenhagen, the desire that the next meeting might be in one of the chief cities of Scandinavia; and those gentlemen, and others acting with them, began and had the principal part in all the arrangements for the Congress in Copenhagen.

"I fully believe that it was understood at Copenhagen that the same course would be pursued in the organization of the Congress to be held at Washington. I was at the general meeting at which, after some discussion, the majority of the members present expressed the wish that the next Congress should be in the United States; and I have no doubt that it was expected that the distingnished American gentlemen there present would obtain the co-operation of the most eminent of their professional brethren, and would, with them, make all the arrangements which they should deem best.

"Certainly it was not supposed that the Congress would be regulated, with any degree of exclusiveness, by the members of one medical association, however numerous; and I think it quite as certain that, if this had been thought possible, the proposal that the next meeting should be held in the United States would not have been adopted.

"I am sorry, also, to feel sure that if the Congress be not supported by the eminent men who have now declared that they will take no part in it, the members of the profession in this country who will attend it will be very few. And in this opinion, as well as in all that I have written here, I have the concurrence of several of the most influential of the London Congress with whom, before this writing, I consulted."

Editorially, the "News" says:

"We invite careful attention to a letter appearing in another column, which has been received from Sir James Paget, who, as the immediate predecessor of the lamented Panum in the presidency of the Congress, and as a member of the existing Executive Committee, speaks in reference to the organization of the next Congress with the highest authority. This letter commends itself to the thoughtful consideration of every physician who has the true interest of the American profession at heart, and it will give light to some who desired more authoritative information than they have yet possessed to guide correctly their future course of action.

"It has been asserted by the editors of one or two medical journals that the Executive Committee of the last International Medical Congress no longer exists, that therefore the Congress must meet next in this country, and hence that the American Medical Association plan must be adopted and supported. We have now information from members of the Executive Committee of the Copenhagen Congress that that committee is considered to be still in existence, that it still has work to do, and that it will by no means hesitate to assume the responsibility of ordering that the Congress shall meet in Europe instead of this country in 1887, in case it considers that such change of place of meeting would be for the interests of the Congress. And, if it does issue such a notice, there can be no doubt that it will be obeyed.

"Of this committee Sir James Paget is one of the most prominent and influential members, and hence his opinion demands the most serious consideration. This opinion is clear and straightforward. '*Certainly it was not expected that the Congress would be regulated with any degree of exclusiveness by the members of one medical association, however numerous, and I think it quite as certain that, if this had been thought possible, the proposal that the next meeting should be held in the United States would not have been adopted.* I am sorry, also, to feel sure that, if the Congress be not supported by the eminent men who have now declared that they will take no part in it, the members of the profession in this country who will attend it will be very few.'

"We consider it as now certain that the European members of the Congress have, through their Executive Committee, the power to prevent any material interference with the organization and work of the Congress itself, but, while this does away with our fears lest the progress and usefulness of these great international scientific gatherings should be checked by the action in this country, it increases our anxiety as to the effect of this discord upon our reputation abroad, and on our associations at home.

"The action of the original committee—of the American Medical Association—and of the new committee, is now generally understood; and there does not seem to be much use in further comment and criticism upon what is past. The important question now is as to the future. Is there any way by which the impending disgrace can be averted? If there is, it must be such as will induce those who have withdrawn from the organization to return and co-operate heartily. To the best of our knowledge and belief, derived from an extensive correspondence and from personal interviews, there is but one way to do this, viz., by dropping the code question entirely, confirming all the appointments of the original committee, and leaving to the enlarged committee which it created, including the presidents of the sections, the work of making additional appointments, completing the organization, and carrying out the work to its completion. If this be done, we believe that questions of appointments, etc., will be settled to general satisfaction, and that, although the difficulties of the work will be greatly increased, the Congress will be, what we all desire it should be, a great success.

"If this be not done, we do not believe that the Congress will meet in this country in 1887."

The "Boston Medical and Surgical Journal" says:

"It has been evident for some time that the prospect for a successful international congress in this country was very small. It is impossible to expect men of scientific attainments to cross the water to take part in a congress about which there is so much misunderstanding as in the present instance. It is exceedingly unpleasant to accept hospitalities in a house whose inmates are unable to agree as to the manner in which such hospitality shall be shown.

"We are permitted to-day to print a letter from a medical gentleman, well known on this side of the water, which expresses the attitude which men, interested in the science and not at all in the politics of medicine, must necessarily take. The letter is addressed to Dr. J. Collins Warren, and is as follows:

"'London, 13 Harley Street, *July 25, 1885.*

"'My Dear Collins Warren: I have seen in medical papers, and heard through private sources, that a serious disagreement has occurred in respect to the organization of the ensuing International Congress in Washington. A few of those who had been concerned in organizing the London Congress recently met to talk the matter over, for we feel that any failure which might attend the Congress in the United States would be little short of a professional disaster. I do not myself think, and most here would share my opinion, that a congress from whose ranks some of your best physicians and surgeons have determined to withdraw, and whose members are to be further restricted to such as belong, either directly or by affiliation, to one medical body in America, would be likely to be attended by many colleagues from this country.

"'Speaking from personal knowledge, an international congress can not be a success unless taken up in the warmest and most self-sacrificing manner by all the principal men in the country where it is to be held. I was present at the meeting in Copenhagen, where the invitation to meet in America in 1887 was given, and after some discussion accepted. I am sure it was present to the mind of every one there that the invitation was one from the profession of America, and not from any section of it, or any particular medical society in it. Otherwise, I I feel pretty certain Prof. Virchow's invitation to meet on the next occasion in Berlin would have been accepted.

"'Even now it would appear to me wiser to have that invitation renewed, or to meet in some other place, than to have a meeting in America, from which, so far as we may at present judge, many of the chief men on both sides of the Atlantic would absent themselves. You are at liberty to use this letter as you deem fit.

"'Yours very faithfully,

"'William MacCormack.'

"It is not easy to see how the matter can be remedied so as to counteract the disagreeable impression already made upon foreigners. What the committee may be able to accomplish at its extra meeting in September can only be conjectured, but we are very skeptical as to their power to accomplish any good results. Certainly nothing can be expected from men who consider the numerous resignations that have taken place as manifestations of a conspiracy, or as part of a game of bluff. We trust the editor of the 'Journal of the American Medical Association' will be able to comprehend, at least, that the opinion represented by the above letter is not the expression of those who have 'deliberately undertaken to obstruct the work of organization.'"

The "Progrès médical" says: "We learn by the 'Medical Times' that the organization of the International Medical Congress at Washington is meeting with certain difficulties among our *confrères* beyond the sea. The American Medical Association disapproves of the acts of the committee named at Copenhagen, although the latter had joined to itself a great number of members of the association. It preferred to replace the committee by another made up wholly of its own members. It would be ungracious in us to criticise the honorable medical association of the United States in any way, but it is incontestable that this way of acting is contrary to the usage followed by the International Medical Congress thus far, and, as the 'Medical Times' very justly says, it involves great risk of compromising the success of these international reunions for ever. What is none the less certain and none the less grave is, that thus many of the American members who are held in the highest esteem here, and enjoy the deepest sympathy, would be alienated from the Congress. However attractive it would be for us to extend the circle of our acquaintance and to contract new relations, we should be quite as well pleased to see again those whose names have long been known to us, and whom we are proud to call our friends. There is no doubt that any indignity put upon them will considerably chill the zeal of their Old-World colleagues in trusting themselves to the uncertain waves of the ocean."

The "Journal of the American Medical Association" says:

"Evidences are not wanting that the principal performers in the grand comic play of 'Much Ado about Nothing,' which was commenced so brilliantly on the 29th of June by twenty-eight prominent members of the profession in Philadelphia, are becoming weary of their work. Some who were induced to join in the play from the first impulse have already withdrawn, and others are evidently preparing to follow.

"Dr. John H. Packard, of Philadelphia, who was appointed secretary-general of the Congress by the Committee of Arrangements at the meeting in Chicago, and whose name was published as one of the twenty-eight who declined to accept any place in the revised organization, has recently withdrawn his declination and accepted the position. As an offset to the other twenty-seven who started the scheme of obstruction and factious opposition in that city, we have the names of seventy prominent members of the profession in the same city who have freely indorsed the action of the American Medical Association, and pledged their support to the organization of the International Medical Congress of 1887. Among them are the names of teachers and authors as eminent and as well known, both in this country and in Europe, as any of those who so hastily declined. To the same indorsement and pledge are appended the names of several hundred prominent and well-known members of the profession in other parts of the State of Pennsylvania.

"For further evidence of public sentiment in the same direction, the reader is referred to the resolutions in the present number of the journal, passed by a joint meeting of the Northeastern and Northwestern Ohio Medical Societies, which embrace the profession in about forty counties of that State.

"The idea that the Committee of Arrangements will not be able to complete the work of preliminary organization at its coming meeting on September 3d, or that the vacancies in the several sections can not be filled with men of the highest standing and ability, is simply absurd. And, if the changes are made in the rules that were indicated in the journal of August 8th, there will not be left the vestige of a foundation on which opposition can rest, except that afforded by personal prejudice alone."

The British Medical Association and the American Medical Association compared.—"A statement was made in a recent issue of this journal," says the "Maryland Medical Journal," "that the profession in the United States greatly needed a national scientific association that was capable of meeting all the requirements of a vigorous and intelligent scientific organization.

"For some years past the American Medical Association has attempted to represent the interest of scientific medicine in this country. Quite recently the profession has been made aware of the fact that the American Medical Association is totally incapable of dealing with serious and important medical interests. Whatever value it may have to the medical profession, it is a serious fact that interests of the profession are not subserved by the association in a manner to give entire satisfaction. There are serious defects somewhere in its organization and conduct, and, unless these are plucked out, the association will remain a crippled and feeble scientific organization. The faults which exist in the plan and government of the association must, in our judgment, be corrected before it can take a healthy, vigorous, and intelligent grasp upon the profession, and before it can rise to the highest aims and purposes of a national medical organization. It is not our purpose to suggest remedies for the ill-health of the association, but we propose to show by way of comparison that the association is in an unhealthy physical and mental condition. We will permit some of our exchanges to make a diagnosis of the pathological condition which is undermining the vitality of the association and to suggest the appropriate treatment.

"We have before us the Annual Report of the Council of the British Medical Association, which was presented to this body at its fifty-third annual meeting, held July 28th, 29th, 30th, and 31st. From this report we are able to present a number of useful and suggestive facts relative to the highly prosperous and progressive condition of the British Medical Association, a scientific body which bears pretty much the same relations, ostensibly, to the profession in Great Britain that the American Medical Association claims to do to the profession of the United States.

"This report says that on July 1, 1884, the membership of this association numbered 10,826; of these, 123 have since died, and 162 have resigned; 708 members have been elected during the year, leaving a total of 11,249 members on the roll of the association on June 16, 1885. This report also states that the revenue of the association for the year ending December 31, 1884, was £22,256 and the surplus after paying expenses was £2,319. The total invested funds of the association, exclusive of trust funds, amounted to £19,541. The association owns and publishes the "British Medical Journal," a publication which enjoys not only a high reputation at home, but throughout the world. Apart from the valuable work the association journal is doing for the profession in Great Britain, the association expends a large sum of money each year in promoting original research and in advancing scientific medicine.

"The association has organized various branches in different sections of Great Britain, which add largely to its efficiency and prosperity. The various committees appointed by the association have charge of all questions which affect public and professional interests. It is safe to say that no medical organization is doing more to elevate the standard of scientific medicine and to promote the best interests of the medical profession than the one under consideration.

"As we see the machinery of the British Medical Association in operation and observe its movement, we are reminded of the power and effectiveness of thorough organization, and its vast possibilities when guided by intelligence and sound judgment.

"The British Medical Association owes its prosperity to the fact that its whole organization is based upon an active and intelligent principle. It exists for the entire profession in Great Britain, and its con-

duct is regulated by the highest aims and needs of the profession. Men who seek honors at its hands do so in obedience to high principles and motives. The association does not exist to give prominence to men who can only reach prominence through its agency. It is not a political or sectional body that flips about over the country at the bid of a few hospitable members. Its aim and purpose is strictly scientific. Its members take a pride in promoting its best interests from the fact that the association is promoting the very highest professional interests.

"Let us consider, by way of contrast, the American Medical Association.

"This association has been in existence since the year 1847. It has an average membership of less than three thousand. It owns little or no property. It has done but little to promote original research, and it has not been able to grasp hold of the various questions which interest the American profession. The association has a code of ethics, which has probably (?) done more for the profession than anything else, but, apart from this feature of regulating ethical questions, it has nothing to proclaim to the world as worthy of high respect or consideration. The annual meetings of the association may possibly do good in a social and semi-scientific way. These gatherings at times have been enjoyable reunions, and we believe tend to promote good feeling, to create friendship, and to elevate the professional tone. But we ask, Is there not a serious and important work for a national medical association to do? Are there not scientific and professional interests in the United States which can only be promoted by a national association? The medical profession in the United States now numbers between sixty and seventy thousand members—about double that of Great Britain, we believe. Many of these men are practicing medicine in the most ignorant and unscientific manner. The public and the profession is being ignominiously wronged by the herds of quacks that flood our land. With no organized power to deal with the important relations of scientific medicine to society, the medical interests of this country are annually going from bad to worse. We repeat, Shall we have a vigorous, intelligent national medical association, or shall we continue to follow the fortunes of the one which is ill from its own incapacity and sluggishness and which has, of late years, manifested little strength beyond that for log-rolling and wire-pulling for its high honors? Shall the American Medical Association be reorganized and thus be lifted out of the rut of degeneracy into which it has fallen, or will the scientific minds in the profession establish a national association capable of meeting the requirements of an enlightened and scientific body of medical practitioners? These are serious questions for professional consideration at this time. Who will answer them?"

Good Health results from Sanitary Work.—Under this heading, the secretary of the Michigan State Board of Health, Dr. Henry B. Baker, of Lansing, says:

"Sanitary authorities have maintained that the sanitary work which they have recommended to be done as a preparation for cholera—such as preventing and abating nuisances; attending to drains, sewers, privies, and cesspools; cleaning up generally, and unusual carefulness in regard to foods and drinks—would reduce the sickness and deaths from other diseases, even if cholera did not come. The weekly reports for July, 1885, to the Michigan State Board of Health, by physicians in different parts of the State, indicate that this is being realized in Michigan so far as relates to the lessened sickness—it having been lessened from nearly every disease, and greatly lessened from fevers and from diarrhœal and other diseases, believed to be especially influenced by sanitary conditions; and this is true notwithstanding the meteorological conditions in that month were rather more than usually unfavorable to health. It is proper to state, however, that the sickness in any month is influenced by the meteorological conditions in the preceding month, and that the meteorological conditions in June, 1885, were favorable to health.

"Observations in Michigan for many years have shown that in July the meteorological conditions especially unfavorable to health are, high temperature, excessive humidity of the atmosphere, and deficiency of ozone. The bulletin of health in Michigan, July, 1885, says: 'For the month of July, 1885, compared with the average of corresponding months for the seven years 1879–'85, the temperature was slightly higher, the absolute and the relative humidity were more, and the day and the night ozone were less.'

"'Compared with the average for the months of July in the seven years 1879–'85, remittent fever, intermittent fever, dysentery, consumption of lungs, cholera infantum, diarrhœa, cholera morbus, measles, and whooping-cough were less prevalent in July, 1885.'

"A large part of this decrease in sickness has undoubtedly been due to the medical and sanitary journals and the newspapers, which have constantly kept before the people the necessity for sanitary work and the facts as to the spread of cholera in Europe.

"It remains to be seen to what extent efforts for the exclusion of cholera from this country, and the general preparation for cholera by boards of health and the people, shall prove effectual; but, even if cholera shall not be entirely prevented, there will remain the belief that the measures which have so greatly decreased the sickness from other diseases can not but have had their influence in decreasing it; and, if cholera does not occur in this country, it seems quite probable that, by reason of the suffering elsewhere, there may be as many cases of serious sickness prevented in this country as there have been cases of cholera in Europe. But this may not continue without continued vigilance and effort."

Dr. Baker supports his remarks with the following tabular statement:

Health in Michigan in July, 1885, compared with the average in July for the seven years 1879–'85:

Diseases arranged in order of greatest diminution of sickness in July, 1385.	PER CENT. OF REPORTS, STATING PRESENCE OF DISEASE.		Per cent. of reports more (+) or less (−) in July, 1885, than the average for July, 1879–'85.
	In July, 1885.	Average in July, 1879–'85.	
Remittent Fever	30	51	− 21
Dysentery	15	32	− 17
Intermittent Fever	65	82	− 17
Consumption of Lungs	48	63	− 15
Cholera Infantum	20	33	− 13
Diarrhœa	62	74	− 12
Cholera Morbus	39	49	− 10
Measles	8	17	− 9
Whooping-cough	14	22	− 8
Pneumonia	10	16	− 6
Typho-malarial Fever	10	15	− 5
Diphtheria	11	16	− 5
Bronchitis	41	46	− 5
Rheumatism	59	64	− 5
Inflammation of the Kidney	17	21	− 4
Scarlet Fever	11	14	− 3
Typhoid Fever	6	8	− 2
Membranous Croup	1	2	− 1
Small-pox	0	1	− 1
Inflammation of the Bowels	16	17	− 1
Influenza	18	19	− 1
Erysipelas	21	22	− 1
Neuralgia	58	59	− 1
Puerperal Fever	6	6	=
Inflammation of the Brain	6	6	=
Cerebro-spinal Meningitis	8	5	+ 3
Tonsillitis	36	32	+ 4

"It will be seen that there was less sickness than the average for July from nearly every disease reported. From only two, cerebro-spinal meningitis and tonsillitis, was there an increase."

Elastic Electrodes.—It is often convenient to use large surface electrodes, and it is desirable that they be so made as to adapt themselves readily to inequalities of the surface. Zinc, lead, and various other materials have been used for the purpose, and have been found to answer tolerably well, but they are simply flexible, and not elastic; consequently they do not recover their flat shape after being used, and some of them are open to the objection that they are uncomfortable for the patient to lie upon, while in others the metallic portion is quite small in comparison with the extent of sponge attached to them, so that the current is not so diffused as is sometimes desirable. To remedy these defects, Dr. James Craig, of Jersey City, has hit upon the expedient of using electrodes made of woven brass wire nickel-plated.

Dr. Craig has shown us a set of these electrodes, and it is certainly to be said of them that they seem admirably calculated to do away with the objections we have mentioned.

Cholera in India.—Under date of July 6th, the Bombay correspondent of the London "Medical Times and Gazette" says: "I have again to notice a considerable increase of cholera in Quettah and the adjoining districts. The cantonments have had to be evacuated, and the troops placed in tents at a distance from the place. The works on the railway under construction have had to be suspended until the abatement of the disease. The cholera is now raging virulently at Kurrachi. It is all very well for the promulgators of the non-contagion theory to stick blindly to a view which can never hold for a moment where both sides of the question are duly represented. In the case of the Quettah epidemic there is little room for doubt that the cholera was carried *by human intercourse* from Bombay, which now may take rank as an 'endemic area.'"

The New York Post-Graduate Medical School and Hospital.—In the "Announcement," recently issued, we find the following gratifying statement: "The fourth year of instruction begins on September 12, 1885. The faculty have found their new building very well adapted to the purposes of a school for advanced medical instruction, a dispensary, and hospital. This large structure is situated in one of the healthiest locations in the city, very near to Gramercy Park, and accessible to the large hospitals. Since the last announcement, the wards and rooms of the hospital have been constantly occupied by patients, whose cases have been made available for instruction, while the dispensary has furnished ample material in ambulant patients. There are histological and pathological laboratories connected with the school, as well as one for physiological investigations. During the year a large sum of money has been given the hospital by a benevolent lady, through one of the lecturers of the school, for the purpose of fitting up and supporting a ward for the treatment of sick children. It is believed that similar gifts will enable the faculty at no distant day to fully support from endowment funds a large number of beds, so that a hospital sufficient for all purposes of instruction, except in general surgery and medicine, may be found within the walls of the school."

The Various Pharmacopœias.—On the authority of Kobert, "Lyon médical" gives the following statement as to the number of drugs recognized in the various pharmacopœias:

French	2,000
Spanish and Belgian [? each]	1,500
Russian	1,080
Greek and Swiss [? each]	1,040
United States	1,010
British	815
Swedish	740
Danish	720
Dutch	665
German	600
Austrian	560
Hungarian and Roumanian [? each]	545
Norwegian	530

The Failure of the Vivisection Bill in Pennsylvania.—The "Medical and Surgical Reporter," of Philadelphia, says:

"The Pennsylvania branch of the American Society for the Restriction of Vivisection has lately distributed several tracts and pamphlets in pursuit of its aims, and to influence the public in favor of its efforts. One of these is entitled 'Facts in regard to the failure of the bills presented to the Legislature for the restriction of vivisection.' The brunt of this statement bears heavily on Drs. H. C. Wood and S. W. Mitchell. They are accused of having promised the society to support a bill which, before the legislative committee, they threw cold water upon.

"A careful reading of the 'statement of facts'—and we have not sought other sources of information—will easily explain the position assumed by these gentlemen. Both of them, and for that matter all physicians, are perfectly willing to support a bill restricting vivisection, provided that, a sensible restriction being admitted, the matter will end there, and no further agitation be begun to do away with it altogether. This was the assurance Dr. Mitchell asked, and that the society did not give. They say their committee was not prepared for the question. We ask, Are they prepared now to give an affirmative reply? We have good reason to know they are not. We have excellent authority for saying that the society intends to continue to agitate and appeal, with the hope of abolishing vivisection entirely. This is evident from their pamphlets, as well as their spoken utterances. Their name, 'For restricting vivisection,' is merely a disguise for their real intentions, and not an honest intimation of their final purpose.

"Such being the case, all must approve of the action of the gentlemen named. They did not intend to commit themselves to the projects of a society which declined to express its real designs, and merely wanted to use them as stepping-stones to results which they condemned.

"While disapproving of causing unnecessary pain to any organic creature, we acknowledge but little sympathy with the sentimental affection for brutes now so prevalent. To a well-ordered mind, no sight is less pleasing than to see a woman fondling and kissing some ugly cur of high degree, when her own children are lacking in physical or moral education, or when she is taking nightly precautions not to have children—and this sight is no rare one in our civilization."

THERAPEUTICAL NOTES.

Sulphide of Carbon.—In a recent number of the "Progrès médical" we find a *résumé* of a graduating thesis on this substance, by M. Sapelier. The writer insists on the importance of distinguishing between the commercial article and pure sulphide of carbon, the former being contaminated with sulphide of hydrogen in varying proportions, to the action of which the poisoning of workmen engaged in the manufacture is attributable. Sulphide of carbon is available in medicine as a rapid and energetic revulsive, and, in solution, it is one of the best of intestinal antiseptics, especially in typhoid fever. The same journal gives the substance of a recent communication on the same subject, made before the *Académie de médecine*, by M. Dujardin-Beaumetz, who gives the following formula for a solution for internal use (*eau sulfocarbonée*):

Sulphide of carbon	375 grains;
Essence of mint	50 drops;
Water	16 ounces.

This is to be shaken and allowed to settle. From four to ten dessertspoonfuls of the solution may be given daily.

Nitro-glycerin in the Treatment of Interstitial Nephritis.—As opposed to the theory that a sufficient urinary excretion is kept up by the increased arterial pressure consequent upon the cardiac hypertrophy, Rossbach ("Berl. klin. Woch."; "Union méd.") adduces the results which he produced with nitro-glycerin in three cases of contracted kidney, in which the patients had increased arterial tension, albuminurie retinitis, uræmic asthma, and the general ill-health characteristic of generalized and advanced arterial sclerosis. In spite of the lowered tension produced by the drug, the uræmic symptoms were diminished, the urine was increased in amount, the albuminuria became less evident, and the retinitis grew less marked and less troublesome.

An Ointment for Intertrigo.—In a recent discussion at the Paris *Société de thérapeutique*, M. Campardon ("Progr. méd.") stated that an ointment made after the following formula had answered well in his experience:

Borax	30 grain;
Oil of wintergreen	10 drops;
Vaseline	7½ drachms.

A Calmative for Teething Children.—M. Vigier ("Gaz. hebdom. de méd. et de chir.") gives the following formula of a *sirop de dentition:*

Hydrochlorate of cocaine	1½ grain:
Tincture of saffron	10 drops;
Syrup	2½ drachms.

The painful gums are to be gently rubbed with this syrup several times a day.

Original Communications.

RHACHITIS.*

BY HENRY N. READ, M. D.,
BROOKLYN.

RHACHITIS, though a very common and important disease of childhood, has received, in this country at least, much less attention than it merits. Since I have been a member of this society I can not recall a discussion of or paper upon this disease. Occasionally, in the pathological societies of this city or New York specimens of this disease are exhibited, but they are usually confined to the grosser and later lesions of the disease. My object is, in this communication, to call attention to the earlier manifestations of rhachitis—those manifestations which are not infrequently overlooked in the treatment of cases, but which, unless recognized and treated, will often render nugatory all remedial measures adopted. One can not but be struck at the large number of fatal cases of the simple catarrhal diseases when looking over the mortuary reports of these two cities. In the cold months bronchitis and the warm months diarrhœa appear with great frequency as the causes of death in the statistics. These disorders, if simple and occurring in healthy children, do not excite alarm, and are very manageable. The mortality from them, therefore, means something more than appears on the faces of the death certificates; and, on examination, rhachitis will be often found as the silent factor in the production of the fatal result. A somewhat extended experience in the department of pædiatrics, both as a practitioner and as physician to public institutions in this city, has established the opinion in my mind that rhachitis is second only to tuberculosis, and indeed not very far second to this disease as a general or constitutional disorder of childhood—far more so, I believe, than either struma, syphilis, or simple atrophy. Rhachitis is never a congenital disorder, nor, strictly speaking, even a diathetic disease, if by diathesis we mean a *constitutional predisposition* to the development of a certain affection. It is rather a developmental disorder brought about by exterior surroundings, though, of course, it may be developed in those children who have an inherited tendency to other diseases. Its great frequency, its vicious modification of unimportant maladies, and its injurious tendency if not recognized and treated, render this affection, therefore, of peculiar interest to the practitioner. Rhachitis may be defined, then, as "a general disease," not hereditary or diathetic, "affecting the nutrition of the whole body; arresting natural growth and development; perverting and delaying ossification; retarding dentition; causing the bones to become soft and to yield to pressure, and the muscles and ligaments to waste; and in many cases producing alteration of the brain, liver, spleen, and lymphatic glands." To treat exhaustively of the ætiology and pathology of rhachitis would require an article of greater length than can be condensed into the limits of one of several papers of an evening, and I shall therefore briefly outline this portion of my subject, as I wish to speak principally of the earlier clinical symptoms of the disease—a recognition of which is of great importance. Rhachitis is produced by one, or the conjunction of several agencies. It is a direct consequence of malnutrition, and its causes must therefore be sought for in all the numerous agencies which injure the nutrition of the developing child. The prime ones are those which fall under the heads of improper food and defective hygiene. Insufficient and especially *unsuitable* food, and want of fresh air and *sunlight*, are the two causes to which rickets may be charged. The first two, by starving the body, and the last two, by rendering assimilation defective, produce, either together or alone, that condition which we know as the rhachitic condition. The majority of cases are found, of course, among the poor, but the disease is by no means confined to this class. A very considerable number of cases occur in the ranks of those denominated "independent," and not infrequently does it occur among the very wealthy and luxurious. Among the poor, if I should designate any *one cause* which I consider more potent than another in the production of rickets, I should undoubtedly indicate *want of sunlight*. Among the rich, or those in comfortable circumstances, *improper food* takes the first place. When the nursing child is weaned is the time usually for the commencement of rhachitis. The mother's milk is replaced by the starchy foods in such kind or quantity as to impair assimilation, and the morbid process is set up. Rhachitis may also be developed by too long a continuance of nursing, the mother's milk being, from age or impoverishment, unsuitable to the growing wants of the system. Rhachitic children from this cause may often be noticed where mothers who have borne children rapidly continue to nurse the youngest for a long time after the proper age for weaning has arrived, to prevent a new pregnancy. The location of the habitation, I have frequently noticed, produces a marked effect on the development of rhachitis. The basements of tenement-houses and the rooms on the northern side of a house will produce more rhachitic children, other things being equal, than rooms more favorably situated. The age at which rhachitis is produced must be noticed. It is seldom seen under one year of age, and almost never under six months. The cases of so-called "congenital rhachitis" are not true cases of the disease. Neither is there any connection between rhachitis and congenital syphilis, though Parrot has labored with no little ingenuity to show them to be identical. The period of its inception, therefore, shows a close connection with weaning, and naturally with the ingestion of unsuitable food. The tubercular diathesis, strange to say, seems to wield a protective influence against rhachitis. This is probably explained by the fact that children who are born tuberculous will, from the causes which develop rhachitis—viz., bad air and food—die of tubercular phthisis ere rhachitis can be set up. The pathology of rhachitis must be passed over briefly. The first and chief pathological change in this disease is the generation of lactic acid in the deranged digestive organs of children. Heitzman as-

* Read before the Medical Society of the County of Kings, June 16, 1885.

serts that this acid excites irritation in the osteoplastic tissue, and at the same time dissolves and helps to eliminate the calcareous tissue already formed. If, in addition, the food given the child be deficient in the lime salts, the rhachitic process, it is obvious, is hastened and made sure. The brunt of the disease falls upon the bony structures, though nearly all the tissues of the body are more or less affected, and some of them early in the disease. The bones are exceptionally rich in water, fat, and carbonic acid, but deficient in the lime salts—the normal proportions of these ingredients being reversed from 63 to 65 per cent. to 37 to 35 respectively, inverted, as it were, from the healthy standard. The bones become then of less specific gravity, and are softer and more easily bent or broken. The epiphyseal ends of bones are always enlarged, and the periosteum thickened, inflamed, very vascular, and with difficulty detached from the bony structure underneath. The microscopical changes in the osseous tissues consist, according to Kölliker, Virchow, and Müller, of a remarkable extension of the spongy layer, an abundant proliferation of the cartilage cells in the primary cartilage layer, in deficiency or complete absence of calcification of the osseous and cartilaginous substance, in disproportionate extension of the medullary cavity, and delayed alteration of the cartilage tissue. The formation of bone out of the cartilaginous tissue takes place irregularly, and the *zone of proliferation*, as the vertical columns of the corpuscular elements which are forming to receive the deposit of earthy salts are called, is not separated from the *zone of calcification*—the layer which has already received the deposit—by a well-marked line of demarkation as in healthy bone. The two zones are greatly thickened and ossification takes place irregularly, little spiculæ and islets of bone being found in the proliferating layer, and incomplete ossification in the calcified layer. According to a late observer, Strelzoff, the osseous trabeculæ, from this irregularity of formation, have an abnormal arrangement, and are disposed *radially* instead of *concentrically*. This arrangement is supposed to be an additional cause of weakness, therefore, in the bone, and to render it still less capable of resisting pressure or strain. The muscles in this disease are small, flabby, soft, and pale, the striæ being very indistinct. The brain is small and shrunken, and fluid is usually exuded to fill up the cavity of the skull, which is generally enlarged. For the reasons before mentioned, the pathology of the internal organs must be omitted, as well as those very interesting morbid changes which take place in rhachitis from mere mechanical causes, such as pulmonary collapse and emphysema, hepatic engorgement and fatty degeneration, etc. To speak briefly of the *prognosis* in rhachitis, before passing on to the symptoms, it may be stated to be good, provided the disease is recognized early. In none of the constitutional diseases, except the congenital syphilis of infants, do we get better results from proper treatment than in rickets; but to be managed successfully it must be recognized in the early stages. It is rarely a primary cause of death, but as a secondary cause it is second to few of the diathetic diseases. Vast numbers of deaths from bronchitis—simple and capillary—pulmonary collapse, diarrhœa, laryngismus stridulus and other disorders, are really due to rhachitis. The symptoms of rickets can be readily recognized, but are often in my experience overlooked or misinterpreted. The first symptoms are the sweating about the head, the feverishness at night, the tendency to kick off the covers on the part of the child, the indigestion, grinding of the teeth, diarrhœa alternating with constipation, pasty, dull complexion, circles under the eyes, and tumid belly. These cases are nearly always treated for worms before the real trouble is suspected. Next in order the child becomes fretful and cross, and cries if moved or dandled, evidently suffering pain from handling. He sits quiet and makes no attempt to move; will play with toys put into his hand, but makes no effort to go after them. The digestive derangements at first are limited to a lessening of the digestive powers; indeed, the symptoms pathognomonic of rickets are always preceded by those general symptoms which indicate simply impaired nutrition. Such have been mentioned. The stools are large, pasty in consistence, offensive in odor, and contain large quantities of undigested materials, as well as slime and greenish masses. Flatulence is common. The urine is very acid and causes pain in voiding. The sweating, slight at first, now becomes very profuse, and occurs principally during sleep. Beads of moisture stand on the brow of the child, and the pillow is usually wet in the morning. Following this commence the changes in the bones characteristic of the disease. The ends of the bones are enlarged and the shafts thickened. All the joints are notably increased in size, the wrists and ankles being peculiarly noticeable. Great tenderness is manifested not only in the bones and joints, but in the muscles also. The bones of the upper extremities are affected first, and first of these usually are the ribs. The enlargement of the sternal ends of the ribs is one of the most commonly recognized symptoms of rhachitis, and gives to the chest the well-known *beaded* appearance, as it is called. The whole thorax is altered later, the sternum being carried forward, and the ribs are driven in laterally in expiration, producing the deformity known as the "pigeon breast." It is in the skull, however, that the most important bone changes take place—most important because I believe that rhachitis may be recognized, or at least suspected, before other symptoms have become marked, from the appearance of the skull alone. *The skull* in the large majority of rickety children *is too large*. The method of obtaining the measurement of children's heads I published some years ago in "The Pathologist." It is easily done and is quite accurate, and, at the risk of repetition, I will briefly describe the method here. The plan follows the rules laid down by Dr. Samuel Gee, of London, in an article on the "Shape of the Head looked at in a Medical Point of View," published in the "St. Bartholomew's Hospital Reports for the Year 1871." Dr. Gee states the rule to be that "in the head of the healthy child the ratio between the *greatest antero-posterior* diameter of the cranium and the *base-line* is as six to five." In other words, the cranium is about one fifth larger than its base. This rule I have tested for some years, and have measured many hundred heads according to it. I have found it remarkably accurate. Two principal varieties of large heads are met with in children—

the *cyclocephalæ*, or round heads, and the *dolichocephalæ*, or long heads. The first, or cyclocephalic head, almost always belongs to the *tubercular* child, and the second, or dolichocephalic head, almost as invariably belongs to the rhachitic child. This fact, it will be readily seen, is of great use. A child with a dolichocephalic head may, *prima facie*, be suspected of rickets; if, in addition, there be delayed dentition, there are ten chances to one that rhachitis is present. In examining the heads of children it is important to remember two things: first, that *shape*, not *size*, of the head is of most value; second, that long heads mean increase of the solid contents of the skull, and that round heads mean increase of the liquid contents of the skull. To ascertain the base-line and greatest antero-posterior diameters of the cranium, only a pair of calipers and a tape-line are necessary. The procedure is as follows: One leg of the calipers is placed upon the glabella, the other just beneath the tuber occipitale; the calipers is then removed carefully without displacing the legs, and the distance between the two points of the instrument is carefully noted. This is roughly the base-line of the skull. One leg of the instrument is now placed on the most prominent portion of the frontal bone, and the other leg upon the most prominent part of the occiput; the calipers then being removed, the distance between the two points will give us the greatest antero-posterior length of the skull. These two measurements must be in the proportion of five to six to each other; a very simple sum in proportion will, therefore, enable us to tell whether the head is abnormal or not. The following case may serve as an instance: C. L., a large, fat, dull-looking child, was placed in the Sheltering Arms Nursery. She was twenty-two months old, and had been nursed till her admission. Had delayed dentition, and some digestive disorder, not very great. Seemed in good health. Head measurements gave *base-line* $4\frac{3}{8}$ inches, and greatest length of cranium $6\frac{1}{4}$ inches. Applying the rule given, we find that in the normal head we have $5 : 6 :: 4\frac{3}{8}$ (base of patient) $: 5\frac{1}{4}$. Therefore the child's greatest length of skull should have been $5\frac{1}{4}$ inches, whereas it was $6\frac{1}{4}$—an inch larger than normal. She was pronounced rhachitic, and placed on appropriate treatment She got along well till about a month after admission, when she died of capillary bronchitis after less than twenty-four hours' sickness. The autopsy showed rhachitis existing, but apparently improving.

The symptom of craniotabes, described first by Elsässer, is found in a certain number of cases. It is, however, rare in my experience, though it seems to be frequent in Europe. It is a lesion of the bones of the skull, generally the occiput, and is detected by pressing with the tips of the fingers firmly on the head. If the condition be present, the bones yield slightly under the finger-tips, a small indentation being made. The spots where this change of bone takes place are small, and are due to imperfect ossification. The symptom may be met with as early as the sixth month, according to some authorities.

The last symptom which I shall notice is the delayed dentition. In a large majority of cases the evolution of the teeth is retarded till the tenth, twelfth, or fifteenth month, and after the teeth are cut they quickly blacken and crumble away. This symptom, however, unless accompanied by others, is of no great value, as delayed dentition depends on many other causes than rhachitis. The length to which this article has already extended itself will prevent me from dwelling on the treatment of rhachitis in detail. I shall, therefore, only outline briefly the management of this disease which I have found most successful. The treatment may be divided into the hygienic and the medical. Under the first head comes the supervision of the child's whole life. If the patient be at the breast, it should be immediately weaned if possible. The food should be personally inspected, both as to quality, quantity, and times of administration, no hearsay evidence being admitted; nor should the attendant confine himself to the giving of directions alone, but should see that they are properly carried out. If the starchy foods are given in excess, this should be corrected; if the variety of starch given be one difficult of digestion, another should be substituted for it, or a small quantity of malt added to the food, as is done in the Mellin's food. Finely chopped beef, fresh eggs, and peptonized milk should be added in suitable quantities to the child's diet. Saccharine matters should, as a rule, be avoided, as large quantities of sugar encourage fermentation and acidity and provoke diarrhœa, to which the patient is already too liable. Mutton-, chicken-, or clam-broth, with stale bread and fresh butter, may be allowed. The alvine discharges should be carefully inspected, and diarrhœa corrected by a small quantity of the bicarbonate of soda, administered in peppermint-water with a few drops of spirits of chloroform. This will also relieve the flatulency which is apt to occur. The clothing of the patient should receive the utmost care. Flannel should be worn next the skin winter and summer; in the latter a broad flannel bandage over the bowels is usually sufficient. The child should be bathed twice a day, and the body rubbed well with cod-liver or olive oil. The profuse perspiration may be checked by applying the tincture of belladonna—a teaspoonful to half a pint of water—several times daily to the skin. The patient must be taken into the open air regularly twice daily, no matter what the season is, provided it does not storm. It is far better, in my opinion, to take the chances of the child's taking cold than of his staying in-doors; very young or weakly children in cold weather can be wrapped up warmly and a bottle of hot water or a hot brick can be placed in the carriage with them, and they can be trundled about for an hour or so with safety on the score of getting cold. In the case of those who live in basements or northernly exposed rooms a change of residence is desirable. After indigestion has been corrected and the stomach gotten into good condition we may commence the exhibition of therapeutical agents. Cod-liver oil and the ferruginous tonics are the chief remedies to be employed. It is well to begin with a small dose of the oil, fifteen to twenty minims, as the power of digesting the fats is small in rickety children. This can be gradually increased. Iron, quinine, and the bitter tonics may be employed afterward as occasion demands.

ECLAMPSIA IN EARLY LIFE.*

By JOSEPH HEALY, M. D.,
BROOKLYN.

Diseases of children present peculiar difficulties to one who has studied the phenomena of disease in the adult. This arises from the fact that in the nervous system of the child the spinal predominates over the cerebral; and this is as it should be, since the different organs of the animal economy necessary to furnish nutrition for bodily growth and development are in active progress long before the infant formulates ideas, or really interprets fully the sounds that reach the ear, or the visions upon the retina.

The intense excitability of the nervous system in the healthy and robust child which gives to a trivial ailment symptoms of a grave disorder under the influence of enfeebling and chronic diseases, becomes diminished and disappears, so that we find a condition exactly opposite. Now, the nervous system has become insensible to the irritations of local ailments, and we search in vain for general manifestations. Ofttimes the local symptoms are so slight and obscure that they may easily escape our notice.

But, although a mere functional derangement may for a time excite such a tumult of disturbance in the general system as does a severe organic lesion, we must treat these general manifestations with a very careful appreciation of the susceptibility of the little organism to the shock.

And, on the other hand, we must consider the vital import of sufficient strength being furnished from without to the enfeebled one, who can not bespeak to the professional eye the expected manifestations of diseased action. Hence it behooves every person, who hopes to successfully treat the little ones in their many and varied ailments, to be cognizant of the dissimilarity of diseased action in the adult to the ever-changing and often contradictory phenomena of disease in children.

Let us consider for a few moments, and in a not far-extended or minute detail, one of the most common and often the most appalling morbid conditions in early life. I refer to eclampsia, or general convulsions.

The term "convulsions" is applied to different forms of spasmodic disease in which muscular innervation is deranged or perverted so that the movements become irregular and automatic and are no longer controlled by the will.

We may make several classifications of convulsions, according to our estimation regarding their nature or cause. Many of the French writers make three classes—idiopathic, sympathetic, and symptomatic.

The first two are not accompanied by any appreciable lesion of the nervous system, while in the third the convulsions indicate a sign or symptom of some disease of the nervous centers, as meningitis, tubercular disease, hydrocephalus, etc.

With all due respect for the French school, a classification into two varieties seems more reasonable and appropriate—namely, congestive and anæmic. Whatever the exciting cause, all convulsions may be classed under these two heads, and demand, if congestive, one line of treatment; if anæmic, another.

The susceptibility of the sympathetic and spinal nerves of early life to impressions and irritations of trivial character produce in a child of nervous temperament an ever-changing series of convulsions whenever the health becomes even slightly impaired; this susceptibility, as the brain becomes more and more developed and endowed with the control of later years, is gradually diminished and blunted, so that, as the years of infancy are passed, the effervescent display of nervous irritation fades into more stable manifestations of diagnostic value.

Even in the adult, when diseases producing hyperæsthesia of the spinal cord are present, all the varied reflex movements peculiar to the convulsed child appear.

In general, we may say that convulsions rarely prove fatal, yet every one who has practiced medicine has been summoned to his first case of a "baby in a fit." Perhaps his summons has filled him with apprehensions lest it prove his first certificate to sign, and render him open to criticism from the all-knowing neighbors in female attire. Should there be any before me who have not yet been summoned, let me say to him, Fear not, but go, and that, too, as quickly as possible; for, ten chances to one you will find the child first-rate, and hemmed in by ten or a dozen seemingly anxious individuals crowded around the poor unfortunate, absorbing all the oxygen the narrow bedroom may contain. If the convulsions have passed, even now you must do something and impress the bystanders with the importance of your presence. Give every one something to do and an opportunity to show their kindly interest and sympathy, while you see that everything is done to prevent a recurrence of the fit.

Should you find the child in the midst of the attack, act promptly and thoroughly; do nothing blindly, nor order any shot-gun dose to cover every possible cause of the disturbance.

First allay the spasm. Generally the relaxing properties of a hot mustard-bath will prove sufficient, with some pungent application to the nose, or the administration of the bromides, chloral or asafœtida, by the mouth or by enema. But, should the convulsions still continue and be severe, I invariably resort to the inhalation of chloroform and alcohol until the spasm be controlled and inquiries made in search of the cause, when the appropriate treatment may be chosen.

Many suggestions have been made as to the proper mode of treating severe spasms, each of which is claimed to be *the* one to follow. The above has proved adequate in my practice, but I can not but mention the hypodermic injection of chloral and the inhalation of nitrite of amyl with injections of morphia, in hopes that some one before me may have had experience with these agents that may prove of benefit for us to know.

There is no position in which a newly fledged M. D. may be placed, if he be possessed of a clear intellect and well informed and thoroughly disciplined in professional truths, where he may show the staying qualities of his judgment and tact as here, for the eyes of the neighborhood

* Read before the Medical Society of the County of Kings, June 16, 1885.

are upon him, and the verdict to be rendered will mean for him patronage or abuse.

First have confidence in your own ability, then you may inspire confidence in others. But the child still struggles. Let a hot bath be ordered, the room thoroughly ventilated, the pulse examined (if full and bounding, it will suggest congestion; while, if weak and feeble, anæmia or syncope), make inquiries concerning the attack, if this be the first, if the child has eaten anything unusual, if exposed to any malady, what acute specific diseases have been passed. Examine the head, whether cool or hot, the fontanelle protruding or retracted, the eyes congested or natural, the face flushed or pale, the gums red and swollen. Then strip the youngster and see if the legs are drawn up on the belly, the extremities cold or hot, the respiration deep or shallow, the belly tumid or lax.

By observing these different conditions, the line of treatment may be mapped out.

A pulse of 130, with accompanying headache, vomiting, and fever would indicate a digestive disturbance, and, if seen early, an emetic of ipecac, followed by a calomel purgative, will be of service, and later bismuth and soda. A slow and feeble pulse of 40 would suggest the advent of meningitis, where the bromides are of signal value.

If there has been diarrhœa, and the head cool, pulse weak, then a little brandy and water may be given; and even if the child be emaciated from disease, and the head be hot, the pulse rapid but small, we may still rely on brandy.

In some cases we find flatus in the bowels producing convulsions and the belly tumid; here friction with hot mustard-water, together with some carminative, as peppermint, anise, etc., should be given, rubbed up with sugar, and placed well back in the mouth.

As a rule, convulsions at the commencement of fevers do not indicate a grave prognosis, whereas if they occur later in its course they almost always suggest serious apprehensions.

In pertussis and diseases depending on a vitiated condition of the blood, where the convulsions follow closely one upon the other, our prognosis should be guarded.

When the fits are of short duration and moderate in intensity, with a natural, cheerful countenance soon returning, everything may be considered satisfactory; but if long-continued and occurring closely together, with a dull, heavy, anxious expression remaining, the danger is imminent.

Quite often much may be done when the attack is over to prevent a recurrence by avoiding the known causes, and by the soothing effects of the warm baths and bromides in children predisposed to this affliction.

But, notwithstanding the rapid strides in medicine, we may still have prodromata or none; the convulsions may be long or short, slight or severe, partial or general, recurring constantly or at long intervals, all of which points will require careful attention in each individual case, and tax our best endeavors to obviate, until we attain such perfect health that "there shall be no more an infant of days, nor an old man who hath not filled his days," but a blissful euthanasia await us all.

77 Gates Avenue, Brooklyn.

THE SALICYLIC-ACID TREATMENT OF THE INTESTINAL CATARRH OF INFANCY.*

By WILLIAM A. NORTHRIDGE, M. D.,
BROOKLYN.

During the summers of 1882, 1883, and 1884, while physician resident at the Seaside Home for Children, Coney Island, I became greatly impressed with the value of salicylic acid in the treatment of the inflammations of the intestinal canal, so common among young children during "the heated term." I venture this paper with the hope that it will lead many of you to give this remedy a fair trial in this class of diseases. The time is most opportune, as these maladies are now appearing among the little ones; are even now commencing their annual ravages. No effort should be spared to check them, more fatal, as they are, than any one of the contagious diseases so much feared. The importance of the successful treatment of these diseases is brought clearly before us when we examine the vital statistics of any large city and note the large increase of deaths among young children from them during the third quarter of the year. The death-rate in this city for one week of July, 1882, was over 52 per 1,000. Of the 603 deaths for the week, 262, or over two fifths, were from diarrhœal diseases among children under five years of age. Whether the diarrhœa be due to teething, improper food, action of heat on the sympathetic nervous system, or to any or a combination of conditions as exciting causes, there seems to be very little doubt but that the proximate cause is a pathological condition, probably due to microscopic organisms. I will not go further into the ætiology of these diseases, but will at once state that in salicylic acid we have a remedy of great value in their treatment; of course aided by proper nursing, dieting, and hygienic surroundings, without which medication would be valueless. I do not wish to detract from the value of opium in these diseases, cautiously and properly administered; but I do wish to protest against the careless routine use of the drug, because of its tendency to aggravate the passive congestion of the brain and the serous effusion into its membranes, which so often occurs and is so fatal. Salicylic acid is absolutely harmless and safe; children bear it very well. It may be administered to a weak infant in comparatively large doses, say one grain and a half every two hours, without danger. The formula used at the Sanitarium is in the following proportions:

℞ Acidi salicylici..... gr. iij;
Cretæ preparatæ..... gr. ij;
Syrupi simplicis..... ʒ j. M.

This much at a dose to a child of six months or over every two hours. As with other remedial agents, the medicine must be supplemented by proper diet, nursing, and, above all, by removal from the disease-breeding atmosphere of the city to the pure, fresh air of hills or sea-side whenever possible. The patient will begin to improve after the ad-

* Read before the Medical Society of the County of Kings, June 16, 1885.

ministration of a few doses, and in twenty-four hours the case generally will be markedly better. It will be noticed that the passages diminish in frequency, the watery, greenish-yellow stools being replaced by those commencing to have consistency and to assume a more natural color. In severe cases the passages become gradually less frequent. There is rarely a sudden cessation of the diarrhœa. From ten or a dozen movements on the day of beginning treatment, a reduction will be observed on the next day to five or six, with improvement in character. On the following day a further improvement, and so on until one natural passage is obtained. The following cases are from my case-book, and were kept separately from the regular books of the Home. They occurred among children sent to the Home during the summer of 1884. No choice was observed save that the very sick were chosen on their arrival at the Island.

Case I.—June 18th, Edward M., aged six months, sick two weeks. Three large, green passages to-day, containing undigested food and mucus. Child artificially fed; no vomiting; no fever; pulse weak. General condition poor. Ordered diet of boiled milk, lime-water, and arrow-root. Small doses of brandy as stimulant, and mist. salicylic., in 3 ss. doses, every two hours. 19th, child passed good night, is brighter; diarrhœa is less in quantity but continuing. 21st, considerable pain during night; diarrhœa still. 23d, six passages during day, less pain. 25th, baby much better; only one natural movement. 27th, he is much improved; has had no passage since 25th; sleeps well, no pain. 28th, passed good night; had one natural movement; no pain; baby brighter. Medicine withdrawn.

Case II.—July 14th, Edward C., aged seventeen months. Sick seven weeks. Three thin yellow passages to-day; no vomiting; great pain and restlessness at night; breast-fed. Gave mist. salicylic., 3 j doses, every two hours, and also three grains each of chloral hydrate and potassium bromide, with three min. of the compound tincture of ipecac in mixture at night, to relieve pain and restlessness. 15th, mother reports only one passage since yesterday; baby brighter; slept well. 17th, baby had perfectly natural passage; goes home well.

Case III.—July 15th, Robert B., aged eleven months; sick three weeks. Mother says daily average is twelve passages, greenish-yellow and watery in character. No fever. Pulse weak; no vomiting; considerable depression. Child breast-fed. Ordered mist. salicylic., 3 j, every two hours, and child to pavilion. 16th, five passages to-day; child brighter. 17th, one passage. 18th, one movement, natural; no vomiting; sleeps well; medicine withdrawn.

Case IV.—July 21st, J. T., aged nine months; sick two weeks; child teething; vomiting and diarrhœa; fifteen passages to-day; only little at a time, watery and green; fever and pain at night; pulse weak and rapid. Treatment: Gave two minims aromatic ammonia spts. every half-hour as stimulant; quieting mixture at night, and mist. salicylic., in 3 j doses, every two hours. 22d, 8 A. M., passed a poor night, vomiting and diarrhœa still continuing. Ordered treatment to be persevered in, and gave drop-doses of the wine of ipecac every hour, which efficiently controlled the vomiting; 5 P. M., same day, diarrhœa checked. 23d, baby had natural passage; no vomiting; discharged.

Case V.—July 28th, Jane M., aged five years and a half; sick four days; discharges dysenteric in character, containing blood and mucus; straining at stool. Gave patient a mixture containing in each drachm oleum ricini, ℥xv; tr. ipecac. co., ℥ij; vinum ipecac., ℥ij; glycerin, ℥x; mucilage acacia, q. s. 3j. Ordered diet of boiled milk and lime-water, crackers and rice. 29th, no improvement. 30th, none; changed the medicine, giving mist. salicylic., 3 j, every two hours. Improvement marked from soon after the taking of first dose. 31st, child had natural movement. In this case the inflammation was carried further than is usual.

Case VI.—July 29th, Fred. K., aged four years; sick one day. Has had several watery passages; no vomiting; child sleeps well. Gave mist. salicylic. in 3 j doses every two hours, and put child on diet of boiled milk and crackers. July 30th, twenty-four hours after commencing treatment, mother reported child well, and that he had had one natural movement.

Case VII.—July 30th, James C., aged sixteen months; sick four days. Several passages daily; watery, but no green color; vomiting; no fever; sleeps well. Ordered mist. salicylic., 3 j, every three hours, and diet of boiled milk and lime-water. July 31st, not so many movements; much brighter. August 1st, one natural passage; general health much improved. August 2d, discharged cured.

Case VIII.—August, 1884, M. O., aged two years and a half. Mother wrote me from country that child was having from five to nine greenish-yellow passages daily and losing flesh, when she had filled a prescription I had given her, at her request, before she left the city. This was mist. salicylic. She continued that, after a few doses of the medicine, the child commenced to improve and made a rapid recovery.

I might multiply cases from the books of the Home which, through the kindness of my friend Dr. Walker, are at my disposal, but I will refrain. Those which I have read are typical of the action and curative powers of the drug. Of the eight cases reported, all made a good recovery. The average duration of the disease from the giving of the first dose was two days and three quarters. Improvement was marked after the administration of the first few doses in all save Case I; and even in this case the diarrhœa was lessened and ultimately cured. The gradual cessation allows time for the clearing out of any of the products of inflammation or fermentation and the installation of healthy intestinal action.

Its principal modes of action are two:

1. By its anti-fermentative powers.

2. By the alterative medicinal quality inherent in salicylic acid, the salicylates and salicin in common.

1. By its anti-fermentative powers. Kolbe, Sternberg, and others have clearly proved that in salicylic acid we have an anti-putrefactive and anti-fermentative fully equal to carbolic acid. Dr. Sternberg says: "A two-to-four-per-cent. solution of salicylic acid will destroy the vitality of germs, while the presence of a one-quarter-to-one-half-per-cent. solution will prevent their development." Although it has not yet been proved, it seems highly probable that the pathological cause of these inflammations occurring during the summer months is a microscopic organism, which, upon the addition of heat, moisture, and improper food, enters into an active fermentative process. Salicylic acid destroys or inhibits this vegetable organism, upon which the activity of the process depends.

But, says some one, The formula which you have read to us, is there salicylic acid there or a salt? I answer, A salt for the most part; but many particles of free acid are scat-

tered through the mixture. Tested with litmus-paper, it proves neutral, save that the blue litmus is dotted red by particles of free acid. On evaporating and rubbing dry residue on litmus-paper and then wetting the paper, gives an acid reaction. It is the amount of free acid in the mixture which accomplishes the checking of the fermentative process. This it does by its presence at the seat of disease without entering the circulation.

Dr. M. Wagner writes of salicylic acid that "its use is highly promising as a prophylactic in all diseases in which it is believed that the morbid processes are connected with microscopic organisms." He commends its administration in all cases where fermentative changes occur in the alimentary canal, because it may be administered in large doses. Dr. Sternberg writes: "Dr. Keating, of Philadelphia, strongly recommends salicylic acid in the treatment of the acid diarrhœas of children. In this case there can be little doubt that the benefit derived from its use is to be ascribed to its destroying or restraining the vital activity of the living ferment to which the acid fermentation is due."

Its second mode of action is through the blood. We know empirically that in salicylic acid, its salts, and in salicin, we possess medicines which show the containing of an inherent, valuable medicinal quality which we all recognize. We know that they have an alterative effect upon mucous surfaces, and in this fact probably lies an explanation in part of their valuable medicinal action in these diseases. While the healthy bowel is enabled to withstand the presence of a combination of disease-breeding elements, its powers of resistance being at par in consequence of good nerve action and muscular tone, the deterioration of these by the action of heat on the nervous system, the local action of heat, and the imbibition of improper food, reduce this disease-resisting power until out of lowered healthy action come diseased conditions. Further than this we can not go in explanation, for we are in ignorance of the exact mode of action; but the fact of its curative powers is known, and that is the main point. Dr. S. W. Smith, in the "British Medical Journal" for 1884, vol. ii, says: "Willow charcoal (salicin) is of great value in the treatment of diarrhœas." He got the idea from Liverpool sea captains, who use it. "Eminent medical men" whom he consulted thought "that it was of great value in fermentative diarrhœas."

Lawson (Heuseman, note, page 773, *supra*) advises "the use of salicin in six-to-eight-grain doses, thrice daily, in cases of summer diarrhœa resulting from direct action of heat on the nervous system."

Dr. J. B. Mattison, in the "Medical and Surgical Reporter," 1873, advises the use of salicin in cases of diarrhœa resisting other modes of treatment. In all cases where salicin is used, the curative effect is due to its second or alterative medicinal action, and not to any germicidal effect. And now, in conclusion, I will state:

1. That in salicylic acid and its derivatives we have most valuable remedies in the treatment of diarrhœas, and especially in those occurring among children during "the heated term."

2. That its remedial powers are due, first, to the antifermentative powers of the acid acting locally; second, to an alterative effect through the circulation.

3. That it is an efficient substitute for opium in those cases where that drug is contra-indicated.

A CASE OF CÆSAREAN SECTION.*

By CHARLES JEWETT, M. D., Brooklyn,
PROFESSOR OF OBSTETRICS IN THE LONG ISLAND COLLEGE HOSPITAL.

The subject of this report was a woman of about forty-six years, of Irish birth, the mother of ten children—the youngest four years of age, the eldest seventeen. She presented herself in the out-door department of the Long Island College Hospital, at the clinic of Dr. Ernest Palmer, in August, 1883. Dr. Palmer made the diagnosis of pregnancy, with cancer of the cervix. At the seventh month of gestation she entered St. Mary's Hospital, service of Dr. John Byrne. Dr. Byrne proposed amputation of the cervix with the galvano-caustic loop, but the patient declined the operation and left the hospital. December 9, 1883, was admitted to the lying-in department of the Long Island College Hospital. At this time she was weak and anæmic from frequently recurring hæmorrhages, complained of constant pelvic pain, and slept little or none except by the aid of opium. During the waiting period her temperature did not exceed 99° F. The pulse ranged from 94 to 108. The malignant growth now involved the supra-vaginal portion of the cervix, and had commenced to invade the vagina.

Labor-pains began at 11 A. M., December 26th. At 8 P. M., though the pains had become severe, the cervix remained hard and unyielding, barely admitting the finger. The membranes were still intact. Delivery by the natural passages was evidently out of the question. The hospital staff concurring, it was therefore determined to deliver by Cæsarean section. This operation was accordingly done in the presence of the hospital staff and a number of students, Dr. Skene, Dr. Palmer, and Dr. Thallon assisting. The patient had been removed from the maternity to a large, well-ventilated ward, previously disinfected. The abdominal surface in the field of operation was shaved, cleansed with soap and water, and then sponged with ether and with the bichloride solution. When the patient had been placed under ether, the abdominal incision was made through the linea alba, from the umbilicus to a point about two inches above the pubes. A loop of stout rubber tubing was then passed over the uterus, and slipped down behind it till it encircled the cervix. This constrictor was drawn taut enough to control the blood supply, tied in a single knot, and the knot held with a large Péan forceps. The uterus was drawn up into the abdominal wound by traction upon the constricting tube. A very short incision was made in the uterine wall just above the cervix. A few light touches of the knife uncovered the membranes, the muscular tissues retracting from the line of incision. A blunt-pointed bistoury was plunged through the membranes, and the incision rapidly extended upward to a point short of the fundus. The fœtal head was immediately seized with both hands, and the child, a living male of seven pounds and a half, extracted. The uterus instantly contracted, partially expelling the placenta through the wound, and at the same time it was tilted out through the abdominal incision by traction on the constricting tube. The membranes were now carefully detached. The uterine cavity was cleansed and well mopped with a sponge wet with the bichloride solution, and a pencil of iodoform was deposited therein. A utero-vaginal drainage tube, of half-inch perforated rubber tubing, was passed down through the cervix,

* Read before the Brooklyn Pathological Society, February 26, 1885.

terminating below at the vulva and above near the fundus. The uterine wound was closed with deep and superficial sutures of sublimated silk. The deep sutures included the entire thickness of the uterine wall, except the decidua. The superficial sutures were passed as follows: A fold of peritonæum was lifted near the edge of the uterine incision, and parallel with it. The sutures were passed transversely through this fold, and through a similar fold on the opposite side of the wound, thus twice perforating the peritonæum on either side of the incision. On tying the sutures, therefore, two free surfaces of peritonæum were brought in contact. The uterus, which had been drawn up through the abdominal incision on extraction of the fœtus, was now dropped back into the abdominal cavity. But slight oozing of blood occurred into the vagina on removing the constricting tube. The peritonæum was cleansed with hot aseptic sponges, a drachm or two only of fluid being obtained. The abdominal wound was closed with sublimated silk sutures. A long, curved glass drainage-tube was passed down beside the uterus into Douglas's pouch, emerging between the sutures of the abdominal wound. A dressing of sublimated cotton was applied over the abdomen, and marine lint to the vulva. The mouth of the abdominal tube was closed with an antiseptic sponge and rubber tissue in the usual manner. A partial antisepsis was observed throughout, a five-per-cent. solution of carbolic acid being used for instruments and a 1-to-1,000 bichloride solution for other purposes. The uterus, while turned out of the abdomen, was enveloped with towels wrung out of hot disinfectant solution, frequently changed, and the upper portion of the abdominal incision was protected with similar covering to prevent prolapse of intestines. The patient was removed from the table with a pulse of 120. An hour later, pulse 110, temperature 99°. There was little or no vomiting after the anæsthetic. During the first twenty-four hours the patient was comfortable, with the aid of occasional small doses of morphia, upon which she had already become dependent, and recovery seemed probable. At the end of that time the abdominal tube showed accumulation of fluid in the peritoneal cavity, at first clear and subsequently turbid, and the temperature rose to 102·6°. Death followed in forty-five hours after the operation.

A complete autopsy could not be had. The abdominal wound, which had united throughout, except at the seat of the drainage-tube, was reopened, and the uterus and appendages removed. The peritonæum was everywhere injected and flecked with fibrin—diffuse peritonitis. The cavity contained a small accumulation of turbid serum. The uterine incision had united throughout from the decidual to the peritoneal surface. Its muscular structure, but for the malignant growth, was apparently normal. The cavity contained a firm blood-clot, perfectly sweet, and still yielding the odor of iodoform. The peritonitis was thought to be due to an outbreak of erysipelas which had occurred in the general hospital service a few days before the operation, and which had also infected a maternity patient delivered on the same day with the Cæsarean case. The uterus as presented, after lying several months in alcohol, measures in length seven inches on its posterior and seven inches and a half on its anterior surface externally, and in width four inches at the level of the Fallopian tubes. The anterior wall shows the line of incision three inches and a half in length, and securely closed throughout. The direction of the incision is slightly oblique, indicating a slight right obliquity of the uterus at the moment of incision. Twenty deep and superficial sutures can be counted, though there are probably others that have escaped detection.

Remarks.—The statistics of the Cæsarean operation in this country, thanks to the researches of Dr. R. P. Harris, are well-nigh or quite complete. The case now reported, writes Dr. Harris, "is the one hundred and thirty-fourth in the United States. It is the seventh hospital operation, and is the only case of Cæsarean section in this country for cancer of the cervix.

"Of the one hundred and thirty-four women, fifty-three were saved. All the hospital operations were fatal.

"Of seven Cæsarean operations in the United States since April 6, 1884, all were fatal to the mothers, and all but the above case fatal to the children.

"There have been thirty-three operations in the last decade, and twenty-five of them fatal; four of the latter in New York State. Thus the percentage saved has greatly fallen off by the work of ten years, when it should have increased. The great fatality was due mainly to delay, the women being worn out with labor before the operation.

"We now number in North America, the United States included, one hundred and forty-three operations, with sixty women saved.

"In Great Britain, up to May, 1879, there had been one hundred and thirty-two Cæsarean cases, of which twenty-three were saved and one hundred and nine lost.

"Seventy-seven children were saved and fifty-five lost. In twelve of the above cases the operation was done owing to cancer of the cervix. In this number four women and ten children were saved. Thus it will be seen that in England operations for cancer have been much more successful than for any other form of obstruction."

The general record of Cæsarean section, however, does great injustice to its capabilities. Dr. Lusk has shown that the mortality of the Cæsarean operation has been due in a great part to untimely interference and to other causes not inherent in the operation itself. In cases operated early, the statistics of Dufeilhay, cited by Dr. Lusk, show eighty-one per cent. of women saved. In another series of sixty-one operations in rural districts there were more than seventy-eight per cent. of recoveries.

But even the best results thus far obtained are, with very few exceptions, those of the unimproved operation. The recent improvements in the technical methods of operating give promise of still better results. A prominent cause of death after Cæsarean section has been the tendency of the uterine wound to gape, thus permitting the escape of lochia into the peritoneal cavity. Various plans of treating the uterine incision have been proposed with a view to obviate this danger. Among them may be mentioned the methods of Sänger, Kehrer, Pillore, Frank, and Cohnstein, which, with others, will be found fully discussed in a recent paper by Dr. Garrigues.*

The plan pursued in the foregoing case has the advantage of simplicity, and is doubtless no less effectual than the more elaborate method of Sänger.

The constrictor relieves the operation of a formidable complication and adds to the chances of success, for, while hæmorrhage is rarely of itself alone the cause of death, it contributes to the fatal issue.

The large proportion of successes in rural districts

* "Amer. Jour. Obstet.," April, 1883, *et seq.*

shows what is possible for antiseptics. Yet it is doubtful if any thoroughness of antiseptic detail can justify operating in a hospital.

Germany is already beginning to reap the fruits of the improved technique, Leopold, of Dresden, having saved three women with their children by the Sänger method.*

In timely operation with the precautions now thrown about ovariotomy, Cæsarean section should not fall much behind the record of other laparotomies.

PULMONARY GANGRENE.†

By ELIZA M. MOSHER, M. D.,
BROOKLYN.

Mary J. S., committed to the Massachusetts Reformatory Prison for Women for drunkenness, May 6, 1879; age, twenty-six years; single; occupation, general housework; was healthy as a child; became intemperate at eighteen, and acquired syphilis. Had been sentenced many times to the Boston House of Industry for drunkenness.

When examined, on admission to the prison, she was found to be anæmic and generally out of health. She said she had coughed a good deal since the night of her arrest, at which time she had lain several hours on the ground in a drunken stupor. She was removed to the prison hospital on the 8th of May, two days after her arrival. Her face was then pale and pinched, cough incessant, pulse weak, temperature and respirations normal. A few coarse râles were heard in various parts of the chest, but no other physical signs of disease were discovered. On the 10th of May her temperature rose to 100·2°, and on the 11th to 102·4°, with a pulse of 90 and respirations 24 a minute. This condition continued until the 15th, when the temperature slowly declined to 99·6°, and the pulse became normal. On the 18th the sputum, which up to this time had been scanty, became copious and consisted of frothy mucus of strongly putrescent odor. The same odor was observed also when coughing occurred without expectoration, and also on forced expiration. She complained of great soreness in the left sub-scapular region, increased greatly by the effort of coughing. Dullness on percussion in this region now became manifest, and fine mucous râles were heard. Breathing grew more rapid, and on the 23d the temperature again rose to 101·6°. The odor of the breath was such as to be tolerated only by the freest ventilation combined with the use of bromine and other disinfectants.

On the night of the 29th of May she raised a small quantity of what appeared to be dark blood, after which amphoric respiration was heard below the left scapula, extending into the infra-axillary region. During the week following the patient seemed better, temperature and pulse returned to the normal, respiration became easier, and the odor of the breath less fœtid. On the 7th of June, however, the temperature rose quite suddenly to 102° and did not again decline until the day of death; the pulse at no time went above 96. Respiration again became very rapid and somewhat labored. The cough was incessant when not quieted by opiates; sputum consisted of a frothy mucus containing flecks of a brown putrescent substance which settled to the bottom of the cup, in quantity from eighteen to thirty-two ounces in the twenty-four hours; its odor was horrible in the extreme.

On the night of June 15th, five weeks from the commencement of the attack, she again raised several ounces of dark-colored sputum, followed by a small amount of fresh blood. The dullness on percussion now extended higher, and amphoric breathing was heard over the entire region below the spine of the scapula; meanwhile a fairly good vesicular murmur was heard in every other part of the chest.

On the 20th she again raised several ounces of semi-solid putrescent matter, followed, as before, by a little fresh blood. From this time she rapidly lost strength, and death occurred, apparently from exhaustion, on the 30th of June—fifty-three days after admission to the hospital. The treatment adopted was from the first stimulant and tonic (mainly quinine and brandy), with inhalations of turpentine, compound tincture of benzoin, carbolic acid, etc. The latter part of the time morphine was given freely to check the cough and give rest.

A post-mortem examination was made four hours after death with the following result: Rigor mortis not established; skin pale and bloodless; body not greatly emaciated; adipose and muscular tissues apparently normal. Pericardium and heart normal; valves of heart healthy. Right lung slightly catarrhal, otherwise healthy. Pleura of left lung was much thickened; its visceral and parietal layers were here and there firmly bound together by adhesive bands, and the interspaces thus formed were distended with putrescent gas, which escaped with a report upon puncture. Upper lobe catarrhal; superior portion of lower lobe consolidated, while of the most dependent portion behind nothing remained but a gangrenous, sloughing mass. There was loss of tissue along the lower margin of the lung anteriorly, giving it the appearance of having been gnawed. Here and there a patch of cicatricial tissue told the story of attempts at repair. No other cavity of the body was opened.

In the case before us, gangrene of the lung was doubtless the result of embolism and infarction. During the process of softening of the gangrenous tissue, communication with a bronchus was established, and, as it became liquefied, it was expectorated.

An attempt at cicatrization was made again and again, but each time enough of the putrid ferment remained to renew the gangrenous process.

After a discharge of the necrosed portion the temperature and pulse declined to the normal, the breath lost much, though not all, of its putrescent odor, the cough lessened, and the patient imagined herself recovering, only to be disappointed when the inflammatory process again was aroused and another slough went through the process of separation.

The hæmorrhage which followed each discharge came, doubtless, from vessels or granulations on the line of demarkation.

"Gangrene of the lungs consists in death of lung tissue associated with putrefaction, owing to the admission of air."* Since the time of Laennec two forms have been described, the circumscribed and the diffused; of these, the former occurs by far the more frequently. Fortunately, gangrene of the lungs is not a common disease. But two cases have occurred at the Massachusetts Reformatory Prison for women since its establishment in 1877. At the Boston House of Industry, on Deer Island, no cases have been reported during that time, and but two have occurred at the Boston House of Correction—institutions which together represent about two thousand persons.

* Dr. Harris writes, since this paper was written, that Germany has had eight operations after Sänger's method of suturing, two modified (without the resection), and has saved six women and eight children.

† Read before the Brooklyn Pathological Society, February 26, 1885.

* Hertz in von Ziemssen's "Cyclopædia."

The disease is said to appear most often in the insane, in drunkards and epileptics, and in children. A low state of nutrition with weak heart-action is a predisposing cause. An interruption of the blood-current, the passage of foreign bodies into the air-passages, and traumatic influences, may be numbered among the chief exciting causes of the disease. Obstruction of the blood-current may arise from the pressure of pneumonic inflammatory exudate, or hæmorrhagic blood retained in the air-cells and intercellular tissue. It is, however, most often due to the passage of an embolus into the pulmonary circulation. A minute vegetation from the valves of the right heart, a tiny clot picked up somewhere in the venous circulation, or a fragment of a thrombus from some purulent center, finds lodgment in a pulmonary vessel. According to Cohnheim, rupture may not occur at once; the walls of the emptied vessel become impaired through lack of nutrition, so that, when they are again filled by means of the collateral circulation, they are too weak to bear the strain, and rupture occurs. The infarction thus produced may not extend beyond a single lobule, and it may exceed the size of a hen's egg. Its favorite seat, and consequently that of circumscribed gangrene, is the lower border of the inferior lobes posteriorly (most often the right).

It would seem that gravitation, as well as the anatomical arrangement of vessels, has somewhat to do with the site it chooses. The extravasated blood fills the air-passages as well as their interspaces; contact with air rapidly produces decomposition, and the process is doubtless hastened by the development of vegetable parasites in this most fertile soil.* The irritation produced in the adjoining healthy tissue by the presence of a putrefactive ferment results in localized inflammation which hastens the process of separation.

Occasionally the gangrenous slough is expectorated *in toto* and cicatrization occurs with recovery; but more often (as in the case which forms the basis of this paper) the putrefactive ferment is never entirely removed, and repeated attacks of inflammation occur, producing consolidation of lung tissue, which, added to the poisonous influence of the gangrene, rapidly exhaust the strength of the patient and ultimately cause death. Hæmorrhages frequently occur, and are due to the sloughing of blood-vessels, or the blood may ooze from wounded granulations on the line of demarkation. If the infarction is located near the surface of the lung, the pleura participates in the inflammatory process. Adhesions and thickening of the membrane follow, and sometimes *it* also becomes gangrenous.

The physical signs of infarction are so obscure that an early diagnosis is rarely made. Dullness on percussion over a limited area, with an irritative cough, accompanied by weak pulse and general malaise with pinched features, is usually all that is observed until the inflammatory fever arises and the breath becomes putrid. One needs but a single whiff of this sickening odor to render a diagnosis easy. It differs as widely from the fœtor observed in some cases of phthisis, and even from that of bronchiectatic cavities, as does the odor of necrosed nasal bones from that of ill-smelling mucus.

Foreign bodies, as particles of food, etc., are sometimes sucked into the air-passages, especially in the artificial feeding of lunatics and paralyzed persons, and, by their rapid decomposition or mechanical pressure, set up putrefactive changes in the lung.

Gangrene from injury to the lungs, such as gunshot wounds, stabs, etc., occasionally occurs, and it has been known to result from severe contusions of the thorax, causing an effusion of blood into the lungs. The diffuse form of gangrene frequently succeeds the circumscribed; it also occurs as a sequel to pneumonia and other diseases. In this variety the lesion is most often found in the upper lobes, and may involve a large portion of a lung.

The sputum in gangrene of the lungs is usually copious, owing to the irritation of the bronchial mucous membrane by the presence of putrid matter. It at first consists of a frothy opaque mucus; subsequently it becomes ash-gray, green, or brown, and separates into two or three distinct layers, the lower of which contains solid blackish particles with soft yellow or brownish lumps, varying in size from that of a hemp-seed to that of a bean. Under the microscope the blackish flakes have been found to be shreds of lung tissue which have undergone disorganization. They are made up of granular matter and pigment cells, with here and there a few elastic fibers. The soft yellow lumps consist of fat globules with crystals of margaric acid.

Leyden and Jaffé* instituted a careful chemical examination of the sputum of gangrene, and found the products of the decomposition of albuminous and fatty tissues—viz., myosin, leucin, margaric acid, traces of glycerin, volatile fatty acids (mainly butyric, from which it largely derives its odor), sulphide of ammonium, etc.

Up to the present time no treatment has proved effectual in any number of cases. But few remedies administered by the stomach, other than tonics and stimulants, have been of any use; of these, carbolic acid and creasote have their advocates, and Dr. Henry I. Bowditch, of Boston, has had good results from the use of liquor sodæ chlorinatæ. Medicines used by inhalation, as recommended first by Skoda in 1852, promise better results, but up to the present time have been efficacious only in the most favorable cases. We have reason to hope, however, that, by means of the "pneumatic differentiator" of Dr. Herbert Williams, of Brooklyn, a new era in the treatment of pulmonary gangrene, as well as in other diseases of the lungs, has begun. There seems to be no doubt but remedies are carried more deeply into the lungs by its use than by any other known method, while the air imprisoned by an infarction or by abnormal secretions becomes by its expansion a powerful *vis a tergo* for the removal of obstructing substances. Dr. Williams reports the treatment of a case of "necrosis of lung caused by pressure of pleuritic fluid." As no mention is made of a putrescent odor, we can not consider the case one of gangrene. The results of treatment, however, were in many ways satisfactory and suggestive.

* *Leptothrix pulmonalis*, according to Leyden and Jaffé.

* Von Ziemssen's "Cyclopædia."

Death occurs early in nearly all cases of diffused gangrene of the lungs. The circumscribed form is usually more slow in its destructive action, and patients sometimes live months. Recovery takes place in a limited number of cases, but the prognosis is always a grave one.

URETHRAL STRICTURE; CYSTITIS; PYELONEPHRITIS; URINARY EXTRAVASATION.*

By CHARLES N. DIXON JONES, M. D.,
BROOKLYN.

S. S., aged fifty-five, married, by occupation a wheelwright, was admitted into the wards of the Brooklyn Hospital, June 16, 1884, in a condition of exhaustion and stupor. The following history was obtained: Early in life the patient contracted a gonorrhœa, which ultimately resulted in a troublesome stricture. From that time he has had much and increasing difficulty in passing his urine. In 1870 he had an attack of acute cystitis; at that time there is said to have been some paralysis, the exact nature of which could not be ascertained. In 1882 he had another attack of cystitis, since which time his difficulty in urinating has steadily increased. Two weeks ago, while thus suffering, he was exposed to cold and wet; since then he has had to strain a great deal in order to pass his water at all.

Some uneasiness in the region of the perinæum was complained of, and a slight swelling was detected in this locality. The scrotum was of a red color and shining in appearance. The prepuce was long, and so contracted at the orifice that it could not be retracted over the glans penis. At the meatus a condition of hypospadias was observed. On passing the finger into the rectum, the prostate was found to be somewhat enlarged.

The urethra was first examined with a fair-sized instrument. But it was only after considerable difficulty that I succeeded in passing the finest whalebone bougie. By passing one bougie after the other, and leaving them in position until all the follicles were filled, I finally succeeded in passing one into the bladder. Along the side of the instrument, which was tied in the bladder, the urine slowly dribbled away. In a short time the patient succeeded in withdrawing the instrument from the bladder. The urine was found to contain albumin and pus in large quantities.

June 17th.—By the use of stimulants and proper nourishment the patient's general condition had improved to some extent. Scrotum now much swollen and œdematous; perineal swelling quite conspicuous. The patient was examined by Dr. Speir, the attending surgeon, who kindly requested me to operate as soon as possible.

After careful ætherization, the patient was placed upon the operating-table. A filiform bougie was passed into the bladder and the strictures divided with a Maisonneuve's urethrotome. A steel sound was then introduced and external perineal urethrotomy performed. A deep linear incision was made in the center of the perinæum, and a cavity, filled with pus and urine, laid open and its contents evacuated. All sinuses and abscesses were freely laid open and washed out with warm carbolic solution. A soft catheter was then passed through the perineal wound into the bladder, and retained there. A drainage-tube was inserted to the bottom of the abscess cavity and left *in situ*. The scrotum was freely incised in several places. Dressings saturated with a solution of liquor sodæ chlorinatæ were applied. The patient was then placed in bed surrounded with hot bottles, and freely stimulated. The abscess cavity was washed out every four hours with 1-to-100 warm carbolic solution. The urine passed away through the perineal wound, although small in quantity.

The patient rallied somewhat after the operation, and, for a time, seemed greatly improved. On the 21st the scrotum was discolored and gangrenous. Patient dull and stupid; skin cold and clammy.

On the 23d, condition much the same. Temperature 97·5° F.; pulse quick and not so strong. Perineal wound presents an unhealthy appearance.

On the 25th, A. M., quite feeble; does not take his nourishment. Freely stimulated. P. M. Unconscious; pulse very feeble; coma became profound, and remained so until death, which occurred at 3.45 A. M., June 26th.

Post-mortem Examination.—At the autopsy, eight hours after death, the body was found somewhat emaciated.

Lungs.—Right, œdematous. The left lung was intensely congested and œdematous; bronchial tubes contained frothy mucus and pus. Heart normal in size; aortic valve thickened and insufficient from old endocarditis; mitral valve thickened; liver small and cirrhotic. Left kidney small, markings indistinct, pale in appearance; capsule non-adherent. Right kidney very small; it measures one inch and a half in length by three quarters of an inch in diameter; weight, two ounces and a half; substance mostly replaced by fat; several small abscesses in substance of kidney-tissue proper. Pelvis of both kidneys intensely congested and covered with pus. Both ureters were dilated, with thickened coats.

Upon microscopical examination, the kidneys presented the lesions of chronic croupous nephritis, with waxy and fatty degeneration. In the smaller kidney all the tissues had undergone complete atrophy. The glomeruli had disappeared or were replaced by fibrous tissue. In the larger kidney, in addition to the atrophied portions, there were certain districts where there had been an increase in the amount of connective tissue, thus constituting a true hypertrophy.

Bladder.—Cavity small and contracted; hardly has a capacity of four ounces. Walls very much hypertrophied; the mucous membrane thickened, thrown into ridges, which run in various directions, forming crypts which contain pus. Surface red and deeply congested, covered with pus. The condition indicated long-continued chronic cystitis.

Urethra.—By laying open the urethra, two strictures were found—one about three inches and the other five inches from the meatus. Prostate enlarged.

In the floor of the urethra there is a small opening which communicates with an abscess cavity in the perinæum three inches in diameter. Scrotum in a sloughing condition.

The follicles in the membranous portion of the urethra are inflamed, and from these cavities a drop of pus may be pressed. One, much larger than the rest, presents an opening through which a probe may be passed into the abscess cavity.

The case presented is of interest chiefly from a pathological point of view, for, as is demonstrated by the autopsy, when the patient came under observation the morbid changes in several of his most vital organs had advanced to a stage where they were beyond the reach of surgical skill.

In tracing the pathological sequence in the above case, several points are to be noted:

1. The beginning of his trouble was a gonorrhœa acquired in early life.

Sir Henry Thompson claims that the urethra is not a

* Read, with presentation of the specimens, before the Brooklyn Pathological Society, February 26, 1885.

tube, but a continuous closed valve. Its length renders it liable to disease and accident—"the price—and a heavy one, let me tell you—which the male pays for his specially distinguishing feature."

Remembering this fact, it is easy to see how an inflammatory process affecting this passage, which is so richly supplied with blood and nerves, leads to secondary pathologieal results which affect the prostate gland, bladder, ureters, and kidneys. The testes, penis, seminal vesicles, perinæum, and rectum share, not unfrequently, in the same pathologieal process. The urethritis destroys the natural elastieity of the canal. The elastieity of the urethral walls being thus lost, the urine ean not escape so readily, hence the resulting hypertrophy of the bladder. The bladder which has undergone hypertrophy can not eompletely empty itself. It is estimated by Ultzmann that a patient who, at twenty or thirty, has a residue of only 20 c. c. remaining in the bladder after urinating, will have from 200 c. c. to 300 c. c. at fifty, with aecompanying hypertrophy. The urine whieh remains is mingled with pus-corpuscles, and undergoes alkaline fermentation. Bacteria are developed, and the inflammation is liable to extend through the ureters to the kidneys.

2. The specimen presented demonstrated the extremely unhealthy condition of the kidneys. The nephritis from which the patient suffered must have been of long standing. We all know the extremely unfavorable influence which any form of nephritis exerts upon all operations on the urinary organs.

In considering the kidney lesion in this case, the complicating cardiac and hepatic lesion must be taken into consideration. The condition of the heart can not be considered merely an accidental complication. By some writers on this subject the cardiac complieation has been conconsidered the most important part of the disease. Dr. Mahomed speaks of cases of Bright's disease which die without nephritis. He drew attention to the faet that Bright's disease is often a general and not a simply local disease.

From the history of the case presented, it would appear that the stricture of the urethra was an efficient cause in producing the renal disease, yet the form of nephritis found is not such as we usually meet with in such cases. The question arises, Was not the kidney lesion independent of the urethral stricture? Opposed to this view is the absence of cardiac hypertrophy and the eondition of the bladder and ureters, whieh correspond to the conditions that are frequently found, after old neglected urethral strieture.

The theories in regard to the interdependence of renal and cardiae disease are too numerous, complicated, and unsettled to allow of discussion at this time. The sequence of events in this ease seems to have been urethral strieture, cystitis, pyelitis, and nephritis.

3. Dittel, of Vienna, was the first to show that in cases where death resulted from urinary extravasation the opening by which the urine slowly infiltrated the loose conneetive tissues was through an ulcerated follicle of the mucous membrane of the urethra. Prof. Otis has fully elaborated this theory, and shown the influence whieh a stricture of either large or small caliber exerts in producing this pathological result. A stricture so slight that it would admit the easy passage of a catheter would be sufficient to retain the organic *débris* of a person suffering with lithiasis; or, from increased urinary irritation at a point of strieture, a folliculitis is set up which may eventually result in suppurative inflammation and perforation of the urethral wall. This is probably what oeeurred in the case above recorded.

In the history of this case, although obtained with difficulty, there is nothing to indicate that a sudden rupture of the urethral wall had taken place, such as sometimes occurs behind a stricture during some violent act of straining, with extensive extravasation of urine into the intercellular spaces.

NOMENCLATURE OF AURAL DISEASES.

By SAMUEL SEXTON, M. D.,
SURGEON, NEW YORK EYE AND EAR INFIRMARY.

Introductory Note.—I have been requested to publish for the use of others the following nomenclature, which was prepared for my own convenience. In the arrangement no little difficulty was experienced in reconciling the opinions of various writers in respeet to certain affections of the ear, but it is believed that the classification, imperfect as it neeessarily must be, may afford some assistance to others who, like the writer himself, have felt the need of such a work of reference. Not to mention minor defects, it is to be regretted that the comparatively undeveloped pathology of the inner ear prevents a complete classification of its diseases. In the final arrangement of the work of elassification I have been very mueh assisted by Dr. Robert Barclay, Assistant Surgeon, New York Eye and Ear Infirmary.

DISEASES OF THE EAR.

EXTERNAL EAR—AURICLE.

I. *Abnormalities.*
- *a.* Arrested development.
  1. Abnormal position.
  2. Absenee of auricle, or parts of auricle, and altered shape, as lapping, eonvolutions, due to absence of cartilage.
  3. Microtia.
  4. Congenital fistula.
- *b.* Exeessive development.
  1. Plurality.
  2. Abnormal enlargement.
  3. Polyotia (Auricular appendages).
  4. Reduplication.
- *c.* Irregular development (?).

II. *Cutaneous Diseases.*
- *a.* Callosities.
- *b.* Comedo—Acne punctata [Sebaceous tumor?].
- *c.* Dermatitis.
- *d.* Eezema.
- *e.* Erysipelas.
- *f.* Erythema, Flushing.
- *g.* Furunele, Abscess.
- *h.* Gangrene [from Embolism, Low Fevers, or Freezing].

i. Herpes zoster (Auriculæ idiopathica).
j. Hydroa.
k. Ichthyosis (congenita).
l. Intertrigo.
m. Keloid.
n. Leprosy.
o. Lupus (erythematosus, maculosus, exulcerans).
p. Molluscum fibrosum.
q. Myxoderma [a neurosis whose ætiology is undetermined].
r. Nævus.
s. Pemphigus gangrenosus.
t. Pernio [Frost-bite].
u. Phagedæna [Cancrum oris].
v. Phlegmon (acute, chronic).
w. Syphiloderma (erythematosum, papulare, tuberculare, pustulare, squamosum, serpiginosum, ecthymatosum, ulcerativum, nodosum).
x. Tophi.
y. Trichophytosis [Ring-worm].
z. Ulcer.

III. *New Growths.*
a. Angioma—Glandular hypertrophy.
b. Cavernous tumor.
c. Cyst (dermoid, sebaceous). Atheroma, cornu. [Comedo? Acne punctata?]
d. Cornu. [*Vide* Cyst.]
e. Epithelioma.
f. Fibroma.
g. Fibrosarcoma.
h. Lipoma, Steatoma [Atheroma?].
i. Myxofibroma.
j. Myxosarcoma.
k. Nævus vascularis [maternus].
l. Sarcoma.
m. Hæmatoma. [*Vide* Wounds and Injuries.]

IV. *Wounds and Injuries.*
a. Cleft of lobule [by ear-ring].
b. Lacerated wound.
c. Contused wound. Hæmatoma [Othœmatoma].
d. Incised wound.
e. Punctured wound.
f. Shot wound.
g. Effects of heat.
1. Burns.
2. Scalds.
h. Effects of cold.
1. Frost-bite.
2. Gangrene.
3. Chilblains.
i. Effects of mineral and vegetable irritants.
1. From acids.
2. " austic alkalies.
3. " metallic compounds.
4. " acrid vegetables [Nettle, etc.].
j. Effects of poison in wounds.
1. From bites of insects, reptiles, and other animals.
2. From septic infection.
3. " poisoned weapons.

EXTERNAL AUDITORY CANAL.

I. *Abnormalities.*
a. Arrested development.
1. Absence of external auditory canal.
2. Atresia congenita (membranosa, ossea).
3. Abnormal width.
4. Congenital contraction.
b. Excessive development.
1. Thickening of cutaneous lining. [*Vide* New Growths.]
c. Irregular development.
1. Meatus bivius.

II. *Hyperæmia.*
III. *Periostitis.*
IV. *Circumscribed Inflammation.*
V. *Diffuse Inflammation* (acute, chronic).
VI. *Croupous Inflammation.*
VII. *Gangrenous Inflammation.*
VIII. *Desquamative Inflammation.*
IX. *Extravasative Inflammation.*
X. *Skin Diseases.*
a. Eczema.
b. Erysipelas.
c. Erythema.
d. Herpes.
e. Pemphigus.
f. Ulcer, hæmorrhage.
XI. *Anomalies of Secretion.*
a. Cerumen (deficiency, excess), Cretaceous Bodies, Otomycosis (Aspergillus Nigricans, A. Flavescens, A. Fumigatus, Graphium Penicilloides, Aschophora Elegans, Trichothecium, Mucor Mucedo seu Fuscus, Otomyces Hageni, O. Purpureus).
b. Seborrhœa.
c. Desquamation, laminated epithelial plug.
XII. *Stricture*—Stenosis.
XIII. *Adhesion of Walls*—Bands.
XIV. *Collapse of Cartilaginous Portion.*
XV. *Caries and Necrosis*—Communicating sinus from parotid gland, attic of tympanum, or adjacent pneumatic cells.
XVI. *Granulation*—Hæmorrhage.
XVII. *New Growths.*
a. Enchondroma.
b. Epithelioma.
c. Exostosis (pedunculated, broad-based).
d. Hæmatoma.
e. Hyperostosis.
f. Milium.
g. Thickening of cutaneous lining of canal. [*Vide Abnormalities.*]
h. Polypus.
i. Sarcoma.
j. Sebaceous tumor.
XVIII. *Wounds and Injuries.*
a. Lacerated wound.

b. Contused wound.
c. Incised wound.
d. Punctured wound.
e. Shot wound.
f. Fracture. [*Vide Wounds and Injuries of Auricle.*]

XIX. *Foreign Bodies.*
a. Animate objects.
b. Inanimate objects.

XX. *Ingrowing Hairs from Tragus and Canal pressing upon the Membrana Tympani.*

MEMBRANA TYMPANI.

I. *Abnormalities.*
a. Arrested development.
1. Absence of manubrium mallei.
2. Absence of membrana tympani.
b. Excessive development.
c. Irregular development.

II. *Trophic Changes.*
a. Atrophy.
b. Calcareous degeneration.
c. Opacity—Fibrous hypertrophy (?).
d. Cicatricial regeneration [manometric].

III. *Myringitis, Simplex.*
a. Inflammation of pars flaccida (acute, chronic).
b. Inflammation of pars vibrans (acute, chronic).

IV. *Myringitis, Desquamative.*

V. *Myringitis, Extravasative* [Hæmatoma of drum-head].

VI. *Abscess.*

VII. *Chronic Ulcer*—Hæmorrhage.

VIII. *Wounds and Injuries.*
a. Rupture.
1. From boxing auricle.
2. From pulling auricle.
3. From falling on auricle.
4. From syringing canal.
5. From condensing air in canal or Eustachian tube.
6. From rarefying air in canal or Eustachian tube.
7. From fracture of base of skull.
b. Perforation by puncture, or incision, with foreign body, or instruments.
c. Abrasion from impacted cerumen, foreign body, or instruments.
d. Concussion from impacted cerumen, foreign body, or instruments.
e. Straining from pulling auricle.
f. Effects of cold from bathing, diving, or syringing canal.

IX. *Skin Diseases.*
a. Eczema.
b. Erysipelas.
c. Erythema.

X. *New Growths.*
a. Cholesteatoma.
b. Epithelioma.
c. Syphilide.
d. Tubercle.
e. Vascular tumor.

XI. *Foreign Bodies.*
a. Animate objects.
b. Inanimate objects.

MIDDLE EAR TRACT—TYMPANUM—ATRIUM, ATTIC, AND ANTRUM.

I. *Abnormalities.*
a. Arrested development.
1. Absence of membrana tympani.
2. Absence of part or all of ossicles.
3. Absence of tympanum.
4. Absence of labyrinthine fenestræ.
5. Absence of eminentia pyramidalis.
b. Excessive development.
1. Fusion of ossicles.
2. Overgrowth of ossicles.
3. Superfluous ossicles.
c. Irregular development (?).

II. *Hæmorrhage*—Vicarious menstruation.

III. *Acute Non-suppurative Otitis Media.*

IV. *Mucous or Muco-serous Catarrhal Otitis Media* (acute, subacute, chronic—trophic).

V. *Suppurative Otitis Media* (acute, subacute, chronic).

VI. *Croupous, Diphtheritic, and Desquamative Otitis Media.*

VII. *Caseous Otitis Media.*

VIII. *Chronic Dry and Adhesive Catarrhal Otitis Media.*

IX. *Sclerosis.*

X. *Caries of Tympanum.*

XI. *Caries of Ossicles.*

XII. *Fracture and Dislocation of Ossicles.*

XIII. *Syphilitic Inflammation of Tympanum* (secondary, tertiary).

XIV. *Wounds and Injuries.*
a. Through Eustachian tube.
b. Through membrana tympani.
c. By fracture of base of skull.

XV. *Embolism in Mucous Membrane.*

XVI. *New Growths.*
a. Cholesteatoma.
b. Cyst.
c. Epithelioma.
d. Exostosis of tympanum.
e. Exostosis of ossicles.
f. Hyperostosis of tympanum.
g. Hyperostosis of ossicles.
h. Osteosarcoma.
i. Polypus { mucous } muco-fibrous. { fibrous / mucoid } myxo-fibrous.
j. Tubercle.

XVII. *Foreign Bodies.*
a. Animate objects.
b. Inanimate objects.

COMPLICATIONS OF DISEASE OF MIDDLE EAR TRACT.

I. *Periostitis of Cortex of* [*osseous*] *Ext. Auditory Canal.*

II. *Disease of Mastoid Process.*
a. Periostitis of cortex of mastoid process.
b. Inflammation of pneumatic cells of mastoid process (catarrhal, purulent, cheesy — acute,

chronic). [All inflammations of the tympanum are *apt* to involve, in secondary inflammation, the pneumatic cells of the mastoid process, and *vice versa*.]

c. Caries and necrosis of mastoid process.

d. New growths of mastoid process.

a. Cholesteatoma.

b. Epithelioma.

c. Exostosis.

d. Hyperostosis.

e. Polypus. [*Vide* Polypus of Middle Ear Tract.]

III. *Circumauricular Abscess.*

IV. *Facial Paralysis* [Bell's Palsy].

V. *Fracture of Base of Skull.*

VI. *Pachymeningitis.*

VII. *Leptomeningitis.*

VIII. *Cerebral Abscess.*

IX. *Thrombosis.*

X. *Embolism.*

XI. *Phlebitis.*

XII. *Pyæmia.*

XIII. *Constitutional Disease.*

a. Rheumatism.

b. Phthisis.

c. Rhachitis.

d. Syphilis.

e. Exanthemata.

1. Scarlet fever.
2. Typhus fever.
3. Typhoid fever.
4. Measles.
5. Variola.
6. Varioloid, etc.

f. Whooping-cough.

g. Diphtheria.

h. Bright's disease.

i. Diabetes.

j. Genito-sexual disturbance.

1. Puberty.
2. Pregnancy.
3. Menopause.
4. Masturbation.
5. Excessive venery, etc.

k. Abuse of systemic materia medica.

XIV. *Oral Irritation or Disease.*

XV. *Orbital Irritation or Disease.*

XVI. *Nasal Irritation or Disease.*

XVII. *Pharyngeal Irritation or Disease.*

XVIII. *Mumps.*

XIX. *Disease of External Ear.*

XX. *Disease of Internal Ear.*

MASTOID PROCESS.

I. *Abnormalities.*

a. Arrested development.

1. Ossification gaps in outer table.
2. Absence of pneumatic cells.
3. Separation from rest of temporal bone.
4. Total absence of mastoid process.

b. Excessive development.

1. Very large pneumatic cells.

c. Irregular development.

1. Anomalous character of blood-channels.

II. *Hæmorrhage.*

III. *Inflammation of Pneumatic Cells, Catarrhal (Primary).*

IV. *Inflammation of Pneumatic Cells, Purulent (Primary).*

V. *Periostitis Externa.*

VI. *Caries and Necrosis.*

VII. *Sclerosis* (?). [Closing of pneumatic cells by ossification in old age.]

VIII. *Wounds and Injuries.*

a. Contused wounds.

b. Perforated wounds.

c. Fracture.

d. Shot wounds.

IX. *New Growths.*

a. Cholesteatoma.

b. Epithelioma.

c. Exostosis.

d. Hyperostosis.

e. Polypus. [*Vide* Polypus of Middle Ear Tract.]

X. *Foreign Bodies.*

a. Animate objects.

b. Inanimate objects.

COMPLICATIONS OF DISEASES OF THE MASTOID PROCESS.

I. *Diseases of External Ear, and their Complications.*

II. *Diseases of Middle Ear Tract, and their Complications.*

III. *Diseases of Internal Ear, and their Complications.*

IV. *Sinus of Neck.*

V. *Torticollis.*

INTERNAL EAR.

I. *Abnormalities.*

a. Arrested development.

1. Absence of part or all of the labyrinth.
2. Absence of auditory nerve.

b. Excessive development.

c. Irregular development (?).

II. *Anæmia.*

III. *Hyperæmia.*

IV. *Hæmorrhage.*

V. *Otitis Interna, Simplex.*

VI. *Otitis Interna, Syphilitica* (?).

VII. *Otitis Interna, Typhoidea* (?).

VIII. *Otitis Interna, Parotitica* (?).

IX. *Caries and Necrosis.*

X. *Wounds and Injuries.*

a. Through middle ear.

b. By fracture of base of skull.

c. Concussion.

XI. *Diseases of Auditory Nerve.*

a. Hyperæmia.

b. Inflammation.

c. Atrophy.

d. Amyloid degeneration (Corpora amylacea).

e. Injury or paralysis.
f. New growths.
1. Fibroma.
2. Fibro-sarcoma.
3. Glioma.
4. Gumma.
5. Neuroma.
6. Sarcoma.

COMPLICATIONS OF DISEASE OF INTERNAL EAR.

I. *Associated Disease* (local or constitutional).
II. *Brain Disease or Injury.*
III. *Fracture of Base of Skull.*
IV. *Disease of Middle Ear Tract, and its Complications.*
V. *Disease of Mastoid Process, and its Complications.*

EUSTACHIAN TUBE.

I. *Abnormalities.*
a. Arrested development.
1. Congenital absence.
2. Congenital obliteration or stenosis.
3. Angular bends.
4. Ossification gaps in wall of carotid canal.
5. Malposition of pharyngeal orifice.
b. Excessive development.
1. Congenital widening.
c. Irregular development.
II. *Hæmorrhage.*
III. *Inflammation, Catarrhal (acute, chronic).*
IV. *Inflammation, Purulent (acute, chronic).*
V. *Inflammation, Croupous and Diphtheritic.*
VI. *Ulcer.*
VII. *Contraction.*
VIII. *Enlargement.*
IX. *Adhesions and Closure.*
X. *New Growths.*
a. Exostosis.
b. Fibroma.
c. Syphiloma.
d. Tubercle.
XI. *Foreign Bodies.*
a. Animate objects.
b. Inanimate objects.
XII. *Diseases of the Tubal Muscles.*
a. Fatty degeneration and atrophy.
b. Hypertrophy.
c. Trichinosis.
d. Hæmorrhagic infarctions.
e. Paresis.

COMPLICATIONS OF DISEASE OF EUSTACHIAN TUBE.

I. *Inflammation, Injury, New Growth, Foreign Body in Pharynx.*
II. *Inflammation, Injury, New Growth, Foreign Body in Nares.*
III. *Inflammation, Injury, New Growth, Foreign Body in Middle Ear.*

IMPORTANT SYMPTOMS OF EAR DISEASE.

I. *Neuralgia.*
II. *Aural Vertigo.*
III. *Anomalies of Audition.*
a. Autophonia, Tinnitus, Numbness.
b. Pseudacousma.
IV. *Neuroses* [Reflex phenomena].
a. Pruritus auris.
b. Ear cough.
c. Epileptiform convulsions.
d. Otalgia.
e. Dysacousma.

MISCELLANEOUS.

I. *Mumps* (resulting in Resolution, Suppuration, or Metastasis).
II. *Tonsillar Diseases.*
III. *Inflammation, Injury, New Growths, Foreign Bodies of the Upper Respiratory Tract.*

FAILURE OF COCAINE HYDROCHLORATE TO PRODUCE ANÆSTHESIA.

By HENRY J. GARRIGUES, M. D.

Recently I had to perform an operation in order to restore to an available condition a vulva which, in a perineorrhaphy performed by another surgeon, had been closed up to such an extent as barely to admit the index-finger and not the organ to which it physiologically is destined to give passage.

The patient was a married woman, thirty-seven years of age. I had to cut fully one inch backward from the artificial posterior commissure, after which I united the skin with the mucous membrane by sutures.

Since here was only a thin layer of skin and mucous membrane to be cut, both surfaces of which were easily accessible, it seemed to be a case peculiarly well fitted for local anæsthetization. I began by painting both surfaces with a four-per-cent. solution of hydrochlorate of cocaine. When two grains of the salt had been used in this way and there was not the slightest diminution in the sensitiveness of the skin, I injected a quarter of a grain hypodermically into the tissue to be divided, and continued soaking the skin and the mucous membrane. About seven minutes after the first hypodermic injection I repeated it, introducing the needle from the posterior commissure all the way back as far as the tissues were to be divided. In spite of the previous injection, this caused as much pain as if nothing had been done before to produce anæsthesia.

This second time, likewise, a quarter of a grain of the salt was injected slowly, while withdrawing the needle, over the whole tract with which it came in contact. Finally I bathed again the two surfaces until I had used in all five grains of hydrochlorate of cocaine, one half grain of which had been injected hypodermically. This application of a four-per-cent. solution had then been kept up for twenty-five minutes.

In spite of this thorough and protracted application of

a comparatively strong solution of cocaine, the sensibility was not lessened the least, so far as the complaints and screams of the patient could be used as a measure of her pain.

The price of the cocaine used was two dollars.

Ernst Fränkel, of Breslau ("Centralblatt für Gynäkologie," December 6, 1884, vol. viii, p. 778), has likewise found the common solutions ineffective on the vagina, and recommends a twenty-per-cent. alcoholic solution; but, when we take into consideration the high price of the drug, so expensive a solution can only be used in exceptional cases. The patients, unless money be no object at all, will prefer to stand the pain or to be etherized.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Contributions to the Topographical and Sectional Anatomy of the Female Pelvis. By D. Berry Hart, M. D., F. R. C. P. E., Lecturer on Midwifery and Diseases of Women, School of Medicine, Edinburgh, etc. Edinburgh and London: W. & A. K. Johnston, 1885. 4to, pp. 8, xii plates.

List of Tests (Reagents), arranged in Alphabetical Order according to the Names of the Originators. Designed especially for the convenient reference of Chemists, Pharmacists, and Scientists. By Hans M. Wilder. New York: P. W. Bedford, 1885. Pp. 88.

Double Congenital Displacement of the Hip. Description of a Case, with Treatment resulting in a Cure. (With Plates.) By Buckminster Brown, M. D., Consulting Surgeon of the House of the Good Samaritan, etc. Boston: Cupples, Upham, & Co., 1885. Pp. 24.

Report of the Department of Health, City of Chicago, for the Years 1883 and 1884. Chicago: G. K. Hazlitt & Co., 1885. Pp. 172.

University of the City of New York, Medical Department. Forty-fifth Annual Announcement.

Catalogue of the Albany Medical College, and Annual Announcement for the Session of 1885–1886.

University of Denver. Fifth Annual Announcement of the Faculty of Medicine.

The Constitutional Treatment of Caries and Necrosis. By Hal C. Wyman, M. D., Professor of Physiology and Histology in the Michigan College of Medicine, Detroit. Pp. 7.

Report upon the Epidemic of Typhoid Fever at Plymouth, Pa. Read by appointment before the Luzerne County Medical Society of Wilkesbarre, Pa., May 21, 1885, and before the State Medical Society of Pennsylvania, at Scranton, May 29, 1885. By Lewis H. Taylor, M. D., of Wilkesbarre. Pp. 25.

Asiatic Cholera. A Sketch of its History, Nature, and Preventive Management. By Oscar C. De Wolf, M. D., Commissioner of Health, Chicago, etc. Chicago: The American Book Co., 1885. Pp. 17. [Price, 12 cents.]

Quarterly Station-List of Officers of the Medical Department and Hospital Stewards, United States Army, July 1, 1885, or at date of last report received at this office. Washington: Surgeon-General's Office.

Surgical Notes from the Case-Book of a General Practitioner. By William C. Wile, M. D., of Sandy Hook, Conn. [Reprinted from the "New England Medical Monthly."]

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co. Edited by Frank P. Foster, M. D.
NEW YORK, SATURDAY, AUGUST 29, 1885.

THE SPECIAL MEETING OF THE CONGRESS COMMITTEE.

As we have already notified our readers, the American Medical Association's new Committee on the International Medical Congress is to hold a special meeting in New York on Thursday of next week. Regardless of what action may be taken, the mere fact that such an extraordinary meeting is to be held, after the committee had concluded its work of demolition and adjourned until next spring, is a gratifying proof that the spontaneous and widespread dissent that has been expressed by the better portion of the profession from the absurd course laid out by the American Medical Association has not failed to produce an effect. It is the most decided and unmistakable of numerous indications that a change has come over the spirit of the New Orleans agitators' dream.

It is to be presumed that the meeting will undertake little else than the repair of damages—that is, the appointing of others to take the places of the distinguished men who have declined to take part in the present organization. That any such action will fail of its purpose seems to us unquestionable. We do not doubt, indeed, that men enough can be found who will be willing and even glad to hold official positions in a gathering that will be international only in name. But, allowing that the committee made the best choice it could have made at Chicago, any selections that it makes now must necessarily be of inferior men, and it is doubtful even if men a grade below those first chosen would be willing to figure before the world as the recipients of appointments that had gone begging. It can scarcely be doubted, therefore, that the corps of appointees will be largely inferior to the remnants left by the recent defections. Far from having been mended, matters will then have been made worse; but, if this is to be the result, it is best that it should come promptly, that the remedy may follow the more speedily.

Besides patching up the organization, the committee may try to palm off upon the country something having the semblance of a compromise as to the qualifications of those who are to be allowed to take part in the Congress non-officially, but it will be surprising if anything remotely resembling decency is put forward in this direction—in fact, nothing of the sort is possible except a complete reversal of the tinkering that the organization has undergone.

By this time the plotters who are behind the committee undoubtedly understand that it will profit them nothing to pursue the petty scheme of inducing Dr. Shoemaker to play the part of a scapegoat and resign, although it is but a few weeks since they professed in private to count confidently upon that sop to Cerberus.

There is one plain course open to the committee, and one only, by which it may save its own credit and do the only thing possible to rescue the Congress from destruction—and that is, to rescind everything it has thus far done, and to resolve to ask the American Medical Association to discharge it. This would practically restore the old organization, and, although it would come rather late, might result in reviving the bright prospects of the Washington Congress as they existed six months ago.

THE POSTURES OF SCHOOL CHILDREN.

An English surgeon, Mr. Noble Smith, who is connected with a children's hospital, and who appears to have something to do officially with the Board Schools of London, lately read a very important paper before the Medical Officers of Schools Association, which is published in the "Medical Times and Gazette." The title of Mr. Smith's paper is "Postures in School, and their Influence upon the Figure." He deals, however, not only with the influence of strained and unnatural postures upon the figure, but also with their effect upon health and strength in other ways, and with a number of collateral matters relating to school hygiene, such as the management of the light used for reading and writing, etc.

In one instance he measured the distance between the pupil's eyes and the copy-book, and found it to be only two inches and a half. It does not appear that this was the result of nearsightedness on the part of the pupil, but of faulty construction of the desk, which was too low and removed too far from the pupil's body. From these and various other defects in the arrangement of the chair and desk, and from certain enforced attitudes which are supposed to favor an elegant handwriting, roundness of the back and lateral curvatures of the spine were found to be frequent results. The author calls attention to the deleterious effects of all this upon the individual, especially as regards the breathing capacity. Girls are most affected, as they are held to a more rigid observance of postures that are deemed decorous, while at the same time they are in great measure denied the counterbalancing effects of free and unrestrained play, their diversion being too often restricted to a prim and stately walk in couples.

Of late years, much attention has been given to these matters in the United States, and the result has been a very decided improvement, but it is very much to be feared that we are not yet altogether free from the evils that are so vividly depicted by Mr. Smith as occurring among the school children of London.

MINOR PARAGRAPHS.

AN ACCIDENT IN A PARIS HOSPITAL.

A deplorable mistake was lately made at the St. Louis Hospital, in Paris, which resulted in the death of two patients. According to the account given in the "Progrès médical," a preparation popularly termed *eau-de-vie allemande*, which is a compound tincture of jalap, was ordered by the physician, but the pupil on duty in the pharmacy put up *gouttes amères de Beaumé* instead, the latter being a mixture containing ignatia. The pupil is described as having been wild with despair when he learned of the fatal consequences of his error, and another account states that it was with difficulty that he was prevented from committing suicide. "Progrès médical" is probably correct in its suggestion that the "reactionary" newspapers would have been loud in their outcries if the affair had happened in one of the hospitals where lay officials are employed.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 25, 1885:

DISEASES.	Week ending Aug. 18.		Week ending Aug. 25.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	0	1	0
Typhoid fever	23	6	29	10
Scarlet fever	25	4	14	4
Cerebro-spinal meningitis	1	1	3	1
Measles	31	3	12	6
Diphtheria	30	16	31	17
Yellow fever	1	0	0	0

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, August 12th. *Three Rivers, Canada.*—For the week ending August 8th: Free from epidemic diseases. The consul reports that there is no small-pox below Montreal, where there has been a total of 120 deaths up to the end of the second week in August. *Havana, Cuba.*—For the week ending July 30th: 25 cases of yellow fever and 3 deaths. *Cardenas, Cuba.*—For the two weeks ending August 8th: Free from cholera and yellow fever. *Matanzas, Cuba.*—For the week ending August 5th: No cholera or yellow fever. *Cienfuegos, Cuba.*—For the week ending July 15th: No cholera or yellow fever. *St. Thomas, W. I.*—For the week ending July 25th: Intestinal catarrh and acute diarrhœa prevalent, but in a mild form. Very few fatal cases. *Nassau, N. P.*—For the week ending August 1st: No epidemic diseases. *Curaçoa, W. I.*—For the week ending August 15th: In good sanitary condition. *Guaymas, Mexico.*—For the month of July: City and district in good sanitary condition. *Vera Cruz, Mexico.*—For the month of July: 84 deaths from yellow fever. The disease is said to be epidemic. *Acapulco, Mexico.*—For the week ending July 26th: Free from epidemic diseases. *Callao, Peru.*—For the week ending July 18th: Yellow fever has disappeared, but small-pox prevails among the lower classes. *La Guayra, Venezuela.*—For the week ending August 8th: In good sanitary condition. *London, England.*—For the week ending August 8th: Deaths from diarrhœa and dysentery, 309; from cholera or choleraic diarrhœa, 11, and from small-pox, 14, including 9 of London residents who died from the disease outside the registration district. On August 8th there were 518 cases of small-pox in the London hospitals, being 96 less than in the previous week. The admissions during the week were 43, there having been 69 during the preceding week. *Bristol, England.*—For the week ending August 8th: 1 death from cholera. *Paris, France.*—For the two weeks ending August 8th: 61 cases and 3 deaths from small-pox, 213 cases and 36 deaths from typhoid fever. *Bordeaux, France.*—For the month of July: 4 deaths from small-pox. *Marseilles, France.*—By cable, August 25th: Deaths from cholera average 55 daily. *Toulon, France.*—By cable, August 25th: 25 deaths from cholera on the day previous. *Barcelona, Spain.*—For the week ending July 31st: 1 death

from small-pox; 36 deaths from unclassified contagious diseases; gastric and intestinal catarrh prevalent. *Antwerp, Belgium.*—For the two weeks ending August 1st: 26 cases and 5 deaths from small-pox. *Cadiz, Spain.*—For the week ending August 8th: Free from epidemic diseases. *Valencia, Spain.*—For the two weeks ending August 2d: 785 cases of cholera and 369 deaths. *Genoa, Italy.*—For the week ending August 2d: 1 death from small-pox. *Venice, Italy.*—For the two weeks ending August 1st: 20 deaths from small-pox. *Trieste, Austria.*—For the week ending August 1st: 6 cases of small-pox and 2 deaths. *Prague, Austria.*—For the week ending August 6th: 2 deaths from small-pox. *St. Petersburg, Russia.*—For the week ending July 25th: 6 deaths from small-pox. *Warsaw, Russia.*—For the two weeks ending August 1st: 9 deaths from small-pox. *Calcutta, India.*—For the week ending July 4th: 16 deaths from cholera. *Bombay, India.*—For the week ending June 30th: 6 deaths from cholera as against 2 during the previous week.

The Cholera in Spain.—According to information received by the "Gazette hebdomadaire de med. et de chir.," there had been, up to July 31st, 114,714 cases and 34,003 deaths. In Madrid the number of cases was 4,058, with 1,353 deaths. The number of infected towns was upward of 380.

Typhoid Fever is reported as being prevalent in the Lunatic Asylum at Morris Plains, N. J., thirteen cases having already occurred, with but one death. The outbreak of the disease is attributed to defective sewerage.

Scarlet Fever has, it is alleged, been conveyed from an infected family to others in Jamesport, Long Island, by the total disregard of instructions from the Board of Health, who ordered the father to quarantine the family, the man contending that the disease was not contagious, and permitting members of his family to go and come at will. He is likely to pay the penalty of his disobedience and ignorance.

The International Medical Congress.—We learn that Dr. Delavan Bloodgood, Medical Director in the navy, has declined to hold the position to which he was appointed by the new committee. As will be seen by his letter, printed in another column, Dr. Alfred L. Carroll, the secretary of the New York State Board of Health, has also pursued the same course. Dr. Henry D. Noyes, of New York, has sent the following letter to Dr. John V. Shoemaker, the secretary of the committee: "I beg to acknowledge your favor of the 19th ult., informing me of my appointment as First Vice-President of the Ophthalmological Section of the Ninth International Medical Congress by the committee which met at Chicago. This position I can not accept, because by so doing I should assent to the action of the American Medical Association, which has thrust into the International Medical Congress a controverted subject with which the Congress has no concern, and has determined to exclude from all official position the medical men whose convictions in this regard it disapproves of. I refuse to admit that the composition of the International Medical Congress should be in any way determined by the controverted points of the Code of Ethics of the American Medical Association. I also refuse to join in treating with neglect or disrespect honorable and eminent physicians who do not accept all the restrictions of that code about medical consultations. The right of the American Medical Association to take this course can, I think, be successfully challenged, but, for my own decision, it is enough that I can not concur with it, and that I feel sure that its pursuance will prove most hurtful to the Congress, in whose welfare, as you know, I have taken a deep and active interest. For the courtesy of the committee in tendering me this honor I beg you to express my thanks."

The British Medical Association.—A correspondent informs us that Dr. H. P. C. Wilson, of Baltimore, has been elected a member of the association.

Dr. Oliver Wendell Holmes will reach his seventy-sixth birthday to-day.

The Medical Society of Virginia will hold its annual meeting at Alleghany Springs on the evening of Tuesday, September 15th. The session promises to be one of unusual interest.

The Mississippi Valley Medical Association will meet at Evansville, Ind., on Tuesday, Wednesday, and Thursday, September 8th, 9th, and 10th. Railroad and hotel rates will be reduced for the occasion. Full particulars can be obtained of Dr. A. M. Owen, Evansville, Ind.

The Death of Prof. Berger, of Breslau, who, although young, was distinguished as a neuro-pathologist, is announced in the "Revue de médecine."

The Death of Prof. Aeby is also announced by the same journal. He was well known as an anatomist.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 16, 1885, to August 22, 1885:*

Wolverton, W. D., Major and Surgeon. Granted leave of absence for twenty days. (Washington Barracks, D. C.) S. O. 171, Department of the East, August 14, 1885.

Maus, L. M., Captain and Assistant Surgeon. In addition to his other duties, assigned to duty as attending surgeon of the Department Rifle Camp. S. O. 83, Department of Dakota, August 3, 1885.

Black, C. S., First Lieutenant and Assistant Surgeon. Upon return of troops F and L, Third Cavalry, to Fort Davis, Texas, to rejoin his proper station, Fort Clark, Texas. S. O. 98, Department of Texas, August 13, 1885.

McCaw, W. D., First Lieutenant and Assistant Surgeon. Having reported back at these headquarters from detached service, ordered to rejoin his proper station, Fort Lyon, Colorado. S. O. 122, Department of the Missouri, August 17, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the two weeks ending August 22, 1885.*

Beyer, H. G., Passed Assistant Surgeon. To attend meeting of the American Association for Advancement of Sciences, at Ann Arbor, Michigan, and at conclusion of meeting to resume duty at the Smithsonian Institution.

Boyd, John C., Passed Assistant Surgeon. Ordered from Navy Yard, Washington, D. C., to special duty at Bureau of Medicine and Surgery, Washington, Navy Department.

Drennan, M. C., Surgeon. Assigned to temporary duty at Annapolis, Md., as member of board for physical examination of candidates for admission to U. S. Naval Academy.

Lippincott, J. C., Passed Assistant Surgeon. Ordered to Navy Yard, Washington, D. C., as relief of Passed Assistant Surgeon Boyd.

Owens, Thomas, Assistant Surgeon. Relieved from special duty at Bureau of Medicine and Surgery, Navy Department, and waiting orders.

Sayre, J. S., Assistant Surgeon. Ordered from United States Receiving-Ship Independence to Naval Hospital, Mare Island, California.

Simon, Wm. J., Surgeon. Assigned to temporary duty at Annapolis, Md., as member of board for physical examination of candidates for admission to U. S. Naval Academy.

Marine-Hospital Service. — *Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending August 22, 1885.*

Bailhache, P. H., Surgeon. Granted thirty days leave of absence. August 15, 1885. Chairman of board to examine candidates for appointment as cadet in the Revenue-Marine Service. August 19, 1885.

Irwin, Fairfax, Passed Assistant Surgeon. Recorder of board. August 19, 1885.

Society Meetings for the Coming Week:

Tuesday, *September 1st:* Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Franklin and Niagara (Lockport), N. Y.; Hudson County, N. J., Medical Society (Jersey City); Androscoggin County, Me., Medical Association (Lewiston).

Wednesday, *September 2d:* Medical Society of the County of Richmond, N. Y. (Stapleton).

Thursday, *September 3d:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Obstetrical Society of Philadelphia.

Friday, *September 4th:* Practitioners' Society of New York (private).

Saturday, *September 5th:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Letters to the Editor.

THE DISINFECTION OF RAGS.

Baltimore, *August 23, 1885.*

To the Editor of the New York Medical Journal:

Sir: I am glad to learn from the letter of Mr. Augustine Smith, published in the "New York Medical Journal" of August 8th, that the paper-makers do not object to the disinfection of rags from infected ports, and are even willing, "out of deference to public opinion," to have their importation from such ports entirely prohibited.

I for one should not be inclined to insist upon the disinfection of rags shipped from healthy ports if we could be sure that they had not been collected in infected localities. Here is the great difficulty with which health officers have to contend. It is evidently impossible in many instances to ascertain exactly where the rags have been collected. For example, if an English ship, sailing from Southampton or Liverpool, should bring a cargo of rags to New York, would any one suspect the possibility that these rags might have been collected in Spain? Yet this is not simply a possibility, but seems to be quite a probable event in view of the recent order of the Local Government Board, dated June 23, 1885. I quote from this order Articles II and III:

"Article II. From and after the date of this order, and until the first day of November, 1885, no rags from Spain shall be delivered overside, *except for the purpose of export* (italics are mine), nor landed in any port or place in England or Wales."

"Art. III. If any rags are delivered overside or landed in contravention of this order, they shall, *unless forthwith exported*, be destroyed by the person having control over the same, with such precautions as may be directed by the medical officer of health of the sanitary authority within whose jurisdiction or district the same may be found."

Comment is scarcely necessary; evidently a merchant receiving a cargo of rags from Spain has but one way to save his property from destruction, under the order of the Local Government Board, viz., to "forthwith" export the rags to the United States, or some other country willing to receive them.

Those who have opposed the disinfection of rags have claimed that there is no case on record in which cholera has been transmitted by means of rags. Even if this were true, the evidence that is on record with reference to the communication of the disease to laundresses by means of the soiled linen of the sick would be a sufficient reason for excluding rags from infected ports, unless disinfected in a satisfactory manner. But there is a case on record which seems to be well authenticated. I quote from a letter received a few days since from Dr. Sonderegger, president of the Swiss *Aerzte Commission*, and delegate from Switzerland to the International Sanitary Conference of Rome:

"The fact relating to rags was observed and described by Prof. Biermer (living now in Breslau as Professor of Practical Medicine), and by Dr. Zehnder, vice-director of the board of health (Sanitätsrath), who were both most active at the time of cholera at Zurich in 1867: July, August, September, October, number of patients 684; number of deaths 65·9 per cent.

"Kriegstetten is a small village in the canton of Solothurm, at eighty to one hundred kilometres distance from Zurich, and not connected with this town either by water (lake, river, marsh) or by trade and industrial commerce. There is a paper-mill at Kriegstetten, and a work-woman, who had to tear the rags, was suddenly taken with cholera and died the following day. The following days sixteen more work-women (all occupied in tearing the rags) were taken sick: of these, eleven died. A careful examination showed that all of these rags went from Zurich and from cholera-houses; therefore the whole mass of rags was disinfected by boiling. After this no case of cholera occurred. The large establishment of the paper-mill, as well as the village, remained free. I mentioned the fact in a little address to the Swiss people, which I have the honor to send you,* and nobody doubted the fact or made any opposition. The fact was known everywhere in Switzerland."

George M. Sternberg.

THE INTERNATIONAL MEDICAL CONGRESS.

Albany, *August 21, 1885.*

To the Editor of the New York Medical Journal:

Sir: Soon after the meeting at Chicago of the new committee to rearrange the International Medical Congress I saw my name mentioned in a reported list of proposed officers of sections. As this was not an authenticated publication, I did not feel warranted in taking action until I should receive the customary official notification of appointment. Finding, however, that none of those named in the printed report appear to have been otherwise notified, and being unwilling to remain in an attitude of even seeming ambiguity, I beg to say that I have no intention of holding any position in connection with the proposed scheme. I am, sir,

Faithfully yours,

Alfred Ludlow Carroll, M. D.,
Fellow State Medical Association.

* This "little address" is an admirable sanitary tract, giving practical directions relating to disinfection, etc. G. M. S.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of June 18, 1885.

The President, Dr. A. Jacobi, in the Chair.

The Operation for Lacerated Perinæum.—Dr. H. W. Mitchell read a paper in which he described his method of repairing the lacerated perinæum, which, he said, was essentially the method practiced about as long ago as 1850 by Dr. Isaac E. Taylor, and which had been practiced by Dr. Thomas and others. He thought to repair the perinæum was a simple procedure—one which any surgeon of ordinary skill and knowledge of the parts could carry out. The lacerated parts being held apart by two assistants, the surgeon introduced his left index-finger into the rectum, and with curved scissors pared off the mucous membrane of either side down to the median line, taking care not to go up too high on the sides, which would be to leave a pocket between the rectum and vagina after the sutures had been passed. The parts were now ready for the passage of sutures. These he introduced by the small sized curved needle, commencing below, and passing them sufficiently deep to give a firm support. The number passed was usually three or four. He used silver wire, threaded directly on the needle, thus dispensing with the ordinary clumsy method of first passing a silk suture, and by this jerking a wire through. He then passed some superficial silk sutures and approximated the edges of the skin. Having made the bowels move freely previous to the operation, he kept them confined about six days afterward. Cleanliness was sufficient antiseptic precaution; ont of forty cases, the histories of all of which he read, carbolic-acid solution was used in only five, and in the others no so-called antiseptics were employed. In all of the forty cases there was union by first intention; the wires were usually taken out on the sixth or seventh day; in a number of the cases a laceration of the cervix uteri was repaired at the same time. None of the operations were primary.

Dr. A. C. Post said that, the author's cases having been so eminently successful, no exception could be taken to either the discarding of antiseptics or the details of the operation. He thought, however, there was an advantage in keeping the bowels free after the operation, and he thought this plan was now coming into general practice.

Dr. Malcolm McLean could not understand how the author had found drawing the silver wire through by means of the silk loop a disadvantage when all other operators had found the loop an advantage. He also thought the curved needle had generally been discarded because it was liable to turn or to break; the modern method of lifting the parts into line and passing the straight needle he thought much better. Nor could he understand how it happened that Dr. Mitchell's patients escaped pain after the operation, which others had always found to be so troublesome.

Contagious Conjunctivitis.—Dr. Joseph A. Andrews read a paper on this subject. It will be published in full hereafter.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of February 26, 1885.

The President, Dr. B. F. Westbrook, in the Chair;

Dr. A. H. P. Leuf, Secretary.

Pulmonary Gangrene.—Dr. Eliza M. Mosher read a paper giving a history of a case of this sort, with remarks. [See p. 233.]

Demonstrations of an Easy Method for the Estimation of Urea and Sugar in the Urine was the title of a paper read Dr. W. M. Hutchinson.

Cæsarean Section.—Dr. Charles Jewett read a paper giving the history of a case, with remarks. [See p. 231.]

Intra-ocular Melano-sarcoma.—Dr. Arthur Mathewson related the case of a patient, fifty-nine years old, who had first been examined by him November 28, 1882, when a large detacht ment of the retina, in the lower part of the fundus of the right eye, was discovered with the ophthalmoscope. The vision of the eye was totally lost in the course of a few months, but there was no pain or inflammatory symptoms till the autumn of 1884, when the other eye became red and painful, with great increase of tension. The crystalline lens had become opaque so that nothing of the fundus could be seen. Other means of relief from the torturing pain having failed, the eye was enucleated October 30, 1884, when a large melanotic mass was found occupying three fourths of the vitreous chamber, and extending back through the sclera about the optic nerve. Microscopic examination showed the growth to be a melano-sarcoma. The point of chief interest in this case was the fact that there was nothing in the appearance at the first ophthalmoscopic examination to distinguish it from an ordinary detachment of the retina from other causes, and nothing to indicate its dangerous character. The lesson to be drawn from it was, always to be on the lookout for morbid growths behind the retina as a possible cause of its detachment, and to enucleate early where there seemed to be just ground for this suspicion. In this case, as in others formerly presented by him to the society, sooner or later some of the abdominal viscera would probably become the seat of melanotic growths. As yet there was no appearance of the growth in the orbital tissues.

A Fœtus of Five Months and a Half, as was estimated, was shown by Dr. E. H. Bartley, who said that it had lived quite thirty-two hours after its birth.

Urethral Stricture, with Complications.—Dr. C. N. D. Jones read a paper embracing the history of the case, with remarks. [See p. 235.]

Cancer of the Breast.—Dr. George Waokerhagen related the case of a woman, forty-five years old, who had been married twenty-six years and had never been pregnant. She ceased to menstrnate at the age of forty-three. Six months ago she first noticed a small lump in the left breast. It enlarged very slowly, and she did not complain of pain until about six days before the operation; it was then of a burning and shooting character. The breast was removed on the 10th of January, together with all the axillary glands, although the latter were not diseased. Strict antiseptic precautions were observed, and the patient made a good recovery. Microscopical examination showed the tumor to be a typical carcinoma, with thick alveolar walls and small alveoli containing epithelial cells.

Abdominal Cancer, with Perforation of the Stomach.—Dr. W. C. Burke, Jr., of South Norwalk, Conn., read the history of the case. [The author reserves it for future publication.]

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of June 16, 1885.

The President, Dr. J. A. McCorkle, in the Chair;

Dr. Z. T. Emery, Secretary.

The Salicylic-Acid Treatment of the Intestinal Catarrh of Infancy.—Dr. W. A. Northridge read a paper with this title. [See p. 229.]

Dr. E. H. Bartley said that he had had some little experience in the salicylic-acid treatment of the diseases of children. He had begun this treatment in 1880, taking the suggestion from a paper read before this society by Dr. Hutchins. Dr. Hutchins had used the same treatment recommended by the author of the paper just read, and had reported very flattering results. He, however, recommended it only in certain cases—if the speaker's memory served him, in cases of watery diarrhœa, in cholera infantum, so called; and in those cases he obtained very excellent results. The speaker had begun the use of it, hoping to find something that would check the large number of cases that he was called upon to treat, and he must say that he had been very much disappointed in the drug. Since then he had used it more or less every summer, but he selected the cases. He thought it a valuable remedy, but he would not laud it so highly as the author of the paper had. In the histories that had been reported we must consider one thing which was very favorable to the drug, and that was that these patients had been sent from an over-heated, over-crowded, and filthy tenement-house region, as a rule. They were the children of poor people who could not afford even fresh air at home, and they were sent to the island for the purpose of securing fresh air. All of them, with one exception, if he remembered rightly, were put upon the salicylic treatment on reaching the island. We should naturally expect an improvement, with any treatment or no treatment, in children taken from a heated, over-crowded part of the city and brought to Coney Island, where they got a free supply of fresh cool air. That, of course, was favorable to the drug, and made the author's statistics look a little brighter than they would look if he had had to treat children in Front, Water, Hicks, Columbia, or Van Brunt street. Histories from those streets would show a much smaller number of cures. Still, as he had said before, with selected cases there was a great deal of efficiency in salicylic acid. These selected cases were those of true fermentative diarrhœa—a point that he had laid some stress upon in a paper read before the society a year ago. There were some cases that began as a true fermentation in the undigested food of the lower canal, giving rise to intestinal catarrh, afterward extending either to the stomach, producing gastro-enteric catarrh, or extending downward and becoming a colitis. In such cases salicylic acid would act beneficially. He was not sure but it would act fully as well, if not better, if administered in the form of salicylic acid instead of this form of salicylate of calcium.

The author had made the remark that the effect was due principally to the salicylic acid. If that was true, of course it would be quite as well to use salicylic acid. A part of the effect was due to the anti-fermentative effect of salicylic acid, and part to the astringent effect of salicylate of calcium. He thought it was a little unfortunate that the author had not attempted to give us a little more of his impression as to whether these cases were of this fermentative character. Of course, his means of observation in that respect had not been what they would be in treating a case from its inception. He took the case well established, and did not know much of the previous history, except from a very brief statement sent with the patient; but the speaker thought it was stretching the thing a little, to say the least, to recommend the method as a wholesale treatment in all cases of summer diarrhœa. Instead of salicylic acid he had found benzoate of sodium or of ammonium to be equally efficient. To check the green stools, accompanied by undigested food and the free fatty acids, he had found the benzoate of sodium or benzoate of ammonium, in doses of from one to two grains, to answer the purpose very well. We all knew the benefit of calomel in these cases. It prevented the secondary fermentation, and had a very soothing effect upon the mucous membrane. The effect upon the nervous system was greater, perhaps, from calomel than from salicylic acid.

In regard to the use of opium, he thought he had had the best success with it in the treatment of watery diarrhœas; but in nearly all such cases, or in a great many, he had used one of the anti-fermentatives, and had settled down upon the benzoates.

Dr. Walter B. Chase said that, without questioning the accuracy of the author's observations regarding the cases which were under treatment at the Sea-side Home, it seemed to him that, as had been suggested by the last speaker, the value of any given course of treatment of a case of entero-colitis or allied summer diseases of children would be determined, not principally by the effect of treatment away from home, but by the effect of treatment at home; and so the value of statistics which were made at the sea-side, away from home, was somewhat uncertain, because we were unable to estimate the value of the hygienic surroundings and the change of atmosphere. This was a very large question to discuss, and he did not purpose to occupy more than a moment. He was coming to believe that, apart from hygienic surroundings, very much depended upon whether these little ones who were fed artificially were properly fed. He believed it was the common experience that at home, or at the sea-side, or in the mountains, the question of digestion, both gastric and intestinal, was the principal factor in the safety of the patient and the time of recovery. No doubt one great trouble in the treatment of these cases had been due to the fact that these little ones had been overfed, which added to the depressing effect of heat and of fermentative action in the alimentary canal. The feeding in many cases had been of an improper kind and at improper intervals. If these children could be fed less, and given some fluid which contained very little nourishment, like barley-water or rice-water, the chances for recovery would be vastly increased. He had had some experience in the use of pancreatic extract in the preparation of milk for artificially fed infants, and was very much interested in it. While he was not prepared to formulate the result of his experience, he believed that, if we could prepare milk in such a manner that when it was acted upon by the juices of the stomach there should be very small coagula or no coagula, by previously digesting the casein, the further process of digestion might go on with safety.

Dr. H. N. Read said that he had had some experience with the treatment described by Dr. Northridge. Dr. Bartley and he had treated a large number of cases of diarrhœa on the plan recommended by Dr. Hutchins some years ago, which was substantially that given by Dr. Northridge, by using a mixture of salicylic acid and chalk. His experience with the remedy coincided with Dr. Bartley's. It was quite useful in some cases, *e.g.*, fermentative diarrhœas, but not at all superior to, or indeed the equal, he thought, of other remedies. The value of the results of the cases mentioned in the report was very much lessened, he thought, by want of comparison and classification. Cases of diarrhœa in infants treated by salicylic acid and chalk in a sea-side sanitarium, with good air and food and wholesome surroundings, and the same cases treated by the same thing in the hot, dirty tenements of the city, would give very different results. Under the former surroundings almost any treatment would give favorable results, while under the latter few plans of treatment would avail. The author had found this remedy equally efficacious in entero-colitis as in the simple diarrhœas. The first case of entero-colitis mentioned in the paper exhibited, if he remembered aright, neither fever nor vomiting, nor was any mention made of bloody stools. It would be extremely interesting to know how the diagnosis of entero-colitis was made under

these circumstances. Entero-colitis, being an acute inflammatory affection of the bowel, was necessarily attended by fever, vomiting, and almost as invariably by bloody and slimy stools. It differed as much from simple diarrhœa as pneumonia did from bronchitis. Its pathology and treatment were essentially different from those of the simple catarrhal diarrhœas. It seemed to him, therefore, that the author claimed too much for the remedy he advocated. While it was useful, undoubtedly, in the treatment of simple diarrhœa, it had no advantages over other remedies.

Dr. TOPHAM said that he could hardly agree with the author as to the use of salicylic acid in the treatment of these diseases. He thought that, instead of their being produced by a germ, it was by the action of undigested food producing irritation. We all knew that this summer diarrhœa was essentially a heat disease, and, if we kept the little ones cool and dieted them properly, they would need no other treatment. He would rather hesitate to put three grains of salicylic acid into a child's stomach when he had it at the sea-side with plenty of fresh air and full control of its diet.

Rhachitis.—Dr. HENRY N. READ read a paper with this title. [See p. 225.]

Dr. BARTLEY said that Dr. Read had spoken of one or two theories in regard to ætiology. Whatever the explanation was, it certainly was due to some form of malnutrition or defective nutrition; and in tracing back the histories of a number of cases he had about come to the conclusion that it was very often due to a long-continued gastro-enteric catarrh. He had risen more especially to call attention to one element in the production of this disease. A man was expected always to speak on his hobby, if he had one, and not go very far outside of it. He was going to speak upon his hobby, and that was milk. He had come to the conclusion that a large number of the cases of gastro-enteric catarrh were originated and kept up by unsuitable milk. He had recently tried an experiment which was very suggestive. It was this: Having visited a farm out in the country, and selected one that he knew was as good a farm as could be made on Long Island, he requested the man to send him milk for the Sheltering Arms Nursery in this city. He was to mark a can "afternoon's milk," so that it would be known when it reached the city. This was taken to the depot, and five or six quarts, whatever was necessary for their use, were to be taken out, placed in a small pail, and delivered at once at the Nursery; so that in the morning, at seven or eight o'clock, the milk of the previous afternoon was delivered at the Nursery without any churning except what it got on the train. The children, small hand-fed babies, were put upon the use of this milk. He noticed immediately an improved condition in all of them, and children that had been dying before, in spite of peptogenic powder and everything else, now began to thrive; and he was satisfied that the trouble that led indirectly or finally to the development of rhachitis was due to improper food and an improper milk. He had come to the practice of prescribing milk for babies as much as medicine. He wanted to know who put up the medicines, and he wanted to know who served the milk. Of course, he had the opportunity of knowing better than most physicians of the good milk-dealers and the poor ones. He could not advertise anybody here; he could only say in general terms that it was always safer to recommend country milk—not somebody's "farm milk," who brought it from his own cows, because those "farms" were, as a rule, little hovels in which as many cows were kept as could endure the place. It was better to take country milk, and take it directly from one of the large dairies. And in this regard he wished strongly to advise every physician to test the milk himself occasionally. An ordinary test-tube would answer for a cream-gauge; and by means of an ordinary urinometer the specific gravity could be determined. In regard to the amount of cream thrown up, it should not be less than ten or twelve per cent. He would not allow a delicate baby to take a milk that threw up less than twelve per cent. There were milks that came directly from the country that did not throw up that, but he would not allow them to be used. The specific gravity of the milk should not be less than 1·030 nor above 1·035, as that indicated thickening. The ordinary milk in its transportation received a great deal of churning, and was sometimes kept four or five days before the baby got it. If it was examined under the microscope, little lumps of butter would be found. The field between the fat globules would have a fine granular appearance. Although it was not sour, it was on the point of souring, and the minute it got into a child's stomach it would be apt to form large curds.

Eclampsia in Early Life was the title of a paper read by Dr. JOSEPH HEALY. [See p. 228.]

Reports on the Progress of Medicine.

ANATOMY AND PHYSIOLOGY.

BY GRÆME M. HAMMOND, M.D.

Distribution of Anæsthesia in Cases of Disease of the Branches and of the Roots of the Brachial Plexus.—Dr. James Ross ("Brain," April, 1884), after making a very exhaustive study of a large number of cases in which the functions of the sensory nerves of the brachial plexus had been destroyed either by disease or by the knife, arrives at the following conclusions: 1. That one of the principal nerve-trunks of the brachial plexus may be completely divided without giving rise to complete anæsthesia in any part of the area of distribution of the sensory branches of the nerve, and that, when complete anæsthesia does occur, the portion of skin affected is very limited, and even the area of skin affected is usually much less than that of the district corresponding to the anatomical distribution of the nerve.

2. That, as a general rule, the anæsthesia caused by division of one or more cutaneous nerves tends to become progressively less in degree and extent with the lapse of time. From this it follows that in division of one or more cutaneous nerves the area of normal sensibility tends to encroach upon the anæsthetic district, so that when one nerve (say the radial) is divided, its area of distribution, when judged by the extent of the anæsthesia, appears to be very small, while, when it is the only one of the three principal nerves of the hand that is spared, its area of distribution, as judged by the extent of the area of normal sensibility, appears to be unusually large.

3. That the extent, degree, and even localization of the anæsthesia caused by the division of any nerve, differ greatly in different cases, without our being able to discover anything in the injury to the nerve or in the external circumstances of the patient which would account for these differences.

4. That the descriptions given by Kraus and by Henle of the anatomical distribution of the digital branches, and especially those derived from the median nerve, correspond more accurately with the results of pathological observations than those usually given in English anatomical works.

On the Connection between Physiological Action and Chemical Constitution.—In relation to this subject Dr. J. Blake ("Journal of Physiology," April, 1884) points out that among the salts of the metallic elements the intensity of their physiological action is connected with the atomic weight of the elements, so that, when the elements are arranged in isomorphous groups, the action of substances in the same isomorphous group is a function of the atomic weight; the greater the atomic weight, the smaller the quantity required to produce the same physiological action. Dr. Blake has tabulated a list of substances

whose physiological action has been investigated, arranged in isomorphous groups, together with their atomic weight. If, in the first or soda group, salts of any of the elements contained therein are injected into the veins in a sufficiently concentrated state to give rise to any well-marked physiological reaction, they kill by arresting the passage of the blood through the lungs, apparently by causing contraction of the pulmonary arteries. When the solution is strong enough, this is so complete that the circulation is immediately arrested and the animal dies, the respiration being stopped by the great venous congestion caused by the blood not escaping from the right side of the heart. Even when injected into the arteries, these substances kill by their action on the lungs, although the quantity is much greater than when injected into the veins.

In the second, or magnesia group, the most marked physiological action of the salts of these elements, when introduced directly into the veins in sufficient quantities, is to suddenly arrest the action of the heart. This takes place in about ten seconds after the salt has been injected. When injected into the arteries they generally arrest respiration before reaching the heart. Even in small quantities their effect on the nervous system is well marked. They give rise to a state resembling catalepsy.

When the salts of the third, or baryta group, are injected in sufficient quantities into the veins, they destroy the irritability of the heart, its pulsation being arrested in diastole. When injected into the arteries, the heart's action is affected in three or four seconds. No appreciable effect is produced on the nervous system, but the most marked results are noticed in their action on the voluntary muscles. With the salts of lime this is shown by a thrill running through the whole of the voluntary muscles, commencing soon after death, and lasting three or four minutes. With the salts of strontia and baryta these movements are much stronger, sufficiently so to move the body half an hour after death.

In the fourth, or aluminum, group the salts of beryllium, alumina, iron, yttria, and cerium have been experimented with. The physiological action of these salts is on the vaso-motor and respiratory centers and on the intrinsic nerves of the heart. Injected into the veins, these salts produce an immediate contraction of the pulmonary arteries. When injected into the arteries, inhibition of the heart's action follows from stimulation of the vagus center.

The salts of the fifth, or platinum group, when injected into the veins, act directly on the intrinsic nerves of the heart, slowing its action with vagus pulsation, the arterial pressure being diminished. When injected into the arteries, the vagus center is immediately affected, the action of the heart being slowed in two or three seconds. The salts of this group retard or render imperfect the coagulation of the blood.

In the sixth group the salts of thoria and cerous oxide have been experimented with. They agree with the alumina group in acting principally on the vagus and vaso-motor centers.

The last of the metallic elements, the action of whose salts has been investigated, is lead. When introduced into the blood, they act similarly to the soda salts in causing contraction of the arteries and the secretion of serum in the bronchial tubes, and an analogous action to the baryta salts, whereby muscular movements continue many minutes after death. They also give rise to contraction of the systemic arteries.

The seventh group contains phosphorus, arsenic, and antimony, and, when introduced directly into the blood, are not followed by any well-marked physiological effects. In poisonous doses they kill either by paralyzing the heart or by their action on the mucous membrane of the lungs, a serous secretion being poured out which prevents the aëration of the blood. The whole of the mucous membrane of the alimentary canal is also acted on.

In the eighth group the salts of sulphur and selenium, when introduced into the arteries, arrest respiration by their action on the nervous system. They do not affect the systemic arteries, but cause secretion from the lung capillaries into the air-passages.

The ninth group contains the elements chlorine, bromine, and iodine. They all act on the vaso-motor and respiratory centers and keep up the irritability of the heart.

Hemisection of the Spinal Cord.—"The most careful experiments on the lower animals," says Ferrier ("Brain," April, 1884), "such as those of Ludwig and Woroschiloff, always leave room for doubt whether the reactions which result from the application of sensory stimuli to parts below the experimental lesion are to be regarded as signs of sensation proper, or merely of reflex action more or less general. On questions involving subjectivity, the most satisfactory evidence would be furnished by observations in man, but we rarely, if ever, meet with spinal lesions so exactly limited as to be made available for this purpose."

With the view of determining the effects of strictly unilateral division of the spinal cord in an animal as nearly human as possible, Ferrier made the following experiment on a monkey:

The animal was chloroformed, and, under stringent antiseptic surgical precautions, the cord was exposed and the left half divided midway between the seventh and eighth dorsal nerves. For eighteen days the animal remained in good health, but at the expiration of that time died suddenly. Examination revealed an extensive clot pressing on the anterior face of the pons and medulla oblongata.

The wound in the dorsal region was more or less gaping, but perfectly free from pus. The pia mater was thickened, but the cord, with the exception of the lesion described below, was entirely free from injury or inflammatory softening.

The results of the lesion were as follows:

Mobility.—On the side of the lesion (left) the leg was absolutely paralyzed as to motion, and was dragged when the animal moved about the cage with the aid of the hand and the right leg.

The temperature of the left leg was, during the first two days, much higher than that of the right. After the fourth day no difference in temperature was noticeable.

The patella-tendon reaction was at first greatly impaired or entirely abolished. Before death, however, the left patella reaction was more distinct than the right.

Sensibility.—The slightest touch or ruffling the hair of the left foot, flank, or left side of the tail, invariably attracted the animal's attention. A prick with a pin, a pinch, or a touch with a heated wire, caused it to rub the part or angrily try to seize and bite the offending cause. Hyperæsthesia of the left leg was not shown on the opposite side (right).

Mobility.—The right leg was freely moved volitionally in all directions. The animal could grip with its right foot with considerable vigor, and did so, as well as with its hands, when it wanted to free itself when held prisoner. This, however, was only true when vision was free and no impediment was offered to the intended movement of the right leg. The manifest difference between the use of the right leg, with and without vision, clearly indicated the abolition of the sense of muscular contraction, and inability to appreciate the position assumed by the leg, except with the aid of vision.

Sensibility.—In addition to the abolition of the so-called muscular sense, there was total absence of any signs of perception of contact. Pinching, pricking, or the application of heat failed to produce any sensation. There was thus total anæsthesia and analgesia of the right leg, and this extended to the right flank and right side of the tail.

The power of evacuating the contents of the bladder and rectum was not perceptibly affected.

We have thus in this case complete motor paralysis, with retention of sensibility, on the side of the lesion, and complete anæsthesia and analgesia, with retention of mobility, on the side opposite the lesion.

The Lesion.—No softening existed. The left anterior column immediately bordering the anterior fissure (the anterior median column), a small portion of the anterior root zone, and a portion of the left posterior column immediately bordering the posterior fissure, were undivided. The whole of the columns on the left side of the cord, with these exceptions, were divided.

Microscopical investigation showed ascending degeneration, characterized by atrophy of the axis cylinders without any increase in connective tissue, in the left columns of Burdach, and in the direct cerebellar tract both above and below the lesion.

Below the lesion there was disappearance of axis cylinders in the postero-lateral column of the left side corresponding to the area of the crossed pyramidal tract. No degeneration was detected in any of the other columns.

The Relation of the Nervous System to the Temperature of the

Body.—Dr. Isaac Ott ("Journal of Nervous and Mental Diseases," April, 1884) has lately made some interesting experiments in this direction. His plan was to make transverse sections of the brain from before backward. The apparatus used was d'Arsonval's calorimeter and Voit's respiration apparatus. The experiments were made on rabbits and cats. The method pursued was as follows: The animal was placed in the calorimeter and the change in the rectal thermometer noted, as well as the amount of air aspirated from the calorimeter. After an hour or two the animal was removed, etherized, and a transverse section of the brain was made. When it had recovered from the ether it was again placed in the calorimeter, and the same changes as heretofore noted. The skull was broken up by a bone forceps and the "seeker" introduced, the section being made by its blunt edge. The small seeker penetrated the cortex with but little injury to it, and, when it reached the base of the brain, was drawn transversely so as to divide the parts without injuring the cortex of either side. In the first experiment the olfactory bulbs were divided without being followed by any rise in temperature. In eight experiments in which a transverse section was made behind the corpora striata, the temperature rose in seven of them from 1° to 4⅞°, while in one the temperature fell ⅜°, probably from shock. Three experiments, in which the transverse section was made through the middle of the corpora striata, were performed. In one there was a rise of 7°, in another a rise of 1⅝°, and in the third a fall of 6⅜°. Observation made on the day following a section behind the corpora striata showed that the rise in temperature was not wholly temporary. All these experiments, Dr. Ott concludes, lead up to the belief that in the vicinity of the corpora striata there are centers which have a relation to the temperature of the body.

On Rhythmic Contractions of the Capillaries in Man.—Dr. T. Lauder Brunton ("Journal of Physiology," April, 1884) claims that, although rhythmical contraction and dilatation of the small blood-vessels, independently of the action of the heart, have been observed in the lower animals, they have not hitherto been described in man. The cases in which rhythmical pulsation, independent of the heart and of the respiratory movements, was observed were cases of marked aortic regurgitation. When the aortic valves are incompetent, the blood flows back into the heart during the diastole, leaving the pressure in the arterial system low. The heart thus receives during diastole blood from two sources—from the pulmonary veins and from the aorta—so that at the next systole a very large wave is forcibly driven into the relaxed aortic system. The alternate distension and relaxation of the small arteries render pulsation in them much more readily observed than in ordinary cases. The method of observing it is this: The finger-nail should be drawn once or twice up and down the middle of the forehead; a red streak is left, which will sometimes remain for many minutes. This streak undergoes variations of width and brightness which are very evident to the eye, and some of which coincide with the beats of the heart. In addition to this, a second rhythm of contraction and dilatation may be observed corresponding to the respiratory movements, and the rate of which is about eighteen a minute. But, in addition to these two rhythms, Dr. Brunton observed a third, which he is inclined to regard as due to independent contraction of the minute vessels. It is difficult to ascertain precisely the rate of this capillary rhythm, but, from a number of experiments, it may be said that it usually occurs approximately at the rate of one in twenty seconds. It is probable, however, that this rate is subject to numerous variations.

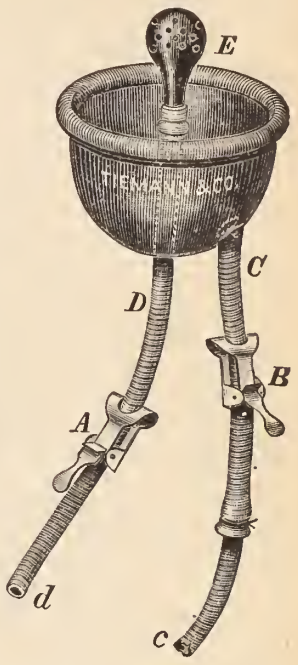
New Inventions, etc.

AN INTRA-VAGINAL CUP SYRINGE.

By E. P. Fraser, M. D.,
PROFESSOR OF GYNÆCOLOGY, MEDICAL DEPARTMENT OF THE WILLAMETTE UNIVERSITY, PORTLAND, OREGON.

The proper administration of therapeutic vaginal injections in the dorsal recumbent position, with hips elevated, is almost impossible, owing to the discomfort, annoyance, and expense attending the use of the various contrivances for receiving the injection fluid as it leaves the vagina. These are entirely overcome by the simple instrument shown in the accompanying woodcut.

The instrument consists of a cup made of soft rubber with a flexible ring around the top. Through the bottom of the cup pass the afferent tube (D), with hard rubber nozzle, and the efferent tube (C), to which is attached a waste-pipe two feet and a half long, for conveying the fluid into a receptacle under the bed or table. These tubes are supplied with patent stop-cocks (A and B). The nozzle (E) may be removed from the cup when desired. The cup is readily introduced into the vagina by compressing the flexible ring, which easily passes the sphincter muscles, and, expanding, produces sufficient pressure on the vaginal walls to prevent the escape of the fluid except through the efferent tube.



The nozzle of any style of syringe may be inserted into the afferent tube, and any quantity of water may be injected with perfect comfort to the patient. The patient lying on the back with hips slightly elevated, the fluid dilates the upper portion of the vagina and comes in contact with the entire surface, while the more sensitive portions of the vagina, vulva, and perinæum are completely protected in case very hot water is used.

In applying to the vagina or cervix glycerin, or glycerole of tannin, or any fluid application, the nozzle being removed, close the stop-cock B in the efferent tube, remove the waste-pipe, inject the application, close the stop-cock A, and leave the instrument *in situ*. Instruct the patient to allow the fluid to escape at a specified time and to remove the instrument, or allow it to remain in the vagina as a temporary support to the uterus, thus doing away with cotton and oakum tampons. Many ways will suggest themselves to the physician in which this simple instrument may be made useful. I have derived much satisfaction from its use, as with it vaginal injections and medicinal applications to the vagina and uterus may be properly administered with the greatest facility. It is gladly given to the profession, believing that it only needs to be tried to be appreciated.

These instruments are manufactured by George Tiemann & Co., New York City.

Miscellany.

The International Medical Congress.—The "Medical News," after referring to the statement made in the "Journal of the American Medical Association" in reference to the alleged resignation of Dr. John H. Packard, as Secretary-General of the Congress, says:

"We are just informed by Dr. Packard that the above statement, so far as it concerns him, is absolutely false and without foundation, and that he has written to the editor of the 'Journal of the Association' a letter for publication to that effect. While the new committee has never had any claim to public support, we yet regret that, to stimulate its waning strength, it should still further estrange public confidence by again resorting to the method of willful misrepresentation to which it owed its birth.

"Under the circumstances it is necessary for the 'Journal of the Association' to present the proof of the correctness of its statement concerning the intentions of other gentlemen before the profession can give to it unqualified belief."

The "Journal of the American Medical Association," in an editorial entitled "More Signs of Progress," says:

"In regard to the rules for regulating the conditions of membership and the working of the Congress, it is well known that all the rules relating to the latter were adopted by the new committee without change. The only change of importance proposed was in Rule 1, which related to the terms of membership. The change in this rule proposed by the committee was not satisfactory, and it is still open for further consideration and adjustment at the coming meeting of the committee on the 3d of September. In our issue of August 8th we gave two propositions that had been suggested for regulating the American Membership of the Congress, both of which were amply liberal—the one retaining the representative principle and applying it to all the national special organizations, as well as to the National Association and the State and local societies in affiliation therewith; the other opening the door of the Congress, so far as its scientific proceedings and interests are concerned, to all members of the regular profession who might choose to register and take their tickets of admission. If either of these propositions is satisfactory, let the 'News' say so. Or, if it will be more satisfactory to all parties, and will be accepted as a basis of adjustment to have the Rule 1 read simply as follows: 'The Congress shall be composed of members of the regular medical profession who shall have inscribed their names on the register, and taken out their tickets of admission,' thus making the terms of membership alike to all, American and foreign, let the 'News' and its friends indicate this, and the proposition will receive a fair consideration. They can not longer maintain their dog-in-the-manger policy on purely personal considerations without passing into history as persistent obstructionists, who place their personal prejudices above the honor and welfare of the profession to which they belong.

"The 3d of September is near at hand. If those members of the profession who so abruptly abandoned the honorable and responsible positions to which they had been assigned wish to retain those positions, and aid in maintaining the honor and interests of the profession of their country, let them move in that direction soon, or their places will be filled by others equally eminent, and the good work will move on without them. To talk of restoring the Original Committee of eight appointed by the association at Washington, and enlarged by its own action, is simply childish. It is perfectly well known that the original committee appointed at Washington is now an integral part of the present Committee of Arrangements, and has no existence in any other capacity or connection. The enlargement of the original committee by the addition of a representative from each State, and from the Medical Corps of the Army and Navy, instead of a less number selected from a few cities, neither lessens the efficiency nor detracts from the dignity of the committee, as simply a Committee of Arrangements. And such committee will proceed with its work in a true conservative liberal spirit, and will complete the preliminary organization of the Ninth International Congress on as liberal a basis and under the official leadership of as eminent and learned men as the profession in America contains."

The "Lancet" says:

"We are glad to gather from our latest information from the United States that the prospects of the International Medical Congress meeting have improved. It would be strange indeed if such a project in such a country could fail of a successful issue. The organization of the profession there may be somewhat different from what it is in older countries, and there may be ideas of professional freedom which exceed ours. There may even be questions of a personal character involved in the arrangements to be made; but that the arrangements will be great, and conceived in a magnanimous spirit, and worthy of the profession of a great country, may, we trust, be taken as already secured. One guarantee of this hopeful view being realized is to be found in the nomination of Dr. Flint as president of the Conference. Dr. Flint is so well known among us, not only by his works, but by his genial and dignified presence, that the English profession will need no other proof of the oneness of the profession in both countries, both in its spirit and its practice, than the selection by the American Medical Association of this distinguished physician for the chair of the Congress. It will be the same in other European countries. Dr. Flint has not hesitated to take long voyages in promotion of the internationa co-operation of the profession. He was as active at Copenhagen as in London, and we doubt not that the European response to the American invitation will be wide and hearty. The little differences which have arisen in America are such as the near approach of the Conference will dispel or resolve. Some of them are differences which will keep, and which can be postponed till after the Congress. The Congress itself will swallow many of them up, and give an overwhelming exhibition of the unity of the profession, such as will best at once answer and convert those who would break it up into sections and cliques, or liberate any of its members from those great traditions which have been the distinction of the profession from the time of Hippocrates downward.

"There are, indeed, powerful attractions to draw members of the profession over to Washington in 1887. The road is not an untrodden one. Many of our brethren have already crossed the water, and they bring back but one report of the greatness of the land, and the hospitality and kindness of its people, and especially of our medical brethren. Besides this, we need not remind our readers of the fact that medical art and science are in a most active state across the Atlantic. The Americans set us an excellent example year after year of disregarding the sea and its sickness in search of knowledge, and to acquire the last hints of Europe in art or science. They come so freely that we are apt to think they are only learners, and not teachers; but no mistake could be greater. They are profoundly influencing both surgery and medicine, and our own foremost leaders would be the first to admit their indebtedness to American physicians and surgeons in respect of details and of boldness in the improvement of instruments, in the great operations of surgery, in the addition of new medicines, and of enterprise in the whole field of pathology and therapeutics."

The "Medical Times and Gazette" says:

"The present medical situation in the United States has received less attention on this side the water than it deserves. But we may assure our American readers that all here who have mastered the question sympathize most deeply with them in the trouble that has befallen them. A disagreement like the present is, for many reasons, taken more to heart by our American kinsmen than it would be in England, assuming for the moment such a schism to be possible here. The American temperament differs perceptibly from ours. It is less insular and phlegmatic, more sensitive, we fancy, to the opinion of other countries, more concerned to make a good appearance before the world. Then the position of the medical profession in America is somewhat different from that which it holds in this country. Here we take a comparatively inferior place in the social hierarchy; we are overshadowed by estates and professions of higher importance and prestige in the nation's estimate. Our organization too is more oligarchical; there is more reverence among us for authority. Our leaders do lead, and if they are unanimous in any undertaking, as in the case of the London Congress, being able to count on the support of royalty, and the city, and South Kensington, and other depositories of power, they can afford to be indifferent to the support of the mere privates in their army. Even if the editor of the 'British Medical Journal' and all his council had made up their minds to control the London Congress or to wreck it, they would only have made themselves ridiculous. But in the United States the position of the profession is entirely different. There is nothing to overshadow it there. It holds a position as important and honorable in the State as that of any other calling; so that an International Medical Congress in America may be expected to enjoy a higher dignity from a national point of view than it can claim in older countries; but, at the same time, it must depend far more largely for its ceremonial success on the harmonious co-operation of the medical profession itself. Now, in the United States, the organization of the profession is purely democratic; there is no common link like that of our royal colleges, no recognized headship like that of our president of the College of Physicians, or our president of the College of Surgeons. According to the very political theory on which the State is founded, every man has as good a right to lead as any other, if he can only get that right admitted by his fellows, and for that purpose one vote is as good as another. Distinction in science and reputation abroad supply no reason to a practitioner in Texas or Colorado why he should follow a Wendell Holmes or a Weir Mitchell in preference to a Shoemaker or

a Beverley Cole. Hence a revolt of the 'rump' in the United States threatens to prove a much more disastrous affair than it would be in England, and hence we especially ask our readers' sympathy for those well and widely known American practitioners whose title to lead their profession is admitted everywhere except in the ruder and remoter States of their own country.

"We have had an opportunity of seeing several letters from distinguished American practitioners, and they all concur in expressing the most bitter grief and disappointment at the pass to which their profession has been brought. In these letters we have met with scarcely one word of anger against the dissidents who have rudely torn up the first programme of the Congress. Indeed, if we may say so without impertinence, the spirit in which the 'leaders' of the American profession, for we will still venture to call them so, have met the recent crisis is one which reflects the highest possible credit upon them. We hardly know which to praise most, their patient suspension of action until the Chicago meeting had confirmed the spirit of the proceedings of the meeting at New Orleans, or their swift and unanimous protest and withdrawal from the Congress when definite action was at length called for. The only hope for the Congress—the only possibility of maintaining the dignity of the profession—lay in such firm and united action on their part, and the effect of this action has been so favorable that there already appears to be a much more hopeful feeling in the States as to the prospects of a peace with honor. The organizers of the revolt are meanwhile making frantic efforts to prevent further resignations, and are even said to contemplate throwing over Dr. Shoemaker, on the score of his supposed unpopularity. But we may take it that no concessions on their part will be accepted short of unconditional surrender and full recognition of the authority and acts of the original committee. These are the essential preliminaries to the holding of any International Congress at all, and every day increases the prospect of their general acceptance. The sooner they are accepted the better. There will then be still two years in which to bury the hatchet, two years in which to prepare a Congress which shall 'whip creation.' We had all made up our minds for that, and shall be disappointed with anything less."

The "Pacific Medical and Surgical Journal and Western Lancet" says:

"The recent action of the American Medical Association has reduced all the arrangements for the approaching Congress to a state of chaos. In an unguarded moment it accepted the doctrine that none but members of the association, or of societies in affiliation with it, were eligible for seats in the Congress, and consequently refused to indorse the appointments made by Dr. Billings's Committee of Arrangements, who had taken the broad view that delegates should be selected from all regular practitioners. The so-called new code was made to play an important part in the discussion, and, consequently, such men as Emmett, St. John Roosa, Shrady, and Knapp were declared unqualified to become members of the Congress. In consequence of the above-quoted restrictions, the medical profession in Boston, Baltimore, and Philadelphia have refused to take any part in the proceedings, so that the American delegates will not be representative of the profession. Without doubt, the American Medical Association is the representative of the profession, and therefore the Congress convenes under its auspices; but it should be borne in mind that this latter body is an assembly of medical men, and not a convention of societies, and is not therefore bound by any code of ethics. The profession in every country has its own rules for the guidance and government of its members, and therefore the code of the American Association can not be taken as the criterion for the fitness of any man to occupy a seat in the Congress. When this question was first discussed we denied the prudence of the refusal to indorse the work of the first committee, although we admitted the power to do so; but a further consideration of the above facts, together with the recollection that the invitation was extended in the name of the PROFESSION in America, leads us to believe that every regular practitioner of medicine is eligible for a seat in the Congress. It is utterly absurd to debar men who have in former years occupied an honored place in that body, or those—such as Fordyce Barker, Emmett, Shrady, Loomis, and Jacobi—whose names are on the lips of every intelligent practitioner in Europe, merely because they hold somewhat broad views on a question of medical politics. If any one has exceeded its power, it is the American Medical Association, which was intrusted by the profession at large with the honor of making suitable arrangements, but not with the power of making laws which will exclude many of those from whom it will only be too ready to receive subscriptions.

"While the American Medical Association is thus caviling and squabbling, it seems to forget that its intended guests are being thoroughly informed of all those curtain lectures, and are not at all likely to leave their practice and cross the Atlantic for the purpose of participating in a party strife. The medical men of Europe promised to meet with those of this country for the purpose of engaging in scientific discussion, and will be amazed to learn that the noblest of America's children, who have followed in the footsteps of Æsculapius, are no longer considered members of the regular profession by their countrymen.

"Unless some satisfactory arrangement is arrived at within the next few months, the money necessary for the successful administration of the Congress will not be forthcoming, as the dissatisfaction with the action of the American Medical Association is very widely spread. We are told by the journal of the association that this is unwarrantable, for the changes made by the new committee were not of any great importance. We differ from our cotemporary in this opinion, but its truth would make the action of the association even more unpardonable, since only the most serious errors on the part of the old committee could justify the course which has been adopted.

"The proceedings of the revised committee which met at Chicago have especial interest for the profession of this State, as a serious change has been made in the *personnel* of those who were to have represented them at the International Congress.

"Dr. Levi C. Lane, whose aid in perfecting the arrangements was requested by the original committee of seven, has not only been dropped from the list of vice-presidents and from his position on the surgical section, but, as the matter now stands, is debarred from even entering the Congress as a delegate, for we learn that he was dropped on the pretext of his being a new-code man. When the New York State Medical Society adopted the new code, as it is called, and by so doing violated the tenets of the code of the American Medical Association, that association very properly denied to their delegates seats in its convention, and we at first thought that there was reason for dissatisfaction when these same men were appointed to take part in the International Congress. Further deliberation has made the difference between the two cases clear, and we believe, since the invitation was given and accepted in the name of the profession, that no regular practitioner should be excluded from a purely scientific meeting because his code differs from that of the American Medical Association.

"The committee had the power to make what appointments they chose, and in most instances closely followed their instructions, viz., to have regard for geographical representation, and not to appoint any new-code men. If, however, Dr. Lane, who had been in active correspondence with the Committee of Arrangements, and had been giving for the past year much valuable time and hard labor to the advancement of the arrangements for a successful Congress, was not reappointed because he was of the new code, a sad mistake has been made and a gross injustice has been done.

"As far as medical politics are concerned, there are no new-code men on this coast, nor in fact anywhere in the United States except New York alone.

"At the annual meeting of the California State Medical Society in 1882, the year in which Dr. Lane was elected president, resolutions were introduced to test the feeling of the members. Had these been carried, the action of the New York State Society would have been indorsed, and members have been allowed to consult with all *legally qualified practitioners of medicine*. They were, however, laid upon the table. Since that time no action has been taken, and, consequently, 'new codism' does not exist in this State. Dr. Lane is in good standing in the State Society, and the State Society with the American Medical Association, and therefore to say that he was a 'new-code' man can only have been used as an excuse to prevent his reappointment.

"A removal such as this, for such a reason, will produce an ill-feeling among the profession of California, which will only help in prevent-

ing the meeting of the Congress upon American soil being an honor to America."

Warm Baths at the White Sulphur Springs.—The managers of this popular health-resort call attention to a new method adopted by them for heating the water of the spring, which, they think, promises to be productive of the same good effects that are experienced from bathing in thermal waters. The heating is effected by steam in the vessel in which the water is to be used; consequently the heat is never so great as to cause much precipitation of the saline constituents. An additional advantage is, that more hot steam may be let in from time to time, so as to keep up the temperature of the bath.

THERAPEUTICAL NOTES.

Ergot as a Remedy for Hiccough.—Dr. E. Bonavia, of the British Indian Medical Department, in a short communication to the "Lancet," after mentioning the usefulness of ergot in various hæmorrhages, says: "Very few, however, may have heard that ergot will cure hiccough. Last autumn there was in this district an extensive epidemic of intermittent fever. The police hospital was full of fever cases. One day a policeman was admitted with an obstinate hiccough. He said he had had it for some days, and had no other ailment. I tried many remedies—sedatives, narcotics, antispasmodics, and counter-irritants. I examined his body to see whether there might not be some latent hernia in any part which might be the cause of it, but found nothing. I gave him a large antispasmodic enema, and then a strong purgative. The hiccough went on. I next tried chloroform and subcutaneous injections. As long as their effects lasted, freedom from the distressing spasm was experienced. Then it came on again with unabated force. The patient began rejecting his food and everything he took by the mouth. The case was taking a serious aspect, and I thought death would ensue. As a last resource, I ordered the liquid extract of ergot in drachm doses. I did this simply because I knew it had a decided action on muscular fiber. The first dose moderated the spasm, the second did further good, and the third or fourth stopped it altogether. The patient had some rest, but later on the hiccough returned. Three or four doses stopped it again; it never returned, and the man was well. Recently another case was admitted with a similar obstinate hiccough. My hospital assistant gave the liquid extract of ergot at once; after some doses the hiccough was stopped and did not return. I have often given this extract in drachm doses frequently repeated, and have never observed any disadvantages from it. As to the cause of this idiopathic hiccough, I think it was a chill."

The Treatment of Simple Acute Diarrhœa.—Dr. J. K. Spender, of the Mineral Water Hospital, Bath ("Brit. Med. Jour."), thinks that the management of that common malady, alvine catarrh, has never been raised to the scientific level of many diseases of rarer occurrence, so that there is always a little uncertainty in the prognosis. He refers to a formula published by Dr. David Young, of Florence, in the "Practitioner" for March, 1875; about two minims of castor-oil were combined with three or four minims of the British Pharmacopœia solution of hydrochlorate of morphine, and rubbed into an emulsion with gum arabic. To this were added spirit of chloroform and a little syrup. This dose was to be repeated every hour or every two hours, according to the urgency of the case. If the diarrhœa was chronic, the quantity of castor-oil was increased; if there was much pain, more morphine was prescribed. He has found Young's mixture extremely valuable in nearly all forms of sudden and acute diarrhœa, such as are often seen during August and September, and scarcely less useful in some chronic conditions of irritable bowel which have baffled the so-called routine remedies; but he thinks that, when the castor-oil and morphine fail, or do little good after four or five doses, it may even aggravate the malady to continue their use. Warm milk with lime-water is the best food, a mustard poultice may be put over the stomach, and there should be absolute rest in bed.

Strophanthin, a New Diuretic.—At the recent meeting of the British Medical Association, Prof. Fraser (*Ibid.*) read a paper on the apocynaceous plant *Strophanthus hispidus* (*S. kombé*, Oliver), from which an arrow-poison is prepared in many parts of Africa, called *kombè* in the Mangauga district, and *inée* in Senegambia and Guinea. The plant is a woody climber, and flowers in October and November. The follicles vary in length from ten to twelve inches, and contain from one hundred and fifty to two hundred seeds, each weighing about half a grain, and bearing a beautiful plumose tuft, placed at the extremity of a delicate stalk. They contain no alkaloid, but are rich in an active principle which the author calls strophanthin, a crystalline substance of intense activity, which seems destined to play an active part in our list of heart remedies. In physiological action it is allied to digitalin and other members of the digitalis group. It has been used, both experimentally on animals and clinically in the wards of the Infirmary at Edinburgh. The dose for hypodermic use is from one one-hundred-and-twentieth to one sixtieth of a grain.

The Treatment of Weakness of the Heart's Action.—In the course of a recent lecture on "Arterial Atheroma and Cardiac Affections," M. Lancereaux ("Union méd.") remarked that the treatment of systolic weakness should vary with the nature of the case. When it depends on dilatation of the right heart, recourse should be had especially to purgatives, for digitalis is no longer efficient, and this is readily understood at the autopsy, when the right heart is found with its walls hardened and stiffened, and remains gaping after it has been cut open. When, however, the weakness is due to atheroma of the coronary arteries, even if at the same time the heart is a little steatosed and sclerosed, digitalis acts more energetically, and it is of great service to use it in conjunction with other diuretics. The author often uses the following formula:

Scammony, Squill, Digitalis,	each	15 grains.

Divide into twenty pills, from four to six of which are to be taken daily, a milk diet being prescribed at the same time.

A Mixture for Whooping-cough.—According to a contributor to the same journal, M. H. Roger prescribes the following formula:

Tincture of belladonna		5 drachms;
Tincture of valerian, Tincture of digitalis,	each	75 grains.

For a child two years old, begin with five drops daily; increase the amount by five drops each day until it reaches thirty drops. The initial dose and the increment are ten and fifteen drops respectively for children between two and five years old and for patients who are still older. If the valerian is not well borne, tincture of musk may be used instead. Where nervous and spasmodic symptoms predominate, the author resorts to chloroform, giving to children between two and five years old from six to thirty drops daily, in two ounces of gum julep.

The Administration of Terpene.—M. Germain Sée ("Rev. méd. franç. et étrang.") gives the following formula:

Terpene	150 grains;
Alcohol, 85 per cent.	5 ounces;
Water	1½ ounce.

Two teaspoonfuls to be taken daily, in divided doses, with the meals. The author states that when the drug is administered in this way or, better still, in the form of pills, it does not produce the slightest derangement of the digestion.

Hydrochloric Acid in the Treatment of Dyspepsia.—In an article on the treatment of diseases of the stomach ("Ztschr. f. klin Med."; "Dtsch. Med.-Ztg."), Prof. Talma, of Utrecht, lays stress on fermentation of the contents of the stomach as being either the cause of dyspepsia in the great majority of instances or at least the leading factor in keeping it up. This fermentation is generally due to a deficiency of hydrochloric acid, an artificial increase of which is therefore indicated. For adults, the author recommends a mixture of fifteen grains of the acid and twenty-two ounces of water to be taken in the course of twenty-four hours. The doses had better be taken after eating, and sensitive patients may take them lukewarm. He has observed excellent results of this treatment after the failure of long-continued alkaline medication, and even in cases of ulcer or cancer of the stomach he has seen it subdue such of the symptoms as were due to abnormal fermentation.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON,

BY AMBROSE L. RANNEY, M. D., NEW YORK.

(*Continued from page 145.*)

SPECIAL ELECTRO-THERAPEUTICS.

WE have thus far discussed the various methods of employing electricity in a general way, and there remains for us to consider how we shall proceed in employing this agent when special organs are diseased. I would preface my remarks upon this field with the statement that the curative properties of electricity must, of necessity, be modified by the pathological conditions which exist in each individual case. The prognosis is naturally more grave in some conditions than in others.

For example, a patient who has motor paralysis which is due to degenerative changes in the cells of the anterior horns of the spinal gray matter will not usually recover the power of motion completely, while he may do so if the paralysis be due to a cerebral or spinal lesion which is not accompanied by degenerative nerve-changes. Again, all forms of functional nervous derangements are more amenable to electrical treatment (if judiciously employed) than are the graver results of organic disease of the nerve-centers. A muscle which has atrophied from disuse can usually be restored, while one which has wasted from imperfect nutrition (resulting from a degenerated nerve) may withstand all efforts to improve it. The therapeutical use of electricity is subject to the same influences as that of any other remedial agent, and the prognostic conditions are not always the same even among cases of the same nature.

In previous lectures I have given you many hints relating to the differential diagnosis which you will be called upon to make in nervous diseases, and enough has been said in reference to the anatomy and physiology of the nervous system to assist you in properly interpreting abnormal nervous phenomena. I shall therefore give you, in closing, directions only as to how to employ electric currents upon different parts of the body, without entering to any extent into the causation of the symptoms which you will be called upon to treat. Remember, however, that accuracy of diagnosis is the basis of cure in a large proportion of the cases which you will meet.

ELECTRICITY IN CEREBRAL AFFECTIONS.

Experiment has shown beyond dispute that galvanic currents can be made to pass through the substance of the brain when inclosed within the skull. It is much less certain whether the same may be said of faradaic or static currents. The beneficial results which are obtained by the two latter (and possibly many of the effects of galvanism as well) upon cerebral diseases are to be attributed, in my opinion, chiefly to the alterations produced in the blood-supply of the brain. Some of the most remarkable results obtained by neurologists from the employment of electricity upon the head itself or the cervical ganglia of the sympathetic are unquestionably due to an alteration produced in the caliber of the cerebral vessels. I have never been convinced that *organic* lesions of the brain can be cured by the direct use of this agent on that organ. On the other hand, I am fully satisfied that the symptoms of cerebral hyperæmia and anæmia are directly influenced by galvanism and static electricity. I believe that any unprejudiced mind can be readily convinced of the scientific accuracy of this conclusion. I have treated many patients (who gave undisputable evidences of basilar hyperæmia by the deflections of the needle of a calorimeter), and have brought them to a state of perfect health within a space of a few weeks by galvanism of the head. The calorimeter confirmed the cure in these cases by the absence of deflection which existed before treatment was commenced. In some instances of this condition static electricity proves a very valuable adjunct to galvanism. I will give you in detail a few of the methods which, in my experience, may be employed in cerebral diseases with a prospect of great benefit to your patient.

CEREBRAL HYPERÆMIA.—First ascertain by means of a calorimeter the situation and extent of the congestion. Test all parts of the head. When necessary, do so by separating the hair and bringing the poles as closely as possible in contact with the scalp. It is not necessary, as a rule, to shave the head. In case very accurate observations are demanded, this step may have to be taken—as, for example, when a cerebral tumor is suspected to exist.

At the nape of the neck, over the mastoid processes, upon the temples, and over the forehead, no hair exists to interfere with the determination of the relative temperature of the two sides, or of different regions of the corresponding side. The calorimeter will aid you in diagnosis and treatment; if properly used, it is invaluable.

The following are the steps in treatment most generally useful:

(1) Apply the cathode to the nape of the neck, close to the skull, and the anode over the forehead. Make stabile applications for one or two minutes to each side of the forehead, the cathode remaining stabile. (2) Make labile anodal applications to the forehead transversely for one minute. (3) Move the cathode to the mastoid region of each side, place the anode centrally on the forehead, and continue each stabile application for from thirty seconds to one minute. This may make the patient dizzy. (4) Do not use a current which produces pain to the patient, but have as great intensity as he can comfortably bear. (5) Never reverse the current when the poles are on the head.

These applications may daily be alternated with "*insulation*" and the "*electric head bath*," if you possess a static machine. The sittings should occur daily until the symptoms are cured, and the calorimeter ceases to show its previous deflection.

It is sometimes well to *stimulate the superior cervical ganglion* by placing a small anode in the fossa behind the

angle of the jaw, and the cathode on the seventh cervical spine, and to slowly interrupt the current. Caution must be exercised against employing too strong currents.

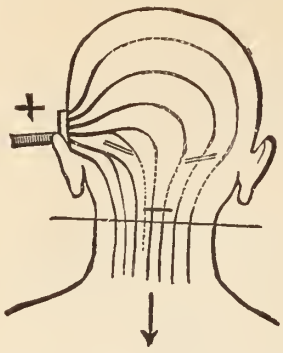


Fig. 40.—A Schematic Representation of the Distribution of an Electric Current applied unilaterally through the Head (after Erb). The anode (+) rests above the ear of the left side. The cathode (—) is supposed to be at the nape of the neck, and to exert its influence as far as the line drawn horizontally across the neck.

Finally, active *faradization of the limbs* is sometimes necessary, in order to draw the blood to the limbs. It is not well to employ this step if it causes an elevation of temperature.

The effects of this treatment should be to relieve the pain or sense of fullness in the head, the vertigo on rising, the mental confusion or distress, the insomnia, and the many other symptoms peculiar to this condition; and to steadily reduce the calorimeter deflections when the poles are in contact with homologous parts.

Cerebral Anæmia.—I should advise you to begin the use of very weak galvanic currents after an attack of embolism. I believe that currents of this kind sent transversely through the head from the temples, and occasionally in the antero-median plane, assist in absorbing the collateral œdema and cause a diminution of the collateral hyperæmia. I prefer to use the cathode on the side of the embolic obstruction when transverse currents are employed. In my opinion, it tends to promote absorption and to contract the vessels far more than the anode. The paralyzed muscles should be treated separately, by methods given in detail later.

Some four years ago Löwenfeld published some deductions relative to the action of galvanic currents upon the brain, based upon experimental researches. Although their accuracy has been justly called in question by authors of note, my own experience leads me to confirm them in part and to attach some importance to them. These conclusions were as follows: (1) Anode at forehead and cathode at neck causes contractions of the vessels of the pia; (2) anode at neck and cathode at forehead causes dilatation of the vessels of the pia; (3) when transverse currents are employed, the cathode causes contraction of adjacent vessels, and the anode dilatation.

When cerebral anæmia of a *general character* exists (as a manifestation of poverty of the blood, defective heart-power, etc.), general faradization, central galvanization, and static electricity by insulation are often of material benefit. The removal of the cause by judicious medication, etc., is, of course, vital to successful electrical treatment.

Hemiplegia of Cerebral Origin.—A very large proportion of patients with hemiplegia from cerebral causes owe the paralysis of their limbs to hæmorrhage, softening, or

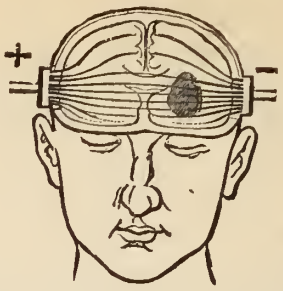


Fig. 41.—A Schematic Representation of the Course of Electric Currents sent Transversely through the Head (after Erb). The cathode (—) is represented as placed on the side of the lesion.

embolism. The electrical treatment should be directed to both the brain and the muscles. It should not be commenced (save in the case of embolism) until a month has elapsed since the attack. Each patient's susceptibility to the agent should be carefully studied; and the strength of current employed should be modified accordingly. The muscles may be treated by faradization or galvanization, or by the static current (indirect sparks being drawn from the paralyzed limbs). The brain should be subjected to galvanization only, or to static insulation.

If the patient fails to show improvement within a month after the treatment has been daily applied, or if the improvement of the first few days is rapidly lost in spite of continued treatment, the prognosis, as regards marked amelioration of the paralysis by electrical applications, is grave.

Hemianæsthesia is best treated by the wire-brush upon the dry skin in connection with the secondary faradaic current. I have also obtained some remarkable effects with the combined current (as before stated), and also with the static current, in cases where the faradaic current was ineffective.

Post-paralytic rigidity (occurring late) is the result, in most cases, of secondary changes within the spinal cord. The supervention also of pigmentation of the nails, œdema, a shiny skin, disease of the joints, and other evidences of trophic alterations, points to a serious and often permanent destruction of the nerve-centers.

Hints which have been given under the head of general electro-therapeutics will guide you in modifying the treatment according to the exigencies of each individual case. The remarkable improvement which some hemiplegics obtain through the instrumentality of electrical treatment should impress you with the necessity of employing it long enough to ascertain whether its continued use is indicated.

Monoplegia or Monospasm.—These conditions are particularly indicative of cortical disease. The muscles affected are a guide to the convolution attacked. I have covered this field in previous lectures.* The indication in such a case is to improve, if possible, the nutrition of the diseased part directly by galvanism, and also to stimulate the muscles functionally associated with it. I employ for this purpose a "medium" electrode over the diseased con-

* See "Med. Record," May and June, 1884.

volution, the indifferent electrode being placed over the center of the sternum. It is my custom to employ both poles to the head for an interval of two minutes each at a sitting. The monoplegic limb may be treated by labile galvanic applications, the wire-brush and faradization, or the indirect spark by means of a static machine.

Duchenne's Disease.—The morbid changes in the nuclei of the medulla which accompany bulbar paralysis may, in some cases, be held in check for a while and the symptoms markedly improved by placing the positive electrode (of large size) at the nape of the neck and as close as possible to the foramen magnum, and applying the negative electrode (covered with absorbent cotton and attached to a long handle) successively to the pharynx, fauces, tongue, cheeks, and lips. As strong a current as the patient can easily endure should be used. The duration of the sitting should not exceed five minutes. It is well to complete the sitting by passing transverse currents through the neck, so as to excite the muscles concerned in deglutition. Some authors recommend the employment of currents through the head, both longitudinally and transversely.

ELECTRICITY IN SPINAL AFFECTIONS.

There are various ways of bringing the spinal cord under the influence of electrical currents. The method of application selected in any individual case will depend somewhat upon the symptoms which the patient presents, and also upon the character and seat of the lesion. The diagrammatic cuts of Erb, which illustrate the diffusion of electrical currents, show in a graphic way the effects of close approximation and wide separation of the poles. We may also modify some of the morbid conditions of the spinal cord by electrization of the extremities when the indifferent pole is placed over the spinous processes. It is well to increase the size of the electrodes proportionately to the strength of the current employed.

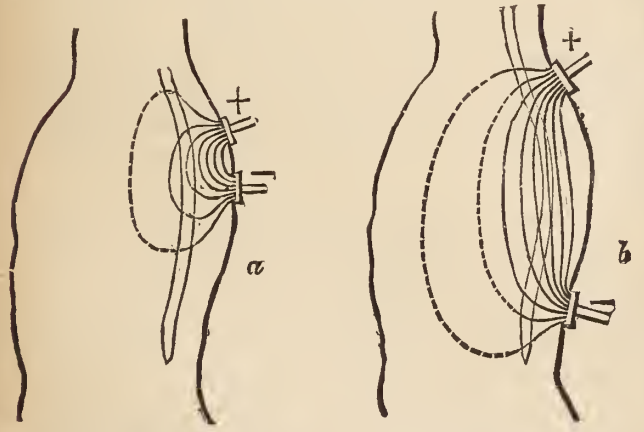


Fig. 42.—A Schematic Representation of the Distribution and Density of the Threads of Current with regard to their entrance into the Spinal Cord (after Erb). In *a* the poles are placed near each other. In *b* the poles are more widely separated. The size of the electrodes shown in the cut is the same for both the anode and cathode.

Fig. 42 illustrates the effect of separation of the poles when applications of electricity are made to the spinal column. Some of the threads of current depicted are rendered ineffective on account of their diffusion. This is made more apparent in Fig. 43.

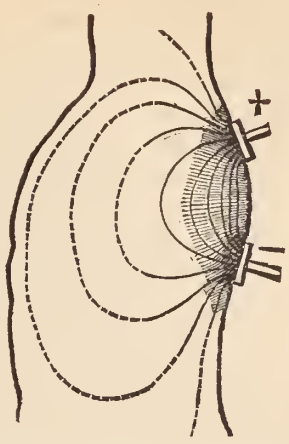


Fig. 43.—A Schematic Representation of the Density of the Current upon application of the Electrodes to the Same Surface and in Close Relation to Each Other (after Erb). The dotted lines indicate the ineffective threads of current. The shaded portion represents the zone of greatest intensity.

ELECTRIZATION OF THE SPINAL CORD.

To treat properly of the various methods which may be used when the application of electrical currents as a therapeutical measure for the relief of spinal diseases seems indicated, it would be necessary for me to enter into greater detail regarding spinal diseases than the time allotted to these lectures will permit of. I am reluctantly forced, therefore, to summarize somewhat hastily the main points which my experience with this agent leads me to indorse. Most of you are probably already familiar with the pathological changes which exist in connection with the more common diseases of the cord; but, if any of you are not so, they should first be studied and thoroughly mastered before you can hope to successfully combat them.

Galvanic currents are of greater service in the treatment of spinal diseases than faradaic or static—chiefly on account of the depth of the tissues affected and the chemical and molecular changes which galvanic currents tend to induce.

Spinal electrodes should be of large size.

The applications may be either stabile or labile, the former being of the greatest benefit when the spinal lesion is circumscribed in extent, and the latter when a larger part of the spinal cord is affected. If labile applications are indicated, the movements of the electrodes should be made somewhat slowly.

In directing galvanic currents to the *cervical* and *upper dorsal segments* of the cord, it is well to place one electrode of medium size behind and below the ear alternately on the two sides of the neck, while the other is applied to the spine.

Points of tenderness to pressure along the spine should be subjected to stabile applications of the anode. They should be sought for in each individual case with care and separately galvanized.

The *strength* of the currents employed should be modified in individuals by the condition which is presented for treatment. Weak currents of from two to five milliampères

act best, as a rule, when excessive irritability of the organ exists; chronic pathological conditions respond better to currents of greater intensity. I often use eight to twelve milliampères of current in chronic cases.

It is advantageous, in some subjects, to make *electrical applications to the limbs* when the cord is affected. Stimulation of the peripheral nerves and the muscles connected with the segments of the cord involved should be particularly aimed at, although the electrization of the skeletal muscles and the skin should not be exclusively confined to the limits thus indicated. It is my custom to employ the "*combined current*" (previously described) when applications to the limbs are thus made. This form of current is particularly indicated when the muscles exhibit a tendency toward atrophy. The electrode which rests upon cervical or lumbar enlargements of the spine should be of large size, while that used upon the limbs should be of medium size, so as to direct the combined currents to the nerves or muscles affected.

If *galvanism alone is used upon the limbs* in spinal disease, it is often beneficial to the patient to break the current by an interrupting electrode, or to reverse its direction by means of the commutator.

Some authorities advocate *faradization of the vertebral region and of the limbs* in conjunction with galvanic applications. I have seen in a few instances some remarkable effects follow the employment of the wire-brush alone in polio-myelitis of children, and I can see no reason to doubt its occasional efficacy in other forms of spinal disease.

In some unexplained way the excitation of muscular action and stimulation of the cutaneous nerves exert in many instances a remedial effect upon lesions of the spinal cord.

It is not always possible (as, for example, in polio-myelitis) to excite muscular action by faradism alone. In these cases interrupted galvanic currents, or the "combined current" (galvano-faradaic), will accomplish the desired end. I have repeatedly observed beneficial effects of this treatment in locomotor ataxia, and Rumpf has published some cases which sustain this view in which the wire-brush was used upon the arms and legs daily for about five minutes.

In all acute *inflammatory disorders of the cord* I deprecate the use of electrical applications. When the acute stage has passed, or when the disease has assumed a chronic type, many of the effects of the disease (as, for example, muscular paralysis, rectal or vesical complications, incipient caries, anæsthesia, etc.) may often be greatly relieved by its judicious use. The current-strength employed in such cases usually varies from five to eight milliampères. The applications should be made daily. When possible, it is important that you localize early the seat of the structural lesion and concentrate the treatment, for a while at least, upon the segments of the cord involved. The muscles, skin, bladder, rectum, etc., should be separately subjected to the influence of electricity in case they exhibit a loss of function.

ELECTRICITY IN PARALYSIS OR PARESIS.

Hypokinesis may be due to many different conditions, hence its electrical treatment and prognosis must vary in accordance with the cause which excites it. You should remember that paralysis of a muscle is only symptomatic of other conditions, such as lead-poisoning, diphtheria, hysteria, mechanical pressure upon a motor nerve, severance of a motor nerve, destructive processes or inflammation within the motor cells of the brain or spinal cord, and changes in the vessels. All of these tend to impair either the generating power of a motor center, or the conducting power of a motor fiber.

Respecting the application of electricity to the seat of central lesions (*i. e.*, lesions of the brain or spinal cord) in cases of motor paralysis, De Watteville pertinently remarks as follows:

"It is true that we have too often but a very imperfect idea of those processes in the nerve-centers upon which the symptom depends, and that we have no right to assume that the current has any specific curative influence upon any one of them; still, as a justification for central treatment in such cases, we may plead our very ignorance, we may urge the poverty of our therapeutical arsenal in arms wherewith to combat our enemy, and may also invoke the possibility of at least staying its progress by promoting nutrition of the surrounding portions of the nervous structures threatened by its invasion."

When the lesion directly affects the conductivity of a nerve, we have reason to believe that the direct influence of electrical currents upon the lesion tends to overcome the resistance offered to conduction by the disease-process, and facilitates the subsequent transmission of voluntary stimuli.

There are certain general rules that are applicable to the electrical treatment of paralysis of motility. These may be stated as follows:

1. The treatment should not be alone confined to the region of the paralyzed muscles.

2. The seat of the exciting lesion should be ascertained early, if possible, and subjected to the influence of this therapeutical agent in an intelligent way.

3. If the motor paralysis is accompanied by anæsthesia, hyperæsthesia, or other sensory disturbances, or if the vaso-motor system of nerves be apparently implicated, the wire-brush may often be used with advantage upon the skin in the vicinity of the lesion, and also over the muscles paralyzed.

4. Faradaic currents (provided they excite muscular action), or the cathode-pole of a galvanic battery (with interruptions of the current), are of use in exciting the conductivity of the nerve-tracts affected. Static electricity is also of great utility in inducing muscular contractions, and is less painful than faradism or galvanism.

5. The "combined current" (galvano-faradaic) is chiefly of service in overcoming trophic disturbances, which often manifest themselves in connection with motor paralysis.

6. I prefer labile applications to stabile in applying either faradism or galvanism to the muscles. Stabile applications are preferable to labile when the brain, spinal cord, or peripheral nerve-trunks are to be influenced.

7. Never begin the use of electricity immediately after the onset of paralysis (when due to a central lesion). It

is always best to wait until all danger of exciting a recurrence of the attack by stimulation of the nerve-centers has passed.

(*To be continued.*)

Original Communications.

PYROGALLIC ACID AND COLLODION: A TREATMENT FOR PSORIASIS.

By GEORGE T. ELLIOT, M. D.,

ASSISTANT VISITING PHYSICIAN, NEW YORK SKIN AND CANCER HOSPITAL; ATTENDING PHYSICIAN, DEMILT DISPENSARY, ETC.

For many years innumerable attempts have been made by dermatologists to obtain some form of application for the treatment of diseases of the skin which would be an advance on, and which could also supersede, the usual time-honored methods, such as ointments, etc., accompanied as they are by certain objectionable features which cause their use to be, as a rule, a source of considerable annoyance. The soiling of the linen, the discoloration of the skin, etc., attending the application of some of the most useful medicaments, have always been serious evils. To remedy these, or at least as much as possible to remove them, we have had in the past few years many preparations brought forward in which the drug to be used has been incorporated in gelatin, traumaticin, etc., or has taken the form of plasters, as recommended by Unna, and known as "Unna's Pflastermull." Each of these has had its supporters, and has enjoyed reputation and extensive use for a longer or shorter period of time, finally to be relegated to a greater or lesser disuse, leaving dermatologists still seeking for that application which would be generally acceptable as regards cleanliness, and in which the proper action of the drug used would not be interfered with or diminished. Many skin diseases, owing to their chronicity and the length of time necessary to cure them, especially call for some such application, for the continued use of a treatment offensive alike to the sight and smell can only disgust the patient, until he finally prefers his disease to the remedies used therefor. Among these diseases, psoriasis is prominent. For its cure a little of everything, both externally and internally, has been recommended, from the old-time tar—which, however, always gave most satisfactory results—to the more recent chrysarobin and pyrogallic acid.

It was in regard to the treatment of this disease that, dissatisfied with the methods in practice—objectionable features being to a certain extent present in all of them—I sought to remedy them, not by any new medicament, but by a new combination of remedies already in use. Though speaking of the treatment of psoriasis, I do not, however, intend to review the many methods which have been recommended, these being dealt with *in extenso* in works on general dermatology, and I desire to limit myself only to the method which I have been using entirely for now nearly a year, being one which has given me most satisfactory results. Still, I would briefly mention one method, since the formula which I use differs from it only in regard to its principal and active ingredients.

A solution of chrysarobin in collodion was first used and recommended in Europe by Sesemann, and here by G. H. Fox, who improved its action by the addition of salicylic acid. It has enjoyed, since first brought out, deservedly great repute, has been extensively used, and is a valuable addition to our list of remedies. Unfortunately, however, the chrysarobin now obtainable in the market is so unreliable and impure that the service which it formerly rendered has become very uncertain and much diminished, so that the results, even from strong solutions, are far from satisfactory. I have found another objection to chrysarobin, and that is, that only a portion of it is soluble in the collodion, and, when used in a ten-per-cent. or twenty-per-cent. solution, there is always a considerable sediment, which causes it, when shaken up, to be of a more or less gruelly consistence. This, naturally, is an objectionable feature, depriving the application, to a certain extent, of cleanliness in its appearance, and giving the skin painted with it an unsightly look.

These objections I sought to remedy, and, having always had a predilection for pyrogallic acid, I determined to substitute it for the chrysarobin. This acid was first introduced into dermatology by Jarisch, and was recommended by him for the treatment of psoriasis, but it has since then been used in many other diseases of the skin. It was received with great favor at first, and the benefits derived from it were extolled, until a few unfortunate deaths occurring from its application, as reported by Neisser, Besnier, and others, caused dermatologists to become chary in its use and to prefer the safer chrysarobin. If used properly, however, there is no more danger from the one than there is from the other. The deaths reported were indubitably due to the careless manner in which the acid was employed, a ten-per-cent. ointment having been rubbed in over the entire body every day, a procedure which might in all probability give some unfavorable results, even if some less absorbable or more innocuous drug had been used. In Jarisch's hands, and in the practice of Kaposi and others, I have always seen it give the greatest satisfaction, and I have not as yet seen any untoward result occur. On the contrary, in the cases which I saw treated by them, and in my own cases, I have only been able to observe a quicker and more complete disappearance of the eruption when pyrogallic acid was used.

So far as I have been able to ascertain, it was received with little favor in America as a remedy for psoriasis, possibly owing to the already mentioned deaths occurring from its use, and also to its always having been made up as an ointment, a method of application which, to say the least, is very disagreeable on account of the black color which it acquires after exposure to the light, and the destruction of the patient's linen. The dark pigmentation remaining after its use and the ease with which a dermatitis arose were also potent objections to it.

In order to avoid and remedy, if possible, these objections, I determined to try an application of pyrogallic acid dissolved in collodion, substituting it for chrysarobin. The

immediate and patent advantages shown have caused me to use this solution in all cases of psoriasis to the exclusion of every other method of treatment. The strength of the solution has varied from 10 to 15 per cent., and I have not yet found it necessary to increase this strength. The formula reads as follows:

℞ Acidi pyrogallici..... 3 jss.–3 ij;
Acidi salicylici..... 3 ss.;
Collodii flex..... ℥ ij.
M. et ft. sol.

The first advantage which I noticed was the complete solubility of the pyrogallic acid, the solution being perfectly clear and without any sediment whatever. It was at first limpid and clear, but, after exposure to the light, it gradually became brown in color, and I found it was better to keep it in a dark-colored bottle. After applying it to the skin it becomes darker, and may even appear black.

The salicylic acid, which had been added to the chrysarobin collodion by Dr. G. H. Fox, I retained in the pyrogallic collodion, owing to the peculiar action which it exerts on the horny epidermis, though it has itself no direct curative effect over the disease. Unna, of Hamburg, drew attention in 1883 to the fact that certain of the medicaments called antiseptics, when used in the strength necessary for antisepsis, had a peculiar effect upon cornification, preventing keratoplasia through their possessing a keratolytic power. Whether this power acts by dissolving out the keratohyalin necessary for cornification, or whether it prevents its formation, is still *sub judice*. However, when my attention was directed to the fact by his article on "Dermatoplasie und Keratoplasie" ("Berlin. klin. Wchschr.," No. 35, 1883), it offered me an explanation of a condition which I had often observed when using salicylic acid in the treatment of various forms of skin diseases. A surface to which it was applied could be brought to a certain point in healing, and then a retardation in cornification would ensue. Epidermis would form, but it remained soft and easily removable, and this condition would persist as long as the salicylic acid was used. If it was laid aside, and some bland application was made, however, keratoplasia would rapidly follow. This action led me to retain it in the pyrogallic collodion, as it occurred to me that its presence might have the effect of diminishing, or perhaps preventing, the formation of epidermic scales on the psoriatic plaques or lesions, thus allowing the pyrogallic acid to act more directly upon the affected cutis.

In using the pyrogallic collodion, the patient should be directed to first remove all the scales by taking a warm bath. After drying the body carefully, the solution should be freely applied to the lesions, the application extending one fourth or one half an inch beyond the edges of the psoriatic spots. This can be done by using a moderately stiff, bushy brush. Care should be taken that the lesions are completely covered with the solution, and the parts which have been painted should remain exposed until they are perfectly dry. A renewal of the application may be made every day if desired, but I have found it quite sufficient to repeat it every second or third day. Removal of the collodion still adhering to the skin is of course necessary previous to each fresh painting, since it is advisable to treat the psoriatic lesions, and not the old coats of collodion covering them.

In all the cases of psoriasis in which the pyrogallic collodion has been used there has been no soiling of the patient's linen. After the application has dried, if it were not for the color, which gradually darkens, its presence would not be noticed. I have not seen any dermatitis follow its proper use in any case. One patient, however, for whom the solution was prescribed as an application for a spot of herpes tonsurans, applied it industriously three times daily, though otherwise instructed, and, as might have been expected, caused a dermatitis to light up around the lesion. In no case have I seen any pigmentation remain after the cure of the psoriatic lesions; the surface to which the pyrogallic collodion had been applied differed in no way in appearance from the surrounding skin. If the solution is improperly used, however, and dermatitis lighted up, pigmentation may easily occur; consequently it is necessary to be careful not to apply it so often that undesired results may ensue.

The results obtained in treating psoriasis with the pyrogallic collodion have been in every way satisfactory. A great change could be seen in the lesions after a few applications. There was an absence of scales and a diminution in the hyperæmia, and the plaques and spots appeared less elevated. The time which was required in curing the psoriasis by means of this solution has naturally varied according to the extent of the disease and the length of time which it had existed. Any rule in regard to it could scarcely be made. The quickest results which I have obtained were in psoriasis guttata, and the slowest in a case of psoriasis nummularis of long standing. In cases where the eruption is universal, or nearly so, it is of course advisable to treat the various portions affected *seriatim*. The results will be just as satisfactory, only the time required will be longer.

In one other form of skin disease, herpes tonsurans, I have used this solution of pyrogallic acid, and with most gratifying success. Its effect upon the lesions has been surprising, two applications having been sufficient in the majority of cases to effect complete cure.

In addition, I can only say that I trust this combination of pyrogallic acid and collodion will obtain a greater recognition for the acid than it has heretofore enjoyed with us, and I hope it will prove as satisfactory to the members of the profession as it has to me in both hospital and private practice.

SOME OBSERVATIONS WITH REFERENCE TO CHOLEROID ALVINE DISCHARGES.

By FRANK S. BILLINGS,
PATHOLOGIST TO THE NEW YORK POLYCLINIC.

On the 22d of June, Dr. J. H. French, of the Fourth Medical Division, Bellevue Hospital, sent some material for examination to the Patho-biological Laboratory of the New York Polyclinic.

The following remarks accompanied the material:

"The specimen is from a patient admitted last night

suffering from acute gastro-intestinal catarrh; discharges very frequent, accompanied with emesis; great thirst."

Examination of material:

It had the usual appearance of rice-water stools, almost inodorous, and was full of yellowish-white flocculi.

Reaction: *Strongly acid.*

Microscopical examination of the flocculi revealed the presence of various forms of cocci, diplo- and strepto-cocci, and bacilli, *but absolutely nothing that could be called a comma.*

As it was late in the evening, the material was at once corked and placed in an ice-chest, very near the ice. It was our intention to filter it very carefully in the morning and then sterilize, and to use this material in its natural acid and a reduced alkaline condition as a cultivating medium for the Koch and Finkler commata.

In this regard I made an unexpected and perhaps excusable error, which is, however, *practically*, quite suggestive.

The reaction of the material should have been taken the next morning, and it should have been filtered before a microscopic examination was made. On the contrary, we at once filtered it, and threw the residue away.

We next tested the reaction. It had become *alkaline* of itself.

The questions now arise:

1. What caused this change in reaction?

2. Would it have occurred *intra vitam* in the same patient had he not improved and recovered?

3. Would comma bacteria have then appeared? (The Finkler comma has not yet been proved to have universal *diagnostic* value even for cholera nostras, as can be accepted for that of Koch with regard to cholera asiatica.)

4. Were the germs of any form of comma bacteria present, and would they have developed in the mass had it been allowed to stand in an ordinary temperature after it had become alkaline; or, in other words, *were there comma germs in it, intra vitam, needing only an alkaline condition of the intestinal contents for their development?*

5. Aside from all known connections with comma bacteria in the alvine discharges of acute catarrhal diseases, these experiments indicate still another question which may have important clinical bearings, viz.: *If in such cases the discharges suddenly become alkaline instead of acid in their reaction, is it not an indication of a fatal termination, or, at least, of a most questionable prognosis? If, on the other hand, the discharges become acid after having had an alkaline reaction, may it not indicate a favorable change in the disease?*

Both of the comma bacteria develop spores at certain periods of their existence.

To prove that the filtered material, which contained all its original elements in solution, and had acquired an alkaline reaction, was a suitable medium for the development of these commata, it was boiled several times in appropriately closed test-tubes, then allowed to stand for forty-eight hours in the ordinary—extraordinary—heat of the laboratory. It remained absolutely clear and amber-colored.

1. The tubes were then carefully inoculated with purely cultivated Koch and Finkler commata.

2. In twenty-four and forty-eight hours there were indications of their development in the opalescence of the media.

3. Gelatin tubes were again inoculated from these and both commas developed in the recognized manner.

These very few experiments, but still sufficient in number, prove the conclusions so well known of Koch and others with regard to the biological necessities of the two commas.

They also show that the discharges from ordinary choleroid cases have, in their serum or fluid, every requisite for the development of these bacteria as soon as the intestinal contents assume an alkaline character, or it is artificially produced, as has been also shown by animal experiments. The attention of clinicians is called to these points.

It certainly is not out of place for me to say that we are prepared to supply boards of health, hospitals, or physicians with any of the forms of gelatin or blood-serum desired for experiments, or to conduct any examinations that may be desired. We are especially desirous of obtaining material for study as above described.

CATARRHAL AFFECTIONS OF THE NASAL PASSAGES

AS A CAUSE OF

PULMONARY PHTHISIS,

WITH SPECIAL REFERENCE TO THE QUESTION OF HEREDITY.*

By WILLIAM CHAPMAN JARVIS, M. D.

The ætiology of pulmonary tuberculosis, a subject always replete with interest to the clinical investigator, has naturally received a deeper significance since the discovery of the *Bacillus tuberculosis.* Despite, however, the positive character of Koch's results, there remains, according to his own admission, much yet to be learned concerning the prætubercular conditions which determine the development of the tubercle bacillus.† These conditions, variously and oft-times vaguely referred to by such terms as tubercular disposition, predisposition, heredity, environment, etc., it would appear, are the principal avenues through which this momentous question, affecting the lives of so many thousands in our crowded city and elsewhere, is to be approached.

Several years ago, while studying the cause and complications of nasal diseases, my attention was attracted to the co-existence of bronchial with nasal catarrh, and somewhat later to the association of nasal disease with pulmonary phthisis.

These earlier impressions did not assume the shape of convictions until the reliable evidence I am about to present for your serious consideration was forthcoming.

In view of the light already thrown upon the question of the ætiology of tuberculosis through Koch's bacillary investigations, I have deemed it profitable to review some of the evidence he has offered us concerning the disposition and predisposition to phthisis.

As regards the question of the physical conditions fa-

* Read before the American Climatological Association, May 27, 1885.

† "Mitthcilungen aus dem kaiserlichen Gesundheitsamte."

vorable for the development of bacilli, we are informed by Koch that pent-up secretions, removal of the protective epithelia of the bronchi, abrasions, etc., are to be considered the proper soil—the "*geeignete Boden*"—for the lodgment and growth of the deadly tubercular plant. Now, these conditions will be recognized as the common results of catarrhal inflammation of the upper and lower air-passages. One or more of them are frequently observed in nasal catarrh, and may be also associated with catarrhal phthisis when taken in the popular sense of the term as taught to us by Dr. Alfred L. Loomis.

In certain cases we find pulmonary tuberculosis rapidly following in the train of a catarrhal bronchitis, while others will, apparently, resist the inroads of the bacillus for many years.

In treating my subject I shall begin with the nares and endeavor to distinctly trace the effects of nasal catarrh upon the larynx, and then in turn explain the relation of the resultant laryngeal disease to bronchial catarrh, catarrhal phthisis, and, finally, pulmonary tuberculosis.

The relations of the nostrils to the lungs is so intimate that we are not surprised to find Koch involuntarily addressing his attention to the nose for a partial solution at least of the question of the ætiological relations of the bacillus to pulmonary tuberculosis, with the remark, "Air inhaled through the nose is deprived of disease-germs, and nasal respiration, therefore, constitutes a positive protection against infection by reason of the retention of the infectious material by the nasal mucous membrane." Conspicuous among the complications traceable to nasal catarrh, and bearing upon the question of the causation of pulmonary phthisis, is *chronic irritative hyperæmia of the larynx.* I can not at present enter into a description of this affection, or fully explain how it is brought about by the entrance of nasal mucus into the larynx. I called especial attention to this condition in a paper read before the American Laryngological Association, session of 1881, to which I must refer you.*

This affection is usually observed as a peculiar red discoloration of the normally pearly white vocal cords, and, when found, constitutes an excellent guide for the determination of the amount of congestion of the general laryngeal mucous membrane. Chronic hyperæmia of the larynx frequently develops attacks of acute catarrhal laryngitis, and this affection in turn often involves the tracheal and bronchial mucous membrane by inflammatory extension. In other words, recognizing the larynx, with certain modifications, as the upper portion of the lungs, catarrhal inflammation of this organ clearly constitutes a menace to the integrity of the entire pulmonary tract. The laryngoscopic study of the pathological processes concerned in the production of laryngeal hyperæmia and its common sequela—laryngitis—is, therefore, required to throw light upon the pulmonary diseases following in its wake.

Nasal stenosis and defective nasal drainage are the two most important indirect agents concerned in the production of this affection. The manner in which these intra-nasal disturbances lead to laryngeal and lung complications is principally by habitual mouth-breathing, the irritating action of nasal mucus in the larynx, and inflammatory extension from the posterior nares.

The part played by nasal mucus as an ætiological factor in the production of laryngeal and pulmonary disease is well pronounced and very important. The constancy with which chronic irritative hyperæmia of the larynx occurs as a result of chronic nasal catarrh encouraged me to make the statement that the simple discovery of this peculiar congestion was, as a rule, sufficient evidence of the existence of a chronic nasal catarrh.

The manner in which chronic hyperæmia of the larynx is induced through defective nasal drainage is exceedingly simple, and is best understood by carefully studying the direction of the several anatomical planes of the upper air-passages. I will refer you to a paper read by me before the New York Academy of Medicine, in which is given a detailed description of this system of drainage.*

I may simply state in passing that the disturbances to nasal drainage originating from a nasal catarrh prevent the natural disposition of nasal mucus, and, consequently, permit it to enter the larynx. Now, nasal mucus in the larynx is a foreign body, and as such invariably gives rise, by prolonged irritation, to a familiar train of signs and symptoms. Foremost among the signs stands, as I have already pointed out, chronic irritative hyperæmia of the larynx. The larynx naturally resents the invasion of its territory by irritating nasal discharges, and we have, as one of a number of *well-marked symptoms*, a constant inclination to "clear the throat." This act in itself may constitute an additional irritant by the rasping effect of the effort upon the vocal cords. The part played by habitual mouth-breathing as an excitant of laryngeal disease is simply that resulting from the absence of those conditions so essential for the purification and preparation of the respired air, and attributable to prolonged nasal stenosis.

Having briefly presented the most conspicuous causes which serve to account for catarrhal disease in the larynx, the next step would naturally be to study the nasal complications responsible for the existence of the laryngeal affection.

Among these may be mentioned deviation of the nasal septum, turbinated hypertrophies, polypi, adenomata of the vault of the pharynx, etc. The proper consideration of either one of these conditions, taken alone, would cover many pages. I shall, therefore, be compelled to entirely omit the consideration of some, and only briefly accentuate those most commonly concerned in the production of laryngeal and pulmonary disease.

Hypertrophy of the turbinated tissues is an almost invariable concomitant of the moist forms of nasal catarrh. It may stand either alone or, as is commonly the case, exist as the result of a deviated septum. The co-existing mouth-breathing, hypersecretion, and disturbed nasal drainage will, of course, be governed by the location and amount of the turbinated hypertrophy. Passing promptly to the consider-

* "Archives of Laryngology," vol. iii, p. 148.

* "Medical Record," March 14, 1885.

ation of the second condition, the deviated septum, we are at once confronted by the most active and common agent concerned in the production of pulmonary and laryngeal disease. This condition differs from turbinated hypertrophy in being both a cause and result of catarrhal inflammation. Its existence, furthermore, implies the co-existence of a turbinated hypertrophy, barring, of course, recent traumatic deviations and extra-nasal distortions of the septum.* I have already had occasion to explain how a deviated septum, through *pressure irritation*, excites catarrhal inflammation.† Its action may be, to employ a homely example, compared to that of a shoe-button impacted in the nostril. The deviated cartilaginous spur, like this familiar foreign body, presses against the exceedingly sensitive surfaces of the turbinated tissues, invariably exciting and keeping up a certain amount of inflammatory action.

Thus we have a system of reciprocal irritation provoking and prolonging a nasal catarrh. For want of a better expression, I have called this *pressure irritation*, and I trust the term may recall to your mind the pathological process it indicates when employed in this paper.

The rôle played by the turbinated tissues and septum in the production of rhinitis hypertrophica was noted by me in a paper read before the American Laryngological Association, session of 1880; and the ætiological relation of the nasal septum to diseased turbinated bodies was also satisfactorily demonstrated by Dr. Harrison Allen, though in a way differing from my own, in the same year.

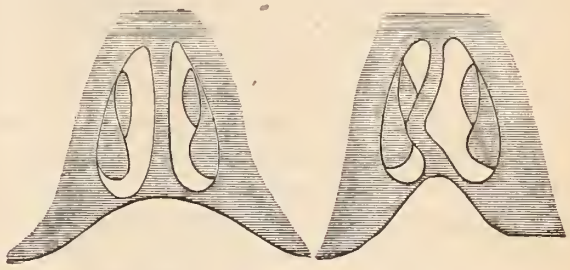
Having determined the ætiological significance of the deviated septum in nasal catarrh, for a more detailed description of which I must refer you to my earlier papers on this subject, add another factor which serves in turn to account for the deviated septum, and requires a brief consideration—namely, heredity.

The term heredity, usually furnishing much material for uncertain speculation and little opportunity for satisfactory demonstration, has, in this connection, assumed a more definite meaning by reason of much corroborative testimony always at hand.

This evidence has convinced me that the deviated septum is frequently transmitted from parent to child.

In 1882, while engaged relieving the sufferings of a young woman, brought on by a congenital occlusion of the nares, my attention was attracted to an abnormal contraction of the superior maxillæ. In reporting the case I laid great stress upon the possibility of the chronic coryza and turbinated hypertrophies being associated with this condition as cause and effect.‡ Since that time, by careful investigation and comparison, I have been enabled to supply the necessary links in a chain of evidence which has demonstrated that one of the most common causes of catarrh is discoverable in the conformation of the hard palate. This peculiar malformation I find to be transmitted from parent to child with remarkable regularity, and its intelligent recognition and proper appreciation enables one to most satisfactorily account for a large number of catarrhal disturbances in the upper air-passages.

In these cases we find that the superior maxillary bones are not only contracted, but are likewise elevated, abnormally increasing the depth and diminishing the diameter of the roof of the mouth. The vertical measurement of the osseous nares is naturally more or less affected by the encroachment of the elevated hard palate, and the nasal septum, as a consequence, is bent laterally, as exemplified in the diagram, Fig. 1, A representing the normal septum and maxillary arch, and B the abnormal.



A. B.

Fig. 1.

These plaster impressions, kindly presented to me by Dr. Eddy, nicely illustrate this peculiar palatine formation. They were selected from among thirty other plaster casts as the only two in which I could positively pronounce the existence of a chronic nasal catarrh. The doctor, on referring to the name of the subject, found that both belonged to the same individual—a patient he had referred to me several years before for a severe chronic coryza, and the only one out of the whole number of casts. On comparing this plaster impression, Fig. 2, with the normal palatine arch, you will discern certain well-defined differences. The distance between the alveolar ridges is much greater in the normal specimen. The transverse diameter of the abnormal specimen is not only smaller, but its surface is markedly irregular. The maxillary arch may be considerably higher than this normal specimen, and yet not constitute a pathological condition. No two maxillary arches are exactly alike, and some exhibit an elevation easily mistaken for a deformity. The important distinction to bear in mind is the abrupt elevation along the line of the median rhaphe. When such a condition is observed, we may at once look for, and, in my experience, invariably discover, a corresponding deviation of the septum. This condition, furthermore,

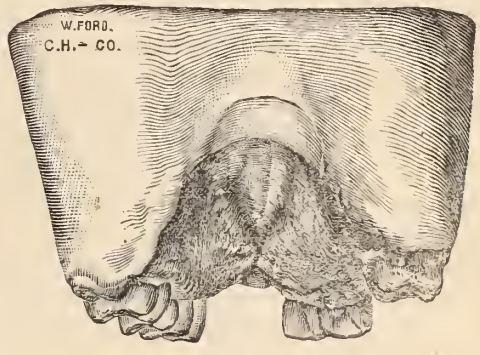


Fig. 2.

* See "Archives of Laryngology," 1882, vol. iii, p. 300.

† *Ibid.*, vol. ii, p. 147.

‡ *Ibid.*, vol. iii, p. 108.

is found associated with a chronic coryza. Indeed, I hold it to be possible in certain cases to diagnosticate the existence of a chronic nasal catarrh by the simple examination of the roof of the mouth, or, what amounts to the same thing, by inspecting an impression in wax or plaster, from any part of the world. After having ascertained the congenital character of this nasal abnormality, the next step was an endeavor to account for its existence. In tracing this peculiar formation to its hereditary origin, I was greatly assisted by instituting a comparative study of the external nose, and particularly the persistence of certain types in the same family.* By employing a similar method of reasoning to the internal configuration of the nares, I have been able to trace the peculiar conformation back to a common parental origin. This condition occurs as an hereditary manifestation with great constancy. Once the peculiar nasal type of the parents is recognized, its modifications in the children are easily determined.

It would appear that abnormal contraction of the nares is likely to be associated with intellectual enlargement of the skull in certain families, a fact which may serve to account for the tendency to phthisis attributed by some observers to severely studious or sedentary habits.

It is well known that a marked increase in the dimensions of the cranial dome is apt to be accompanied by a contraction of the osseous frame-work of the face. If it were convenient I might cite a number of interesting examples, carefully collected by me, to prove the correctness of this view.

Through Dr. L. J. B., referred to me by Dr. P. A. Morrow, my interest in the elevated arch and the septum of heredity received a fresh impulse.

Fig. 3 is a reproduction of the doctor's palatine profile. He creditably appreciated the significance of the high-pitched arch, and directed my attention to the peculiar formation of his own. The co-existing deviation of the septum was very well marked, and there were several other interesting features connected with this physician's condition.

I might mention, for instance, the unique occurrence, as far as I know, of a periodical perspiration over a circumscribed area, above the left malar prominence, and around the neighboring portion of the cheek.

There was an extensive *general* deviation of the septum to the left, and it was fair to presume that this peculiar perspiratory anomaly was due to prolonged intra-nasal pressure exerted by the deflected structure.

The prompt disappearance of this annoying symptom after removal of the offending tissues confirmed the correctness of this view. The doctor, although a life-long sufferer with nasal catarrh, was so much benefited by surgical treatment as to pronounce himself, in certain respects, a different man. Free nasal respiration through the left nostril was, for the first time in his life, made possible.

The following extract from his family history is of interest as regards the question of heredity: His father, a physician now deceased, was all his life-time annoyed by a persistent coryza and throat trouble. On comparing the doctor's photograph with an oil-painting of his father, a resemblance in respect to the shape of the nose and forehead is sufficiently well marked to challenge the attention of even a casual observer. Furthermore, I ascertained, from a member of the family, that his grandfather, also a physician, looked like his father and was afflicted with a catarrhal affection.

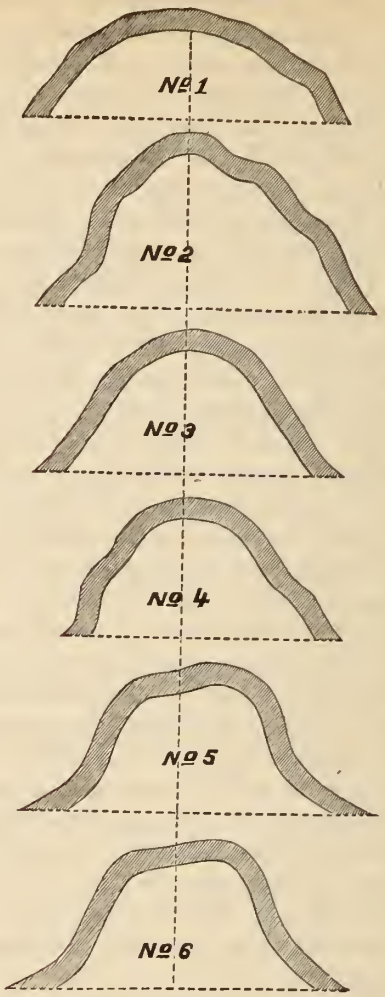


Fig. 3.

I have selected from my case-book a few life-sketches, which will aid me in explaining what I mean by hereditary deviation of the septum. This, Fig. 4, was copied from the life-sketch of a boy, aged fourteen, referred to me by Dr.

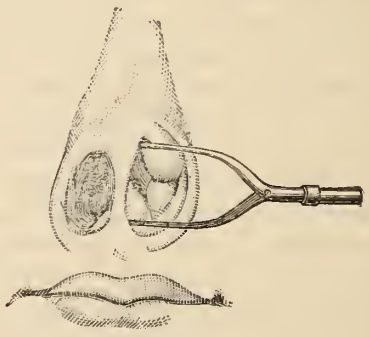


Fig. 4.

* "It is said by Ribot that, of all the features, the nose is the one which heredity preserves best."—"Hereditary Traits," Richard A. Proctor.

A. W. Berle, of New York, and the next drawing, Fig. 5, was taken from the father of the lad. The hard palates of both were markedly contracted and elevated. The father had bilateral deviation of the septum with life-long nasal catarrh, and the son was referred to me for relief from the same trouble.

A cross-section of the elevated and contracted hard palates is shown in Fig. 3, where No. 3 represents the father and No. 4 his son.

These tracings were obtained by taking a wax impression of the roof of the mouth, then reproducing the deformity in plaster of Paris, and dividing the casts thus obtained with a fine saw, in a transverse direction. The divided fragments were then simply laid upon a piece of paper and outlined.

You may be able to distinguish a slight resemblance in their shape, when compared with each other, this similarity being rendered more distinct by their dissimilarity with the other arches.

An idea of their abnormal divergence from the true type may be obtained by comparing the two arches with No. 1, taken from a plaster cast exhibiting an unusually flattened and expanded hard palate, and selected as an extreme illustration of the kind.

Returning to the sketches (Fig. 4) you observe the cartilage of the son's septum is deviated to the left as a localized nodular projection, almost on a level with the floor of the nose.

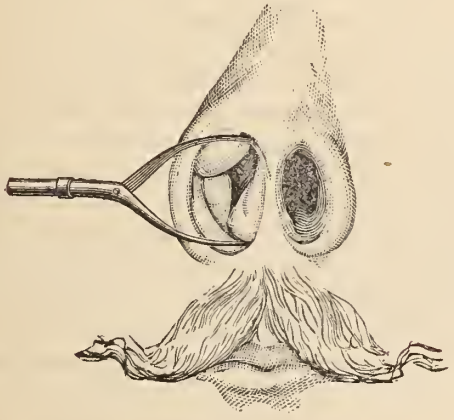


Fig. 5.

The father's septum (Fig. 5) was also thrown to the left, but, in the form of general deviation, situated superiorly in the nostril, the inferior-anterior edge of the septum being deflected into the right nostril in a manner similar to the son's.

It may be worth noting that when the lad was first brought to me I sought the hereditary origin of his deviated septum in the mother's nose, with a negative result; and yet, unwilling to be adjudged guilty of an erroneous conjecture, I persuaded the mother to induce her husband to visit me, and proved the correctness of my inferences as just described. The removal of the deviated cartilage from the boy's nostril was followed by an excellent result. This drawing (Fig. 6) shows the nose of a son aged twenty-two, and next to it (Fig. 7) that of the father. They are copied from life-sketches. You observe that both septa are *generally* deviated in the same direction. Both were severely afflicted with a life-long coryza.

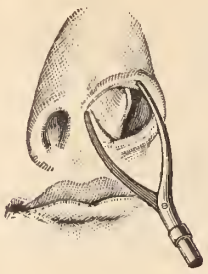


Fig. 6.

Fig. 7.

Fig. 3, Nos. 5 and 6, exhibit transverse tracings of the father's and son's hard palates in the order mentioned. The point of highest elevation, it will be observed, is toward the nostrils into which the septa were deflected. The father, an old man, had become reconciled to his lot in life, although the extremely harassing character of his complaint made me marvel at this decision.

His bitter experience had the happy effect of making him alive to his son's life-interests. Directing our attention again to the sketches (Figs. 6 and 7), you observe the cartilage of the septum is conspicuously inclined to the left in both father and son. The father's septum (Fig. 7) exhibits, however, a greater degree of deflection, the respiratory space being reduced to a useless slit.

You may be able to distinguish a similarity in the shape of the external nose. The father, although a sufferer for many years with bronchitis and asthma, might be considered, under the circumstances, tolerably well developed and preserved. The son, on the contrary, also complaining of lung trouble, was stunted in stature, emaciated in appearance, with a haggard face and an unhealthy skin.

I operated upon the young man, removing two antero-inferior turbinated hypertrophies, and shaving off the septum for the whole length of the triangular cartilage, excising also a small portion of the anterior border of the vomer. Fig. 8, taken from a life-sketch, exhibits the left

Fig. 8.

nostril after excision of the deviated structures. I employed my transfixion needles and écraseur for the removal of the redundant turbinated tissues, using my fenestrated cartilage forceps, tubular-spring forceps, and rongeur bone scissors for leveling the septum.

The subject of this illustration (Fig. 9) was afflicted

with, and cured by me of, an extensive osseo-cartilaginous deviation of the septum. The drawing was taken from a

Fig. 9.

life-sketch, and the history of this individual throws much light upon the origin and growth of the septum of heredity. You may catch my meaning when I inform you that I was enabled to correctly diagnosticate, or, more accurately speaking, infer, through this patient, the general condition of the nostrils and health of all his brothers, four in number, and his father. In this family the nasal asymmetry was very well marked, the septum in one instance being deviated to such an extent as to disturb the external symmetry of the nostril. All the young men seen by me, three in number, possessed the paternal nasal type and palatine arch in an exaggerated form. All have suffered with nasal catarrh dating far back in the memory of the family, and I am informed that the absent son, not yet examined by me, is severely afflicted with the same complaint. The patient, an engineer by profession and a very intelligent individual, referred to me by Dr. J. L. Corning, stated that a physician informed him that his condition was due to a scrofulous taint, probably inherited from his father. I failed to discover the slightest trace of scrofula in any of these individuals.

The cases I have just cited are not to be considered, as regards their immediate condition, phthisical in character; they have simply been submitted as excellent examples of the influence of heredity as a determining factor in the production of nasal disease, and as such must assist us in interpreting the same conditions when found in phthisis.

The testimony which I have just submitted, re-enforced by much more which I could, but can not now conveniently, offer, affords, to my manner of thinking, excellent proof of the intimate association of a high-pitched hard palate with a deviated septum, and their transmission from parent to child.

The relation of *traumatic deviation of the septum* to nasal catarrh and catarrhal phthisis is not so important as that of the hereditary variety; still it possesses many points of interest did time permit their consideration. Traumatic deviations of the septum, especially in those not predisposed to phthisis, are not likely to be followed by pulmonary tuberculosis. It should be borne in mind that the two conditions may be associated. The differentiation, however, as I shall have occasion to explain, is, as a rule, easily accomplished.

Although the cases of induced coryza just cited by me were of the hypertrophic variety, it should not be inferred that rhinitis atrophica may not be developed by the deviated septum.

Deviations determining the existence of atrophic coryza are *general* in character, and the dryness is evidently due to the excessive drain upon the mucous follicles resulting from the prolonged passage of air through a single nostril.

As an example of pulmonary phthisis following in the train of a rhinitis atrophica, I may be permitted, in an effort to make my meaning clearer, to precede my report of cases with a brief reference to a patient, aged thirty, treated by me at the University College Dispensary in the winter of 1882.* I found the nasal septum in this individual most extensively deflected, the deviation being osseo-cartilaginous in character. An atrophic rhinitis existed as a result of the nasal disease, both nasal chambers being inordinately enlarged through long-standing atrophic processes. Large and firm masses of muco-purulent matter clung to their smooth walls. These dry crusts were constantly detached and precipitated into the throat, irritating and inflaming the larynx. The patient was harassed and enfeebled by the unremitting efforts required to free his throat and larynx from these suffocating crusts. The atrophic processes had reached the pharynx, where, in the form of a pharyngitis sicca, it presented a dry patch, which obstructed the downward flow of the scanty nasal mucus, collecting it in the shape of sticky incrustations just behind the velum.

A laryngoscopic examination showed the true cords to be deeply injected and the contiguous structures inflamed by reason of the constant irritative action of the nasal incrustations which had found lodgment there.

The patient was extremely emaciated, weak, and miserable through the constant efforts required to free the throat from inspissated irritating discharges. There were night-sweats and the usual symptoms of advanced phthisis. An examination of his lungs, conducted by Dr. Moore, assistant to the Department of Medicine at the University Dispensary, and myself, revealed the existence of advanced destructive processes, as evidenced by the presence of cavities, a profusion of fine crepitant râles, and other familiar signs of the last stage of a rapidly progressing pulmonary phthisis. It was clear that the patient had reached a point where fatal prostration was imminent, and for an important reason we considered it best to advise him of his hopeless condition. Hoping to delay the fatal issue as much as possible, the patient found it convenient to accept the invitation of relatives in Florida, and so passed from under my observation.

The points of interest to us as regards this case, briefly summed up, are the history of a long-standing nasal catarrh and the manner in which it developed a pulmonary phthisis. That the nasal catarrh preceded the tubercular disease is proved by two features of the affection—namely, a deviated septum, osseo-cartilaginous in character, not associated with external nasal disfigurement, and therefore non-traumatic but hereditary, and a rhinitis atrophica.

Either of these pathological conditions would indicate the chronicity and persistency of the nasal catarrh, and

* See also No. I of illustrative cases.

therefore prove that they must have preceded the pulmonary disease; and in this, and in similar cases, we are afforded excellent evidence of the occurrence of the pulmonary lesion as a secondary complication to the catarrhal processes.

(*To be concluded.*)

Book Notices.

The Principles of Ventilation and Heating, and their Practical Application. By John S. Billings, M. D., LL. D. (Edin.), Surgeon, U. S. Army. New York: The Sanitary Engineer. 1884. Pp. 216. [Price, $3.]

Dr. Billings's book is a most scholarly exposition of the subject of which it treats. The author refers very modestly to his work in the opening sentence as if it were a short pamphlet which he had thrown off for the instruction of amateurs, but it is soon evident on turning over its pages that he enters into the subject in a thoroughly scientific and exhaustive manner. The book is divided into twelve chapters, the first three of which deal with the scientific aspect of the question, while the remaining chapters are devoted to the practical application of scientific facts. The subject of ventilation occupies most of the space. There are seventy-two illustrations, principally representing plans of public buildings and sanitary apparatus.

Dr. Billings's style is clear and pleasing, and his work is an extremely useful one to all who are interested in this branch of sanitary engineering.

The Middlesex Hospital. Reports of the Medical, Surgical, and Pathological Registrars, for the Year 1883. London: H. K. Lewis, 1885. Pp. 544.

This volume contains much interesting matter, although the method of tabulating the cases is, in our judgment, not the best. It is divided into a medical and surgical report. The former deals only with typhoid fever, diseases of the nervous system of special interest, and malignant growths; the latter with cancer of the uterus, breast, tongue and mouth, lower lip, rectum, miscellaneous cancers, rodent ulcer, sarcoma, non-malignant tumors, infectious diseases, strangulated hernia, and compound fracture. In each class the cases are arranged in a tabular form, which, although there is something in favor of such a method of registration, leads to much space being sacrificed, and makes difficult and unsatisfactory reading.

There is no general summary, and but a slight attempt at any practical deduction. The labor of preparing such a report must have been very great, while this arrangement detracts much from the value of the work. We trust that in a future volume the editors will do away with the strict tabular arrangement.

BOOKS AND PAMPHLETS RECEIVED.

Cholera: its Origin, History, Causation, Symptoms, Lesions, Prevention, and Treatment. By Alfred Stillé, M. D., LL. D., etc. Philadelphia: Lea Brothers & Co., 1885. Pp. 164.

A Treatise on Epidemic Cholera and Allied Diseases. By A. B. Palmer, M. D., LL. D., Professor of Pathology, Practice of Medicine, and Clinical Medicine in the College of Medicine and Surgery in the University of Michigan, etc. Ann Arbor: Register Publishing House, 1885. Pp. 224.

Lectures on the Diagnosis of Diseases of the Brain, delivered at University College Hospital, by W. R. Gowers, M. D., F. R. C. P., Assistant Professor of Clinical Medicine, etc. Philadelphia: P. Blakiston, Son, & Co., 1885. Pp. viii–246. [Price, $2.]

Inebriism; a Pathological and Psychological Study. By T. L. Wright, M. D., etc. Columbus, O.: William G. Hubbard, 1885. Pp. 222.

A Manual for Hospital Nurses and others engaged in attending on the Sick. By Edward J. Domville, L. R. C. P. Lond., M. R. C. S. Eng., etc. Fifth Edition. Philadelphia: P. Blakiston, Son, & Co., 1885. Pp. 96.

Medical Society of the State of Tennessee. Transactions 1885.

Ninth Annual Report of the Managers and Officers of the State Asylum for the Insane, at Morristown, N. J.

History of the Clamp-Suture of the late Dr. J. Marion Sims, and why it was abandoned by the Profession. By Nathan Bozeman, M. D., etc. [Reprinted from the "Transactions of the American Gynæcological Society."]

Submucous Laryngeal Hæmorrhage. By Ethelbert Carroll Morgan, M. D., etc., Washington. [Reprinted from the "Medical Record."]

The Influence of Cocaine, Atropine, and Caffeine on the Heart and Blood-Vessels. By H. G. Beyer, M. D., M. R. C. S., etc. [Reprinted from the "American Journal of the Medical Sciences."]

Suersen's Obturators; their Construction and Uses. By Dr. Th. Weber, Helsingfors, Finland. [Reprinted from the "Independent Practitioner."]

The College of Medicine of the University of Southern California. 1885.

The Treatment of Opium Addiction. By J. B. Mattison, M. D., etc. New York: G. P. Putnam's Sons, 1885. Pp. 49. [Price, 50c.]

Hunterian Lectures, 1885. The Anatomy of the Intestinal Canal and Peritonæum in Man. By Frederick Treves, F. R. C. S., etc. London: H. K. Lewis, 1885. 4to, pp. 66.

The History of a Legislative Shame.

Correspondence.

LETTER FROM CINCINNATI.

The Ohio Profession and the International Medical Congress.—Dr. Lane's Case.—Cincinnati Physicians as Artists.

Cincinnati, *August 31, 1885.*

Under date of August 20th, Dr. William Morrow Beach, president of the Ohio State Medical Society, issued a call for "a conference of the leading physicians" of the State, to be held at Columbus on the 27th inst., to take action relative to the International Medical Congress. The letter alludes to the present outlook and says that "some steps must be taken, promptly and energetically, to bring the existing factions into harmony." The president also says: "It has seemed to me the part of wisdom for Ohio, which is an important and pivotal State, to take the initiative." The object of the meeting was to "offer suggestions or give instructions to our State representative" in the enlarged committee for the guidance of his action at the New York meeting on the 3d prox. The letter concludes: "If you can not come, send a proxy, as this should be a thoroughly representative meeting. The following gentlemen, among others, have been especially invited to be present, although any others who are interested will be cordially welcomed." Then follow the names of thirty-six gentlemen,

among which occur those of all the physicians, or, at least, nearly all of those in Ohio who resigned from the new organization.

The wording of the call was certainly unfortunate, if the whole movement was not a *faux pas*. Those who had resigned surely could not be expected to participate in a meeting the object of which was to harmonize them with a faction from which, by their own acts, they had dissociated themselves, while the equivocal welcome promised to those not "especially invited" kept the mass of the profession away. At any rate, of the several thousand physicians in Ohio but enough attended the meeting to allow a maximum vote of twenty-three! Of those voting there were but twelve from outside of Columbus!

This "representative meeting," held in the hub city of the "pivotal State," proceeded to business by very properly dismissing the reporters of the secular press. A committee, consisting of Dr. Fowler, Dr. Franklin, Dr. Greenleaf, Dr. Baldwin, Dr. Larimore, and Dr. Vance, was appointed to draft resolutions. After an hour and a half a report was presented in purport as follows:

First.—That the Ohio delegate use his influence to harmonize existing difficulties, accept no resignations, but insist that all officers and committees perform their work toward arranging for the International Congress. [Carried.]

Second.—That geographical boundaries be not considered in making appointments of officers and committees, but that men of ability, no matter where resident, be made the appointees. [Carried.]

Third.—That no code questions be considered in the *organization* of the Congress. [Amended by striking out "organization" and inserting "membership," after which it was adopted —19 to 3.]

Fourth.—That the enlarged committee (of 46) at its New York meeting *reinstate* all those whom it had dropped from the list prepared by the original committee (of 8), and from the list as thus increased, and with such additions as they might see fit to make, *redistribute* the offices. [Lost, 10 to 13.]

It is now known that, were the vote on the last resolution to be taken over again, the result would be different, as its real purport was not comprehended by the meeting. I have it, *ex cathedra*, that the object of those framing the resolution and reporting it was that the men proposed by the old committee and to be now reinstated by the new committee should all be officers, but that their various offices should be determined by the enlarged committee, the idea being to admit the new-code men but to relegate them to the lowermost rooms; *i. e.*, to the "councils" of their respective sections. The word "reinstate" led the meeting to infer that the proposition was that the "reinstated" were to have their former "offices," which was not contemplated.

The net result of the meeting, so far as anything of importance is concerned, was, therefore, the passage of a resolution instructing the delegate from Ohio to vote for a proposition to allow the new-code men to come into the Congress as *members*. To what extent this result will tend "to bring the existing factions into harmony," particularly when viewed by the light of the inside facts which I have given, remains to be seen. But, small and far from "representative" as was the meeting, its conclusions were a slap in the face to the American Medical Association and a triumph to the new-code men. The repudiation of the "geographical-distribution" idea was an intimation to the National Association of its asininity; the recommendation that new-code men be admitted to "membership" in the International Congress conceded their importance to the scientific feature of that gathering; and when it was seriously proposed to capture them, even at the expense of Jesuitical methods, it was as much as saying, "They come high, but we must have them." At any rate, viewing the meeting only in the light of its action, it is to be taken as one of the evidences of "weakening" on the part of those who, in the main, have been in sympathy with the action taken at New Orleans.

Apropos of the International Congress imbroglio it may be stated that the deposing of Dr. Levi C. Lane, of California, from the vice-presidency of the Congress is exciting considerable comment in this State. Dr. Lane is a native of southwestern Ohio, and is to-day one of the conspicuous successes among the sons of the "Buckeye State." The product of the best educational methods, he is the typification of the "scholar in medicine"; and, the apostle of industry and thrift, he is, in both a scientific and pecuniary sense, an illustration of conspicuous success in his profession. That he should have been removed is deplorable; but that the committee should have permitted itself to be thus imposed upon is still more so. If the forty-six gentlemen comprising that committee are so ignorant of the true status of the great men of our profession, they are simply unfit for the duties devolving upon them.

Cincinnati, as your readers all know, has an extensive reputation as an art center; but the fact that several members of the medical profession have become quite accomplished artists, while not at all surprising, is yet not so generally known. One of our most accomplished *dilettanti* is Dr. Daniel S. Young, whose office and studio are crowded with treasures and curios that are the products of his artistic tastes. His efforts cover almost every department of art; oil and crayon pictures abound, while etchings are not rare; and wood-carving and sculpture in plaster are familiar pastimes. One of his most successful efforts —a *bas-relief* in plaster of the late Dr. George C. Blackman— adorns the walls of the library of the Cincinnati Hospital, while the rare museums of the Cuvier Club and of the Cincinnati Natural History Society are largely indebted to his skill as a taxidermist for many of their most interesting and valuable specimens. It may be proper to add that Dr. Young is a hard worker in his profession, and finds time for his art labors amid the exactions arising from his extensive private practice, from his duties as staff surgeon to the Cincinnati Hospital, and from his work as a clinical teacher of surgery. One of the most promising of our younger men, whether viewed as physician or artist, is Dr. W. Kincheloe Baker. He has achieved his celebrity as an artist chiefly through the rare superiority of his etchings. His work, particularly in this department, is far above the order of dilettanteism. Among his more recent productions is an etching of the late Dr. Samuel D. Gross—certainly one of the most striking likenesses and effective pictures it has ever been my pleasure to behold. Another of Dr. Baker's etchings is of the late Dr. William Judkins, *père;* that it, too, is a faithful picture is assured by the indorsement of the present owner of the plate, Dr. William Judkins, *fils*, and by those who were the compeers and colleagues of the distinguished pioneer. Dr. Reamy, an elegant subject for a picture, is another well-satisfied patron of Dr. Baker's art. Another of our physicians, Dr. William A. Rothacker, the editor of "Henke's Atlas," although not engaged in art production, is, however, professor of anatomy at the art school. In addition to these, the profession of Cincinnati affords a large number of art amateurs; but while writing of the amateurs within the profession it may not be amiss to mention one of the most promising, who is connected with it only by marriage—Mrs. J. H. Hazard, wife of the professor of physiology at the Cincinnati College of Medicine and Surgery. She has especially distinguished herself by executing in oil the elegant drawings with which her husband illustrates his lectures. It may be added that as an anatomist Mrs. Hazard has but few superiors, even in the profession.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co.
Edited by FRANK P. FOSTER, M. D.
NEW YORK, SATURDAY, SEPTEMBER 5, 1885.

THE HOBOKEN POISONING CASE.

THE distressing incident that happened in Hoboken a few days ago, whereby two young ladies lost their lives in consequence of an apothecary's error, should at least serve to intensify the vigilance with which pharmacists undoubtedly try to guard against mistakes of this nature. There is, unfortunately, nothing so rare in the occurrence, considered simply as an occurrence, as to make it specially monitory, but the exceptional character of the gentleman whose hard fate it has been to commit the error in this instance lends an unusual impressiveness to the calamity. The public is quite generally impressed with the idea that mistakes in the delivery of drugs to purchasers, or in the compounding of medicines ordered by prescription, necessarily imply either gross ignorance or inconceivable negligence, each of which shortcomings, brought into play under such circumstances, is held to amount to criminality. In conformity to this idea, the law not only holds persons whose mistakes of this sort are productive of fatal results as fit subjects for punishment, but aims to throw unusual safeguards about the practice of pharmacy by requiring of persons who seek to follow that pursuit ample evidence of their fitness for it.

In so far as the last-mentioned aim of the law is concerned, its wisdom is unquestionable, but its adequacy to the purpose is seen to be very imperfect when we reflect that, in the instance which calls forth these remarks, so commonplace an error as that of dispensing morphine instead of quinine was committed by a gentleman who for years had stood among the foremost in his profession. Although his place of business was in Hoboken, where the ordinary working of the laws of trade would have brought him only a patronage limited to the people of his immediate neighborhood, he had become widely known to physicians for his skill and carefulness as a pharmacist, as well as for the trustworthy character of certain medicinal preparations and surgical appliances that were his own special productions. Mr. Am Ende has long occupied a most honorable position in the estimation of the medical profession. Certainly it was no lack of capability that led him into his fatal error. It is said that his mistake is only to be accounted for by the fact that persons who happened to be in his shop at the time persisted in talking to him when he was engaged in putting up the prescription. It is not at all unlikely that this is the true explanation, and, considering the aggravating persistency with which men engaged in delicate and responsible work are distracted and worried by chance visitors, the wonder is that accidents involving grave consequences do not happen oftener.

Perhaps it would hardly do for the law to relax its hold upon persons who make fatal mistakes in the practice of pharmacy, but leniency, both on the part of the courts and on the part of the community, is certainly called for in cases where, as in the present instance, the lapse seems to be of a sort that no man could be sure of being able to guard against with anything like certainty. It is said that the father of the young ladies who lost their lives has sent a message of sympathy to Mr. Am Ende, and has even sent prescriptions to his shop since the fatal occurrence. We trust that this is true, for it would go far to allay a sense of grief that must be well-nigh unendurable. At all events, we are glad to believe that it is with no approach to vindictiveness that Mr. Am Ende is thought of by the better portion of the community.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 1, 1885:

DISEASES.	Week ending Aug. 25.		Week ending Sept. 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	0	0	1
Typhoid fever	29	10	34	3
Scarlet fever	14	4	13	2
Cerebro-spinal meningitis	3	1	2	1
Measles	12	6	9	1
Diphtheria	31	17	21	11

The Health of the State of New York.—By the "Monthly Bulletin of the New York State Board of Health" for July we learn that the total reported mortality for the month was 9,318, the percentage among infants being 54·4. The proportion of deaths from zymotic diseases was 401·37 in each thousand, and that of deaths from diarrhœal diseases 320.

The International Medical Congress.—We copy the following from the "Louisville Medical News":

"*Charleston Physicians and the New Organization.*—The undersigned, for reasons connected with the changed circumstances in the organization of the proposed International Congress, since their appointment in the several sections, hereby respectfully withdraw their names.

"MIDDLETON MICHEL,
"F. PEYRE PORCHER,
"FRANCIS L. PARKER.

"*Chicago Physicians and the New Organization of the Congress.*—Believing that the American Medical Association, at its late meeting in New Orleans, took such action with reference to its committee, appointed one year before, to unite, arrange for, and organize the Ninth International Medical Congress, as to nullify in part the work performed by said committee, thereby jeopardizing the success of the proposed Congress and putting the medical profession of this country in a false and unfavorable light, the undersigned disapprove of this action of the association, and decline to serve in the positions to which they have been appointed in the Congress as at present organized.

"A. REEVES JACKSON, N. SENN,
"HENRY M. LYMAN, CHARLES T. PARKER.
"JAMES NEVINS HYDE,

"*Other Resignations from the New Organization.*—We are informed that Dr. Edwin M. Snow, of Providence, has declined the vice-presidency of the Section of Collective Investigation, Nomenclature, and Vital Statistics, and that Dr. D. Bryson Delavan, of New York, has declined the secretaryship of the Section of Laryngology.

"Dr. Thomas F. Wood, of Wilmington, N. C., has declined to serve on the Council of the Section of Practical and Experimental Therapeutics; likewise Drs. J. Rufus Tryon, U. S. N., and Alfred A. Woodhull, U. S. A., on the Council of the Section of Military and Naval Surgery and Medicine, and Dr. Christian Fenger on the Council of the Section of Pathology."

Editorially, the same journal says:

"The American Medical Association's new Committee on Rules and Preliminary Organization of the International Medical Congress of 1887 will meet by special call for the transaction of important business in New York on the 3d of September.

"The importance of this meeting can not be overstated, since it involves nothing less than the fate of the Congress and the good name of American medicine abroad. For, in spite of the large boasting of the new committee's supporters, that the recent numerous withdrawals of eminent men from among its appointees would not make against the successful meeting and working of the Congress, it is certain that the wise and far-seeing of the committee must own a serious loss of strength, and perceive that, as it is now proposed to be organized, the Congress will be a sorry failure, if indeed it be not kept from coming to this country.

"It is time to call a halt to controversy. Let the attending physicians take further counsel and ascertain if there be any sign of life in this object of deep professional solicitude. If so much as a spark remain, let it be duly fanned and fed; but if, as seems more probable, decomposition is already far advanced, the sooner the remains are given decent burial and the premises disinfected the better for those whose blundering treatment killed their precious charge."

A Proposed International Dental Congress.—On account of the dropping of the Section in Oral and Dental Surgery from the organization of the Ninth International Medical Congress, as at present laid out, the project has been broached among our dentists of holding an International Dental Congress in Washington at the same time with the meeting of the Medical Congress. The "Independent Practitioner" deprecates the scheme. It says:

"We can not, without serious loss of dignity, sue to the present General Committee of the Congress for reinstatement as a section, after being once dropped by them under humiliating circumstances. Nor should we wish such reinstatement, in the face of a probable failure.

"Should the section not be re-established, it would, to our mind, be a very questionable act to call an International Dental Congress to meet at the same time, for the following reasons: We probably could not make of it a success. We should be in a very undignified position, as a kind of hanger-on to a Congress from which we had been rudely repulsed. We could have no connection with the Congress, any more than would a meeting of photographers, or commercial drummers, or spindle-shanked bicyclists. We should not even be a part of the tail to the medical kite, for we should have no connection with it. We could not secure foreign attendance, for the dentists of Europe would valne their dignity too much to attend such a meeting, even were we so forgetful of our own as to invite them.

"The only thing for dentists to do is to pursue the even tenor of their way, doing what they can for the proper reconstruction of the General Committee of the Congress. If this be secured, and the meeting promises to be a success, we shall doubtless be invited to take a part in it. If not, we are lucky to be out of it, for we should present but a sorry spectacle should we labor either for our own re-establishment in the Congress under the present *régime*, or for the organization of a separate International Dental Congress, and, when we were fully committed, find to our chagrin that an event, which now seems extremely probable, had occurred, and the acceptance of the invitation to meet in America had been withdrawn and the meeting called for Berlin."

The American Dermatological Association elected officers as follows at its recent annual meeting: Dr. Edward Wigglesworth, of Boston, president; Dr. I. E. Atkinson, of Baltimore, and Dr. A. R. Robinson, of New York, vice-presidents; Dr. G. H. Tilden, of Boston, secretary; and Dr. H. W. Stelwagon, of Philadelphia, treasurer.

The meeting held in Greenwich last week was of a character to show the continued vitality of the association, but yet the discussions and the papers read were such as to appeal more directly and forcibly to the general practitioner than is apt to be the case with the proceedings of special societies. The attendance, too, was fairly representative of the different quarters of the country, and included nearly all of our better-known dermatologists. Dermatology, as our readers are well aware, is one of the departments of medicine in which America has been able to make a creditable showing, and hence the career of this association is of special interest to the profession.

The American Rhinological Association will hold its third annual meeting at Lexington, Ky., on Tuesday, October 6th. Papers and discussions will be devoted exclusively to the diseases of the nasal passages and their consequences. The following is the list of officers for 1885:

President, Dr. P. W. Logan, Knoxville, Tenn.; First Vice-President, Dr. A. De Vilbiss, Toledo, Ohio; Second Vice-President, Dr. J. A. Stucky, Lexington, Ky.; Recording Secretary, Dr. C. A. S. Sims, St. Joseph, Mo.; Librarian, Dr. R. N. Gordon, Springfield, Ill.; Council, Dr. J. G. Carpenter, Stanford, Ky.; Dr. H. Jerard, East Lynne, Mo.; Dr. H. Christopher, St. Joseph, Mo.; and Dr. E. F. Henderson, Los Angeles, Cal.

Full information may be obtained from any of the foregoing officers of the association.

The Indiana State Medical Society.—At the last annual meeting of the society an unpleasant occurrence took place, as some of our readers may remember, being no less than the charge, brought against a gentleman who read an account of a case in which he trephined the vertebral column, that an operation reported as trephining really consisted only in "scraping of the spinous processes." Dr. C. B. Stemen, the author of the paper, who is also the editor of the "Fort Wayne Journal of the Medical Sciences," now gives in that journal evidence which certainly seems to show conclusively that the accusation brought against him at the meeting was unjust.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 22, 1885, to August 29, 1885:*

Cronkhite, H. M., Captain and Assistant Surgeon. Relieved from duty at Fort Reno, Indian Territory, and assigned to duty as post surgeon, Fort Hays, Kansas. S. O. 129, Department of the Missouri, August 26, 1885.

Powell, J. L., Captain and Assistant Surgeon. Relieved from temporary duty at Fort Leavenworth, Kansas, and assigned to duty as post surgeon at Fort Lyon, Colorado. S. O. 128, Department of the Missouri, August 25, 1885.

Ebert, R. G., Captain and Assistant Surgeon. Assigned to temporary duty with United States troops at Riverside Park, New York. S. O. 179, Department of the East, August 24, 1885.

Kane, John J., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect when his services can be spared. S. O. 195, A. G. O., August 26, 1885.

STEPHENSON, WILLIAM, First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, to take effect September 1, 1885 (Fort Niobrara, Nebraska). S. O. 79, Department of the Platte, August 20, 1885.

MCCAW, W. D., First Lieutenant and Assistant Surgeon. Assigned to temporary duty at the camp of the troops near Kiowa, Kansas. S. O. 128, Department of the Missouri, August 25, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the week ending August 29, 1885.*

JONES, WILLIAM H., Surgeon. Detached from the Wachusett, and waiting orders.

Society Meetings for the Coming Week:

MONDAY, *September 7th:* New York Academy of Sciences (Section in Biology); Medico-Chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

TUESDAY, *September 8th:* New York Medical Union (private); Medical Societies of the Counties of Rensselaer and Chemung (Elmira), N. Y.; Newark (private) and Trenton (private), N. J., Medical Associations.

WEDNESDAY, *September 9th:* New York Pathological Society; American Microscopical Society of the City of New York; Medico-Legal Society; Medical Societies of the Counties of Cayuga and Montgomery, N. Y.; Philadelphia County Medical Society; Worcester District, Mass., Medical Society (Worcester).

THURSDAY, *September 10th:* Harlem Medical Association of the City of New York; Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, *September 11th:* Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Proceedings of Societies.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Ninth Annual Meeting, held at Greenwich, Conn., Wednesday, Thursday, and Friday, August 26, 27, and 28, 1885.

The President, Dr. W. A. HARDAWAY, of St. Louis, in the Chair.

Wednesday's Proceedings.

A Case of Tuberculo-ulcerative Syphilide of Hereditary Origin was the title of the first paper, by Dr. J. E. GRAHAM, of Toronto. The patient was a girl twenty years of age. The skin of the forearm presented elevations and depressions, and in places it was covered with thin scales. For three or four inches above the elbow the arm was atrophied and covered with cicatricial tissue. At the upper border of the cicatricial tissue there was an ulcer three fourths of an inch wide, which encircled the arm. Above this there was sound tissue. No nodules were present. The left clavicle presented about its middle a swelling and an ulceration of about the size of a silver dollar. This was the result of a blow. There was no copper-colored appearance. Investigation of the family history showed that the mother was apparently healthy. The father died from pneumonia when the patient was eighteen months old. It was subsequently learned that he had also had syphilitic ulceration of the throat. The treatment consisted in the local application of a mild mercurial ointment and the internal use of bichloride of mercury and iodide of potassium. The condition steadily improved, and in the course of six or eight weeks the ulceration had healed. The patient at that time passed from observation.

The speaker referred to the difficulties of diagnosis in this case, as there was a complete absence of specific history, the facts in regard to the father not being learned for some time after the case had been under treatment. There was no history of any previous evidence of hereditary syphilis, but, taking all the facts into consideration, there could be no doubt as to the correctness of the diagnosis. Photographs showing the condition were exhibited.

Dr. R. W. TAYLOR, of New York, said it was now generally conceded that syphilis could be communicated to the child without infection of the mother, and he believed that he had been the first one in America to call attention to this fact. He had seen this a number of times. The author had stated that he could obtain no history of early manifestations of hereditary syphilis. This was not uncommon, but he believed that there was usually some indication of specific taint, although it might be so slight as not to excite notice.

Dr. C. HEITZMAN, of New York, said that every one had seen cases similar to the one reported. He had seen cases in which he was unable to determine the nature of the affection at first sight. The diagnosis lay between syphilis and scrofula.

Dr. F. B. GREENOUGH, of Boston, said that within the past two months he had seen a woman who had lost three children in succession from hereditary syphilis, yet she was strong and apparently perfectly healthy, and had never shown any signs of syphilis. This woman had been under observation for six or seven years.

Dr. L. A. DUHRING, of Philadelphia, said there were certain cases in which it was almost impossible to express a positive diagnosis at first. The result of treatment in causing a rapid cure in the case described would certainly incline him to the opinion that this was a case of syphilitic disease.

Dr. J. N. HYDE, of Chicago, had seen cases which had convinced him that, while it was not the rule, still occasionally syphilitic children were born without, so far as observation could be made, any evidence of syphilis being detected in the mother. So far as the general health was concerned, he could not say that he had seen vigorous, healthy women the mothers of syphilitic children. The women were usually pallid and weak, although there might be no symptoms which could be ascribed to syphilis. He saw inherited syphilis in infants constantly, but he had never seen it manifesting itself for the first time in advanced years, or, if he had, he had failed to make the proper diagnosis. The more he saw of syphilis, the more was he satisfied that in its origin heredity did not amount to very much. The accidental cases of syphilis were very common. He had seen the initial lesion of syphilis on the head of a penis where it was unquestionably due to inoculation from the finger of the surgeon in catheterization. He had no doubt that the case described was one of syphilitic trouble, and, as Dr. Duhring had said, the result of treatment unquestionably pointed in that direction. There were no cases which yielded so readily as old cases of untreated syphilis. As to pronouncing it a case of hereditary syphilis, his experience would not permit him to do so.

The PRESIDENT thought that it was unwise to base our diagnosis on the results of internal treatment. If a patient got well

under anti-syphilitic treatment, it did not prove that the affection was specific. Local treatment was often all that was necessary.

Dr. Taylor entirely disagreed with Dr. Hyde as to the condition of the mothers of syphilitic children. He had observed them to be in robust health.

Clinical Notes on Psoriasis.—Dr. Greenough read a paper founded on the records of 394 cases of psoriasis. This number occurred in about 15,000 cases of skin diseases examined, and represented about two and one half per cent. Many of the patients were first attacked between the ages of ten and forty years. In 97 cases the speaker had been able to get reliable evidence in regard to the family history. In 31 cases psoriasis had existed in a near relative, but in 66 cases the patients felt sure that the disease had existed in no other member of the family.

Well-marked cases were readily diagnosticated, but in some cases there was considerable difficulty in making the diagnosis. The disease was most frequently confounded with some form of eruption resulting from constitutional syphilis. When psoriasis affected the scalp its appearance was often similar to that of secondary syphilis. In psoriasis, however, the patch consisted simply of epithelial cells, and there was no hyperæmia connected with it. In the syphilitic eruption the crust contained other elements than epithelial cells, and, on removing the crust, spots of moisture would be detected. A characteristic symptom of psoriasis of the scalp was a band of hyperæmia, about three fourths of an inch wide, extending around the forehead, contiguous to the hair. This was a point of value in the diagnosis between eczema capitis and psoriasis. In the former affection this band was wanting. In eczema, also, evidences of dried serum or pus would be found. Psoriasis was not accompanied with enlargement of the posterior cervical glands like eczema. The diagnosis from favus was made by the age of the patient, the evidences of destruction of the hair follicles in favus, and the microscopical examination. On the general integument, syphilides were most apt to resemble psoriasis. The regions on which the eruption appear was important. The syphilides were apt to affect the flexor surfaces, while psoriasis affected more commonly the extensor aspects. Psoriasis began as a minute point of hyperæmia, which might last for several days. In the macular syphilide a crop of macules appeared within twenty-four or forty-eight hours. When the eruption faded there was in syphilis a decided pigmentary change. In some cases of psoriasis there was severe itching leading to scratching of the skin, and, as a result, scabs and crusts made their appearance, but here the cause of the condition was readily recognized. The amount of pruritus complained of in psoriasis varied, but it was rarely a prominent symptom, although in exceptional cases it is very severe. In regard to treatment there was no specific. What would benefit one patient might make another worse. In his experience, tarry preparations, especially the oil of cade, had been most efficacious. Great comfort might be afforded by the use of emollients. Cod-liver oil was one of the best applications. Cod-liver oil and oil of cade (equal parts) was a common prescription. Chrysarobin was a powerful remedy, but had the disadvantage of destroying the clothing. On the face and scalp it was apt to produce dermatitis. Even after apparent recovery there was great danger of relapse.

Dr. Duhring said that the reader had not alluded to the difficulty sometimes experienced in diagnosticating seborrhœa capitis from psoriasis. He had found considerable trouble in the diagnosis, particularly in young girls. In these cases the eruption was confined to the scalp.

Dr. A. R. Robinson, of New York, said that in the diagnosis of favus and psoriasis there was usually no difficulty. He did not agree with the author in regard to one of his points of diagnosis. In the early stage we should not find moisture when the crust was removed. There was a shiny appearance. It was only in advanced stages that ulceration was present. He considered it primarily an affection of the rete mucosum. While it was true that psoriasis often disappeared without producing pigmentation, there might be discoloration found on the lower extremities, particularly where there was a varicose condition of the veins.

Dr. J. C. White, of Boston, agreed with the previous speakers in regard to the difficulty of diagnosticating between psoriasis of the scalp and seborrhœa. In some cases the diagnosis could not be made for months. In all parts of the body pigmentation might follow psoriasis, but never over large areas.

Dr. R. B. Morison, of Baltimore, saw a great many cases of psoriasis, but could only recall one or two cases of psoriasis in the negro. In such cases there was a loss of pigment.

Dr. G. H. Fox, of New York, thought too much stress was laid on the general rule that psoriasis occurred most frequently on the extensor surfaces, the knees and the elbows. It was a notable fact that in general psoriasis the vicinity of the knee and elbow escaped. Many cases of psoriasis occurred in weakly subjects, while, on the other hand, many cases of eczema appeared in robust persons. In every individual case, the better the patient's health the less likely was he to suffer from a recurrence of the affection. He had been very successful in the treatment of psoriasis, and in its management he adopted the teaching of the late Tilbury Fox, who laid stress on the point that in psoriasis, as in other inflammatory affections of the skin and also in lupus, the first thing to do was to lessen the congestion of the skin. The speaker did this by restricting the diet, and ordering fruits and vegetables. Tea, coffee, tobacco, and stimulants of all kinds were to be cut off. By so doing, more would be accomplished than was obtained by using arsenic and local applications at the start. In regard to local remedies, he never used tar in the treatment of psoriasis. With the application of chrysarobin made at the proper time, there was no necessity for the use of tar. He had seen many cases in which this drug did no good, but this was because the application was made when the patches of psoriasis were in a congested condition. If the acute congestion was lessened, chrysarobin will produce beneficial results.

Dr. C. Heitzman, of New York, thought that one of the most important points after making the diagnosis was to decide as to the acuteness or chronicity of the affection. If it was acute, local applications were to be avoided. If the case was chronic, chrysarobin might be used with advantage at least temporarily. It was not a cure. He agreed with Dr. Fox that restriction of the diet was important for the purpose of lessening the congestion. Tar could not be dispensed with. Chrysarobin remedied the disease for a time, but in a few months it returned. There was nothing like tar to prevent the recurrence. No mention had been made of pyrogallic acid, which did good in some cases. There were, however, some cases which could not be treated successfully with any remedies; the disease would steadily grow worse.

The President believed that in psoriasis we had a disease situated in the skin itself. It is frequently hereditary. The same sort of skin might be transmitted, just as a certain color of the hair or of the eye might be transmitted, and then any exciting cause might develop the psoriasis. He had seen psoriasis follow eczema. It was not unlikely that in seborrhœa of the scalp there might be the development of psoriasis. Internal causes might produce it. He had seen the excessive use of oatmeal produce typical psoriasis. In the treatment of psoriasis

it was important to regulate the diet. He cut off meats, and aided digestion in all possible ways. As a local application, chrysarobin with salicylic acid was very useful in chronic cases. Arsenic was useful on account of its action on the skin. This treatment might be followed by the application of sulphur ointment. In psoriasis of the scalp sulphur was quite an efficient remedy.

Dr. GREENOUGH had not intended to cover the entire subject of psoriasis in my paper. The omission of a consideration of seborrhœa was an oversight. In regard to pigmentation he had referred especially to those cases of psoriasis of the trunk which were most apt to be confounded with syphilides.

Cases of Angioma Pigmentosum et Atrophicum.—Dr. WHITE reported two cases. The first patient was a young man, seventeen years old, a Russian Pole. Freckles appeared on his face before he was two years of age. These increased in number until the age of six. When the telangiectatic condition first appeared was not noted. When seen, the patient was well developed and apparently in good health. He had, however, grown slowly, and was now no larger than a boy of twelve. The hair of the head was abundant and intensely black. The eyes were also black. The forehead and lower portion of the face were of a dark-brown color, and, on close inspection, small spots of a darker color were seen. The whole trunk was as dark as the skin of a dark Spaniard. The scrotum was very black, and the penis and glans presented dark spots. The arms and hands were thickly spattered. The legs were also affected. On the right thigh there was one spot of dark color covered with rather long hair. The mucous membrane of the mouth and pharynx was free from melanosis. On the right side of the face, occupying one half the surface, was a sharply defined area of white cicatricial-looking skin. Similar areas were seen on the other cheek, on the forehead, and about the mouth. A few white spots were seen on other portions of the body. The sensibility of the affected areas was decidedly lessened. Over parts of the face there were bright-red spots, varying in size from that of a pin's head to that of a pea. They were most noticeable in the atrophied portions. Within the lids there were two angiomatous new growths. Several vascular twigs were also seen on the face. A few red points were found on the general surface.

The second case was that of a brother of the first patient, aged three years, born in New York. When he was eighteen months old, little colored freckles were noticed on the face. Since then the condition had been developing. His hair was dark brown and his eyes were black. The face was covered with numerous dark-brown freckles. The spots were so close together that at a little distance the skin had a uniform color. In some places the spots were slightly elevated. The backs of the hands were covered with dark-brown spots; elsewhere the skin was clear. There were no leucodermic spots and no angiomatous conditions.

From a study of these cases, he concluded that in the beginning the development of these spots could not be distinguished from that of ordinary freckles. Gradually the spots multiplied until they involved a considerable portion of the skin. It was probable that several years might elapse without other manifestation of the disease. The telangiectatic condition was probably secondary. In the first case it was most developed in the atrophic portion. It was probable that in this case there would be hypertrophy of the epithelium and final transformation into epithelioma. This had been the result in the thirty-three cases which had been reported.

The Relations of Lupus Vulgaris to Tuberculosis.—Dr. HYDE read a paper in which the following clinical facts were cited in support of the view that lupus vulgaris was not the result, as had long been taught, of tuberculosis or other systemic diathesis, but was the product of a local infection by bacilli, entirely unassociated with any constitutional evidence of diathesis or predisposition: 1. The unimpeachable character of the family record in by far the larger number of cases of lupus vulgaris. 2. The fact that the disease was in its inception a disorder of the period of childhood, when for the most part the habits of the child were favorable to infection. 3. The several sites of predilection were those most favorable to such infection. 4. The failure of the disease to spread by inheritance. 5. The remarkable tendency of lupus vulgaris to cutaneous limitation.

The Treatment of Lupus by Parasiticides.—Dr. WHITE reviewed briefly the evidence in favor of the parasitic nature of the affection. All previous plans of treatment which had proved most successful were those which would have the effect of destroying any parasite which might be present. A number of cases were then reported in which the local use of corrosive sublimate, in the strength of two grains to the ounce of water or unguent, had been used with beneficial results. The ointment was especially recommended. It had been rarely necessary to prolong the treatment over two months. As regarded the permanency of the cure the author was unable to speak, as the experiments had been continued for only eighteen months.

Dr. S. SHERWELL, of Brooklyn, would express his profound disbelief in the parasitic nature of the disease, and he did not know that the theories of Koch had been entirely proved.

Dr. HYDE said that at the last meeting Dr. Taylor had suggested the use of a solution of corrosive sublimate in tincture of benzoin. He had used this in cases of lupus and in cases of infecting chancre. It made an excellent application.

The Treatment of Port-wine Mark by Electrolysis.—The PRESIDENT read a paper with this title. In the treatment of this affection the object was to excite sufficient inflammation to cause occlusion of the vessels. Electrolysis seemed to be the most convenient way of doing this. At first the author had used a bundle of needles, but he now employed only the single needle. It was important to allow a period of some weeks to elapse between the applications. The histories of three cases were given in which this method had been employed.

Dr. WIGGLESWORTH, of Boston, had seen good results from cutting the vessels in two places and using a preparation of iron, thus closing up the dilated vessels.

Dr. FOX thought that better results could be obtained by electrolysis than by other measures, but it did not remove the trouble entirely. He had used the treatment with puncture and carbolic acid with fair results. He had sometimes passed the electrolytic needle deeply, endeavoring to strike the artery of supply, and sometimes had produced a decided effect.

Dr. LE GRAND N. DENSLOW, of Minneapolis, had recently seen a case of port-wine mark on the labia majora of an infant. This had ulcerated when the child was brought to him. As a temporary measure, he applied the liquor gutta-perchæ. In two days, without other treatment, the whole mark sloughed out, leaving nothing but a simple ulcer, which completely healed in the course of three weeks.

The PRESIDENT thought that the advantage of electrolysis was that it was manageable. A practical point might be referred to, and that was, if after the operation the part was frequently mopped with hot water, the inflammatory disturbance would be greatly lessened.

Remarks on a Moot Point in the Ætiology of Psoriasis.—Dr. SHERWELL read a paper with this title. He had been struck by the great diversity of opinion in regard to the general health of those affected with psoriasis, and, in order to arrive at something like a consensus of opinion on the subject, he had

referred to the writings of most of the authorities in dermatological matters. Brief extracts from various writers were then given. The evidence thus obtained strengthened the author's opinion that the patients with psoriasis were generally in good health. He thought that the theory of Piffard, who believed that the rhenmic diathesis was a great exciting cause of psoriasis, was the most rational theory that had been advanced.

(*To be concluded.*)

NEW YORK SOCIETY OF GERMAN PHYSICIANS.

Meeting of June 22, 1883.

Dr. B. Scharlau, and afterward Dr. I. Adler, in the Chair.

Ulcerated Gumma of the Sternum.—Dr. Hermann G. Klotz presented a man, sixty years old, whom he had treated at the German Dispensary. Three weeks ago he hurt his chest by striking against a hard object. Soon after he noticed a hard swelling which developed at the seat of the injury and finally ulcerated, but never gave him any pain. The nates and thighs exhibited pigmented scars, but there were no swollen glands. Dr. Klotz considered the swelling to be an ulcerated gnmma.

Kelotomy combined with the Radical Operation for Inguinal Hernia.—Dr. I. Adler presented a man, twenty-three years old, on whom he had performed this operation at the German Hospital four weeks ago. The patient had been afflicted with an irreducible hernia ever since he could remember, but had never worn a truss. When the doctor first saw him his abdomen was tense and painful, and he suffered from hiccough, nausea, and vomiting. His bowels had not moved for four days in spite of some homœopathic medicine prescribed for him by an irregular practitioner. The hernial protrusion gave a dull percussion sound. Dr. Adler at once proceeded to perform kelotomy. On opening the hernial sac, it was found to contain omentum which was firmly adherent to the hernial sac in many places, and a small, dark-red knuckle of intestine. The whole inguinal canal was laid open, and the internal ring was freely incised, whereupon the strangulated portion of intestine slipped back into the abdominal cavity. The adherent portions of the omentum were ligated and cut through with the thermo-cautery. The operation was supplemented by the radical procedure for hernia—viz., the stitching of the internal ring, which was done with stout catgut. The dressing was changed on the fourth day, and he was discharged at the end of two weeks.

Hæmorrhage following Abortion.—Dr. J. Boldt exhibited an ovum of the fourth week of gestation. The hæmorrhage occasioned by the miscarriage lasted about two weeks and was stopped only by scraping the uterine cavity.

Tetanus following Abortion.—Dr. Henry Wald reported the case of a woman, thirty-six years old, who had a miscarriage in consequence of excessive exertion, and in whom lockjaw set in three days afterward. Treatment was of no avail, and she died at the end of three days of suffering. At the time of death her temperature was 106° F.

Dr. I. Adler remarked that he had once tried nerve-stretching in a case of tetanus caused by a gunshot wound of the thumb, but without success.

Prolonged High Temperature.—Dr. A. Seibert reported the case of a baby, four months old, which he had treated for gastritis, and which for eighteen consecutive days almost uninterruptedly had a temperature of over 106°. The child recovered.

Tetany.—Dr. J. Rudisch related the case of a child, four years old, who at the time of the meeting was convalescing from an attack of tetany supposed to have been caused by taking cold while sleeping near an open window. The attack began with a severe headache, which was aggravated every time the little patient took nourishment. On the fourth day mastication and deglutition became difficult, and the usual symptoms of tetany were ushered in. Warm baths were at first employed, but they appeared to aggravate the convulsions; neither did salicylic acid produce any amelioration. The patient was then put on chloral hydrate and bromide of potassium, and the occasional use of amyl nitrite.

Operation for Empyema.—Dr. A. Caillé reported a successful operation of this kind which he had performed in a child fourteen months old. He employed Labarraque's solution for washing out the pleural cavity. Six weeks after the operation the little one had gained three pounds.

Meeting of September 28, 1883.

Dr. B. Scharlau in the Chair.

Dr. J. Boldt introduced a man, thirty-two years old, on whom Prof. Langenbeck, of Berlin, had performed exsection of the left elbow joint in the year 1876, resulting in a perfectly useful limb.

Perforation of the Lower Canaliculus due to Syphilis.—Dr. A. Schapringer presented a married woman, aged twenty-six years, with a perforation of the left lower lachrymal canaliculus, the result of ulceration of a tubercular syphilide which had occupied the region of the inner canthus. The patient having been put through a course of iodide of potassium, the syphilitic nodule itself had disappeared at the time she was shown to the society. The slit-shaped perforation involved the inner or nasal half of the lower canaliculus, transforming it into a furrow, while the outer or temporal half, including the lower punctum lacrymale, was normal. Through the slit-shaped opening No. 6 of Bowman's probes could be introduced into the lachrymal duct. There were also several small perforations in the soft palate. Dr. Schapringer had not been able to find a single case of perforation of a lachrymal canaliculus caused by syphilis recorded in literature.

Gonorrhœal Tenosynovitis.—Dr. A. G. Gerster reported the case of a young man who, during the course of the second week of his first gonorrhœa, was attacked by inflammation, followed by suppuration, of the tendon sheaths of the flexors of the middle finger and of the tibialis anticus. The abscesses formed were incised and washed out with a strong solution of corrosive sublimate. The wound healed in four weeks. Dr. Gerster considered this to be a case of metastatic gonorrhœal synovitis.

Dr. H. Knapp said, in answer to a question from the chairman, that the existence of a metastatic form of iritis due to gonorrhœa was established beyond any doubt, though it did not occur frequently. Whenever a patient suffering from iritis complained to him about pains in the knee, he always diagnosticated the presence of gonorrhœa, and had as yet never made a mistake.

Dr. I. P. Oberndorfer expressed doubts as to the existence of a causal relationship between gonorrhœa and rheumatism, and believed that the combination of the two diseases was purely accidental.

Dr. Gerster had seen about thirty cases of articular rheumatism following recent gonorrhœa or mechanical irritation of the inflamed mucous membrane of the urethra, and was convinced that the latter was the cause of the former. He had had repeated experience of the fact that the passing of a sound was followed either by inflammation of a joint, or by an exacerbation of an existing inflammation. These inflammations, as a rule, were very stubborn to treatment. In three cases in which

he had occasion to aspirate he found that the joints contained serum mixed with a small quantity of pus. A number of cases of gonorrhœal rheumatism turned into the tuberculous or fungoid form of arthritis. Dr. Gerster once had to perform partial exsection of a knee joint affected in this way. Ankylosis was often the result of this form of joint disease. In the treatment of gonorrhœal rheumatism, not only the original trouble should receive attention, but also the joints affected should have the benefit of special surgical care.

Dr. J. Rudisch remarked that the term "gonorrhœal rheumatism" ought to be discarded, because it was apt to be misleading in regard to therapeutics. Salicylic acid was never of any benefit in this disease. He had observed that the continued treatment of the urethral affection by injections always aggravated the joint trouble. He recommended the administration of iodide of potassium, to put the joint in splints, and not to meddle with the urethra at all.

Dr. Oberndorfer said that, if it was true that the suppression of the gonorrhœal secretion by local applications was apt to start or to aggravate joint inflammation, this fact was an argument against the view that the joint disease was due to gonorrhœal infection, because a cessation of the gonorrhœal flux could only be brought about by killing the micrococcus which caused it, and, if this was done, then the micrococcus, being dead, could not possibly cause any metastasis. He also thought that, if the arthritis was caused by the *Diplococcus gonorrhœæ*, the effusion into the joint would invariably be purulent.

Dr. Gerster reminded Dr. Oberndorfer that, whenever a general infection of the system took place from a pus-secreting focus situated anywhere in the body, one of the first symptoms was the cessation of the secretion of pus at the initial lesion. The usual method of making injections into the urethra, as practiced by the patients themselves—*i. e.*, by pressing the walls of the meatus tightly against the nozzle of the syringe—was apt to cause infection of the system by forcing gonorrhœal material into open lymph-channels in places where the mucous surface was denuded of its epithelial lining. He preferred to make the applications to the urethra himself wherever this was practicable. The fluid which he preferred was a solution of corrosive sublimate of 1 part to 5,000 or more, with which he irrigated the urethra by means of a fountain-syringe and a soft catheter.

Dr. Rudisch inquired whether the treatment of the urethral mucous membrane had any influence upon the progress of gonorrhœal iritis, if such a complication existed.

Dr. Knapp answered that in such cases he never interfered with the urethra at all, and that the discharge from the urethra always subsided without any local treatment. He thought that the good effect of antiseptics could be accounted for by their astringent property, in consequence of which they diminished the amount of transudation, and thus deprived the micro-organisms of the soil on which they fed.

Gonorrhœal Ophthalmia.—Dr. Knapp also mentioned that he had lately met with an unusual number of cases of this affection. In regard to treatment, he did not use nitrate of silver in any form in the beginning, but restricted himself to measures of cleanliness and the application of cold.

Meeting of October 26, 1883.

Dr. A. Jacobi in the Chair.

Sarcoma of the Kidney.—Dr. Aug. Seibert exhibited both kidneys of a girl ten months old, the right one of which was the seat of a medullary carcinoma. He intended to publish the case in detail at some future date.

Dr. Alfred Meyer remarked that sarcoma of the kidney occurred more frequently than carcinoma in children.

Dr. Seibert replied that in the foregoing case he and Dr. A. Seessel had become convinced, by means of microscopic examination, that the new growth was a carcinoma.

Dr. I. Adler contradicted the statement of Dr. Meyer with reference to the frequency of occurrence of both classes of new growths in the kidneys of children.

The Chairman remarked that more attention had been given to tumors of the kidney within the past fifteen years. The greater number of congenital as well as malignant new growths which developed in infants and in children of one or two years of age were found in the kidneys, and the majority of these tumors were sarcomata. Hæmorrhage hardly ever occurred with this kind of tumor. He had observed six cases of sarcoma of the kidney up to date, but had never seen one case of carcinoma. Should carcinoma occur at all in children, its favorite seat would be the kidney, but the greater number of new growths of this organ were assuredly sarcomatous.

Dr. Adler was of the opinion that most of the so-called primary sarcomata of the kidney did not originate in the kidney substance proper, but began either in the supra-renal capsule or in the pelvis of the kidney.

Sarcoma of the Left Side of the Face.—Dr. Adler presented a patient, forty-six years of age, upon whom he had operated for the removal of a sarcoma of the left side of the face five weeks previous. The tumor became noticeable about one year ago, although the patient had experienced some difficulty in mastication and swallowing for a considerable time previous, evidently caused by the new growth. At the time of the operation the region of the left parotid gland was the seat of a tumor which was of the size of an apple. Above the zygoma there was a smaller projection. The patient could not open his mouth. Under the influence of chloroform a digital examination of the fauces was rendered possible. The left tonsil and the uvula were pushed to the inner side, but were not united with the tumor.

While extirpating the tumor it became apparent that the new growth originated from the left lower maxilla, which bone, together with the muscles attached to it, with the exception of the internal pterygoid, was removed. The parotid gland was atrophied, but not involved in the tumor, and was, therefore, not removed. The number of vessels ligated was quite small; among them was the internal maxillary artery. A portion of the pterygoid process was removed. The wound was dressed with iodoform, and healed without any signs of reaction. A microscopic examination showed the new growth to be a giant-celled round-celled sarcoma. At the time of this report the patient was able to masticate.

Ossifying Giant-celled Sarcoma of the Foot.—Dr. Adler showed the foot of a girl, seventeen years of age, which he had amputated four months previous in the German Hospital. The family history of the patient was phthisical.

The patient entered the hospital in January with a swelling of one ankle joint, which was considered a fungous inflammation, and it was treated with ignipuncture. As the swelling of the joint increased, Dr. Adler determined to perform a radical operation. He made a longitudinal incision at first, as recommended by Kocher, in order to explore for an intended exsection. A peculiar substance oozed forth, which at first sight seemed to be fungous, and he determined to perform Syme's amputation at once. A microscopic examination demonstrated that this mass was an ossifying giant-celled sarcoma, which projected from the anterior surface of the astragalus. The scaphoid bone was not involved. The position of the new growth corresponded with one of the previous ignipunctures. No trace of a fungous process was found on the joint surfaces nor anywhere on the sheaths of the tendons.

Dr. Adler was of the opinion that the new growth was present at the time when the ignipuncture was performed, and that this operation caused a rapid proliferation of the same.

Dr. A. G. Gerster remembered a case which he observed about one year ago, in which a sarcoma developed itself in the bony cicatrix of a previous fracture of the external condyle of the humerus.

Adenoid Vegetations.—Dr. Aug. Caillé exhibited several adenoid vegetations which he had removed by means of Jarvis's snare from the naso-pharyngeal cavity of several patients.

Dr. Gerster said that Jarvis's instrument had broken when he had attempted to remove any dense swellings.

Dr. Adler said that he used the snare constructed by Zaufal, of Prague, with the best success.

Extirpation of the Uterus and Ovaries.—Dr. Paul F. Mundé reported a case in which he had successfully extirpated the uterus with the ovaries, at Mount Sinai Hospital. The operation was performed on account of a carcinoma of the cervix, the uterus being quite movable. The patient was placed in Sims's position and the operation performed through the vagina.

Dr. Gerster stated that Dr. Bopp had successfully removed a uterus through the vagina. He had assisted at a similar operation, recently performed in Brooklyn, on account of a total prolapse of the uterus and vagina. This latter case progressed favorably.

The Chairman remarked that the first operation for extirpation of the uterus ever performed was that done by Dr. Emil Noeggerath in Hoboken about six years ago. The case terminated fatally.

Tuberculosis of the Lung with Pneumothorax.—Dr. Alfred Meyer exhibited the lung of a phthisical patient which, becoming perforated a short time before death, caused pneumothorax.

Dr. Meyer also showed the uterus and other organs of a woman who had died of puerperal septicæmia.

Parenchymatous Inflammation and Fatty Degeneration of the Kidneys.—Dr. H. J. Boldt reported the case of a woman, twenty-nine years of age, who had been suffering with frontal headache for several years. The headache was most intense in the morning, and, as a rule, subsided in the afternoon. A short time before death the woman was seized with periodical rigors, which were not influenced by quinine. The urine at no time contained albumin. The patient was seized with convulsions which passed into coma, and in this condition she died. The autopsy did not corroborate the probable diagnosis of abscess of the brain, there being only a hyperæmia and œdema of the brain-substance.

Dr. Satterthwaite had examined the kidneys and found them in the first stage of a parenchymatous inflammation or fatty degeneration.

Meeting of November 30, 1883.

Dr. A. G. Caillé in the Chair.

Empyema.—Dr. H. J. Boldt read the full clinical history, and exhibited the lungs, of a man, twenty-two years of age, who had apparently at first suffered from typhoid fever, and afterward a pneumonia, to which he succumbed. The autopsy revealed an empyema. During life bronchial breathing could be heard distinctly over the empyema.

Dr. A. Jacobi, who saw the case in consultation, stated that he had heard the bronchial breathing, and thought that it was caused by short adhesions between the costal and the visceral laminæ of the pleura. It was always necessary, he thought, to make an exploratory puncture in doubtful cases.

Urine containing Casts but no Albumin.—Dr. Boldt also spoke of certain cases of Bright's disease in which the urine contained casts but no albumin.

Dr. Charles Heitzman remarked that this peculiarity occurred in chronic Bright's disease, and Dr. Gustav Langmann stated that it also occurred in acute cases.

Primary Sarcoma of the Kidney.—Dr. Jacobi exhibited a primary sarcoma of the kidney of a boy, two years of age, who had been admitted into Bellevue Hospital on August 8, 1883, on account of distended abdomen and occasional vomiting. On admission, the temperature was 101° F., and a swelling was found on the right side of the abdomen. On percussion, tympanitic resonance was found in the space extending between the liver and the swelling. The patient was put on a generous diet, and alcohol and arsenic were administered.

September 20th.—The patient had improved, having good appetite, but the swelling had increased in size. A diagnosis of sarcoma of the kidney was made. The urine never contained albumin or blood.

October 12th.—The swelling had become larger; there was marked dyspnœa; on the right posterior surface of the thorax dullness was present, which corresponded to a watery serosanguineous exudation, which was removed by aspiration.

The dullness over the tumor now coalesced with that of the liver, and there was apparent fluctuation at a certain point. This being punctured, some dark, bloody fluid was evacuated. The tumor continued to grow rapidly, and finally the child died, emaciated and exhausted. The autopsy revealed a large tumor of the right kidney, which was inclosed in a dense fibrous capsule, and to which the ascending colon and liver were adherent. On section, the anterior portion of the tumor revealed a cyst which contained about two hundred and fifty grammes of fluid. In the middle of the swelling there was hæmorrhagic exudation. The ureter was not degenerated, and extended up to the middle of the tumor, where it joined a normal remnant of the pelvis. The tumor itself was a soft, round-celled sarcoma.

Dr. Jacobi then spoke about the differential diagnosis of carcinoma and sarcoma of the kidney, and said that with a large tumor and a history of comparatively fair health for a long period of time the diagnosis of sarcoma was quite probable. The course or clinical history of sarcoma was also of longer duration than of carcinoma.

Osteo-sarcoma of the Right Jugular Bone.—Dr. F. C. Heppenheimer exhibited an osteo-sarcoma of the right jugular bone which was not noticed until eleven months before death. A resection was performed in Bellevue Hospital, but a new tumor very soon appeared. Finally the tumor involved the right side of the frontal bone, the entire inner surface of the orbit, and perforated the right side of the ethmoid. From the orbit the tumor extended to the right angle of the jaw, thence under the chin to the middle portion of the digastric muscle, where a round mass of the size of a small egg projected from the main portion of the tumor. From here the tumor extended backward to the anterior surface of the sterno-cleido-mastoid muscle, and upward along this muscle to the level of the lobule of the pinna. The tumor involved the entire region in front of the ear, and, passing up obliquely, was bounded by the superciliary ridge. The right eye was pushed forward and covered by the lids. The patient, who was sixty-four years of age, died of exhaustion.

Choroiditis Metastatica.—Dr. Heppenheimer showed the eyes of a patient, thirty-three years of age, who had suffered from a metastatic choroiditis. The patient died of a diphtheritic endometritis.

Carcinoma of the Stomach.—Dr. Heppenheimer also exhibited a connective-tissue scirrhus of the pyloric end of the

stomach which would have been a favorable case for exsection. The patient died of hæmorrhage from the stomach.

A Floating Body in a Hydrocele.—Dr. Heppenheimer also showed a floating body found in a hydrocele.

Carcinoma of the Œsophagus.—Dr. Alfred Meyer exhibited the œsophagus of a woman, fifty-two years of age, which was the seat of a carcinoma. In the previous July the patient experienced difficulty in swallowing and pain in the epigastric region. She vomited frequently and lost flesh and strength, finally becoming so emaciated as to weigh ninety-two pounds only. October 2d an incision was made, and an obstruction was ascertained to be situated about twelve inches from the incisors. An œsophageal bougie No. 5 was passed, which caused an amelioration of the symptom and a marked increase in weight. October 21st the patient began to vomit very frequently and emaciated very much. This vomiting was followed by coughing, the patient vomiting the contents of the stomach mixed with pus. A short time before death she weighed fifty-two pounds only. The autopsy showed a dilatation of that part of the œsophagus situated above the stricture which measured 6·5 cm. in diameter, while the diameter of the œsophagus below the stricture was 3·5 cm.

An ulcerative process, beginning at the new growth, perforated the right bronchus, thus establishing a communication between this bronchus and the œsophagus.

In the right lung a suppurative bronchitis was found. In the right axillary region a swollen gland was seen. Microscopic examination showed an epithelioma. According to von Ziemssen, this class of carcinoma of the œsophagus rarely occurred in women.

Repeated Attacks of Scarlatina in a Child.—Dr. Gustav Langmann reported a case of a boy, fourteen years of age, who had had twenty-four attacks of scarlatina. About twelve years and a half ago the patient had his first attack of scarlatina complicated with diphtheria. This occurred in the year 1871, and since that time he had had a regular attack of scarlatina every spring and fall. The rash, angina, rise of temperature, and especially the characteristic desquamation of the palmar surface of the hands, left no doubt as to the correctness of the diagnosis. The urine never contained albumin, and the temperature was seldom higher than 102° F. Dr. Langmann also stated that it was not rare for a patient to have scarlatina more than once.

Dr. William Balser had observed a case in which the patient had six attacks of scarlet fever.

Dr. Herman G. Klotz said it was important to remember that *erythema exudativum* occurred most frequently in the spring and autumn, and also called attention to the fact that, after an exanthema brought on by quinine, a desquamation of the palmar surface of the hands occurred.

A. Seibert, M. D., *Secretary pro tem.*

Meeting of December 28, 1883.

Dr. Ernst Schottky in the Chair.

Calcareous Concretions in the Sputum.—Dr. Aug. Seibert exhibited three calcareous concretions which, at various times, had been coughed up by a patient who had marked dullness at the apex of the left lung.

The patient stated that he had experienced a pain at a certain point of the thorax, which began a certain time before he had coughed up these deposits. This pain ceased as soon as the deposits were coughed up.

Interstitial Pregnancy and Rupture of the Uterus.—Dr. H. J. Boldt exhibited the uterus and appendices of a woman, twenty-one years of age, with the following history: Five days before death, while dressing to go out for a walk, she was suddenly seized with intense pain in the right inguinal region which compelled her to go to bed. She stated that she had danced on the previous day. When Dr. Boldt first called he found the patient very pale, semi-comatose, and complaining of very severe pain in the right inguinal region. The uterus was anteflexed. Twenty-four hours later peritonitis set in. On the fifth day she vomited frequently, the temperature rising to 103° F., and on the following night she died.

At the autopsy about twenty ounces of coagulated blood were found in the right pelvic cavity. This blood apparently took its origin from the posterior surface of the uterus, where a laceration was visible, and at this point a swelling was also found.

Dr. Boldt thought that the ovaries were in a state of cystic degeneration.

Dr. J. Kucher was of the opinion that Dr. Boldt's case was one of interstitial pregnancy, and that the swelling found on the uterus was probably placenta.

Dr. H. Garrigues was of the same opinion as Dr. Kucher, and did not think that the ovaries were degenerated, but that the right ovary, which apparently was degenerated, simply contained a corpus luteum.

Cheesy Degeneration of the Lungs.—Dr. Boldt also exhibited the lungs of a child which he had presented to the meeting on February 23, 1883. Craniotabes was diagnosticated at that time. The lungs contained cheesy deposits. The bronchial glands were enlarged.

Tuberculous Meningitis of the Convexity of the Cerebrum.—Dr. A. Jacobi exhibited the convexity of the hemispheres of the cerebrum of a man fifty-one years of age, whom he was called to see in consultation with Dr. Herzog on December 19, 1882. Dr. Herzog was called because the patient suffered from a severe headache and complained of irritability. His family history was negative. The pulse during the course of the disease only sank as low as 64 beats on one occasion. December 14th the patient was seized with spontaneous vomiting. On December 19th, when Dr. Jacobi first saw the patient, he found the left pupil considerably dilated. The naso-labial fold had disappeared. The patient presented a typical case of *taches méningitiques*. The heart and kidney were normal. A diagnosis of tuberculous meningitis of the convexity of the brain was made. The localization of the diagnosis was made on account of the small degree of irritability of the pneumogastric, which was demonstrated by the fact that the frequency of the pulse was very little changed. The post-mortem confirmed the diagnosis.

Sublimate Dressing.—Dr. H. J. Garrigues showed the sublimate dressings which he used with good results in the Maternity Hospital.

Dr. J. Kucher considered the dressing superfluous, because the infection occurred during parturition. This fact was proved by the well-known immunity from puerperal fever in cases where labor set in unexpectedly on the street.

Dr. J. Rudisch pointed to the fact that previous to the introduction of antisepsis a favorable result was frequently obtained in the intervals of endemics of puerperal fever, and that a similar interval possibly occurred in the case of Dr. Garrigues when he employed the antiseptic dressings.

Dr. A. Jacobi said that the type of puerperal fever prevailing in the Maternity Hospital when Dr. Garrigues employed the dressing was diphtheritic, and that the favorable results observed by Dr. Garrigues occurred at a time when diphtheria was prevalent in the surroundings of the hospital in the same proportion as before the introduction of the sublimate dressing, so that the favorable statistics now obtained must bear some relation to the employment of this dressing.

Dr. A. G. Gerster remarked that he used a similar dressing in lithotomy, and that this dressing prevented putrefaction of the urine. A. G. Gerster, M. D., *Secretary*.

Miscellany.

The International Medical Congress.—"Gaillard's Medical Journal" publishes the following letter from a correspondent who signs himself "Old Code":

"Although not wishing to trespass upon space which might be more profitably devoted by you to scientific material, I desire, nevertheless, to present for your consideration, in connection with the matter of the Ninth International Medical Congress, several principles which thus far in the discussion of that unfortunate subject seem to have escaped general attention, and which, if rightly understood and applied, would, I believe, set at rest much existing controversy. They are the principles upon which the International Congress as an institution was first conceived, and upon which, up to the present time, it has maintained a most successful career.

"I. The International Congress is essentially an independent, self-perpetuating body. It is independent because its objects are *purely scientific*, and its organization possible only upon that basis. It is self-perpetuating because capable of appointing its own officers and of electing its own places of meeting. Its hitherto uninterruptedly successful career places the fact of its perpetuity beyond a doubt.

"II. The Congress is, as its name implies, distinctly *international*. As an institution, therefore, it can not by any possibility be considered the property of an individual, country, or party. Should such proprietorship be admitted at all, it could only be in the case of those who originated the enterprise and who have conducted it through its eight successful meetings. Since this is so, it would seem not only wise and courteous, but, in fact, absolutely necessary, that local issues be placed as far as possible out of sight.

"III. The profession of any given country in which a regular meeting may be convened have certain privileges (as of entertainment, general arrangement, etc.) committed to them, as it were, *in trust*. The entertaining body has, of course, its own share in the governance of the Congress as a whole, just as any other country represented, but it can not possibly be conceded to have full controlling power. While accepting and exercising in full the privileges accorded to us as the organizers and entertainers of the Ninth Congress, we are still compelled to recognize our *trusteeship*, and we are under obligations, when we have finished with the institution, to leave it in the same sound condition in which it was received.

"IV. It is, clearly, the *whole body* of the International Congress which should dictate its policy. The expressed wish of the Congress must be accepted, therefore, as the controlling line of action. When, at Copenhagen, it was proposed that the next Congress be held in Washington, before the question was put for decision to the Eighth International Congress then assembled at its final general meeting, it was distinctly understood by those in charge that political issues in general, and the so-called 'code issue' in particular, *were not to be admitted*. It was as plainly understood that the representation was to be of '*the medical profession of America*.' Upon the strength of these propositions the vote was carried unanimously.

"Thus, in the present condition of affairs, we appear before the world not only divided against ourselves, but, what is far worse, as having set aside the distinct compact made with the International Congress itself, having acted in direct defiance of the principles by which it has heretofore been controlled, and having placed ourselves in clear opposition to its expressed wishes.

"Regarded from the International, and, therefore, from the true and broad standpoint, questions relating to local politics, local organizations, or local sentiments have in this matter no place. They are, most absolutely, out of order.

"When the above principles are thoroughly understood by the profession of this country at large, and when it is also understood that it is only upon them—that is, upon the principles of its own adoption—that the International Congress will allow its policy to be conducted, we may hope that the present dilemma may be removed and further disaster averted. I trust that this most desirable issue may await us in the very near future."

The "Medical Times and Gazette," of London, says:

"The 'Lancet' has not taken up a wise line in reference to the Washington Congress. It has either been misinformed as to the facts and the importance of the unfortunate dispute now going on in America, or else it has willfully shut its eyes to them. It is absurd, for instance, of the 'Lancet' to attempt to minimize the differences which have caused the withdrawal from the Congress of almost every man of mark in America. The fact that nearly every medical journal of any repute in the United States has vigorously condemned the action of the American Medical Association, and given its warm support to the men who are contending for the freedom of the profession against the selfish designs of a clique, should in itself have induced the 'Lancet' to give a little more attention to the question before taking the wrong side with such a light and careless heart. The sole fact that seems to weigh with the 'Lancet' is that Dr. Flint has been appointed President of the Congress, or rather that his original appointment has been confirmed by the new committee. Dr. Flint's is no doubt a powerful name to shelter one's self behind. He is incontestably one of the most eminent representatives of the profession in the United States, and it has been a source of profound sorrow to those who have felt constrained to withdraw from the Congress that in doing so they have had to part company with him. But we can not blind ourselves to the fact that Dr. Flint, eminent and honored as he is, has in the present instance allowed himself to be made the instrument of a minority. The part which Dr. Flint would take in this lamentable strife has been foreseen and discounted. The men of Boston, Philadelphia, and Baltimore who withdrew from the Congress knew that he would not follow them. The fact is that Dr. Flint is bound up with the American Medical Association, and an honorable feeling of loyalty no doubt constrains him to accept its decisions, however much he may deplore them in his secret heart.

"If the British Medical Association—a body five times more representative of the English profession than the American Medical Association is of the profession in the United States—had played the same part in reference to the London Congress that the American Association is attempting to play in connection with the Washington Congress, the 'Lancet' would not have been able to find language strong enough to use in condemnation of such action, and we are simply at a loss to understand the reasons which have actuated its present policy. Surely the 'Lancet' can not have realized the fact that the American Medical Association—*i. e.*, a body representing only ten per cent. of the profession in the United States—has decided that no American practitioner shall be admitted to the Congress who is not either a member of the association or a delegate appointed by a State or county medical society. In other words, if the American Medical Association has its way, between thirty and forty thousand American practitioners will be kept as much outside the Congress as if they were not medical men at all. Is the 'Lancet' prepared to give its support to a narrow and illiberal innovation of that sort? Would our contemporary be surprised to learn that this question of principle will henceforward form the main ground of conflict? It may be answered that any American practitioner can purchase the right to become a member of the Congress by joining the American Medical Association. True, but will the foreign visitors let the Congress be thus turned into an instrument for forcing men to join the association who would not join it of their own free will? It is evident that on this question all the leading men who have withdrawn from the Congress will be on the same side with the thousands of practitioners who are at present outside the American Medical Association. And on the other side whom have we? Dr. Flint, the wire-pullers of the association, and the 'Lancet.'

"We are very sorry that our contemporary has committed itself to that side, which every one who knows the facts and judges them with sobriety must admit to be the wrong one. Its American readers will

scarcely welcome such ill-timed and ill-instructed advocacy. The only hope for the Congress lies not in a postponement of disputes till after it is over, but in an unconditional surrender by the American Medical Association of the position which it has so unwisely taken up, aud in the rehabilitation of the original committee. On these points we believe that the leading men who have retired from the Congress are unanimously determined, and will admit of no compromise. If they still stand aloof, there will be no Congress, in spite of the 'Laucet's' confident prophecies. Our contemporary seems hardly to realize the extent and importance of the withdrawals. To take one section alone, that of ophthalmology, not more than four or five men of any reputation are left on it. Dr. Agnew, Dr. Knapp, and Dr. Jones, of Chicago, have been removed from their offices by the new committee of the American Medical Association, while Drs. Thomson, E. Williams, Burnett, Derby, Norris, Seely, Theobald, Wadsworth, and H. W. Williams have all declined to hold office in counection with it. A similar state of things prevails in almost every other section, so that, unless the practitioners who have withdrawn can be induced to return, the European guests who go to Washington in 1887 in search of scientific discussiou will have to provide it for themselves. Under such circumstances, we doubt if many will care to encounter the discomforts of the Atlantic passage."

The "Journal of the American Medical Association" publishes the following letter from Dr. John H. Packard, of Philadelphia:

"In an editorial in your issue of August 15th it was stated, on what authority I do not know, that I had withdrawn my declination of the secretaryship of the International Medical Congress of 1887, and consented to assume that office. The truth is that up to the present moment no official notice of such nomination has been sent me, nor has any publication of it been made to my knowledge, except in the 'Medical News' for July 4th. I do not, however, wish to make any point of this, but beg that you will afford me space for a plain statement, as brief as I can make it, of the facts in regard to this matter.

"On or about the 1st of June the chairman of what is now known as the enlarged committee told me that Dr. Billings would probably decline the office of Secretary-General, and asked me if, in that case, I would accept the nomination. I told him I would not seek any office, but that if it should appear to be for the promotion of harmony and of the success of the Congress, and the nomination were offered me, I would seriously consider whether I could undertake the work.

"After the enlarged committee had met in Chicago, a meeting of physicians was called here to receive a report of what had been done. I was at this meeting for a few minutes only, and did not hear the report, or know that it concerned me. Subsequently I was told that my nomination as Secretary-General had been announced, and that the impression had been conveyed that I had been a party to ousting Dr. Billings in my favor—in other words, that I had intrigued to obtain a place not vacant. I have since been told by the secretary of the committee that my nomination came from an outside source, and without any prompting on the part of those with whom I might have been supposed to be in league. How any one who knew me should think me capable of action so completely at variance with my whole life I could not and can not understand. Yet I found myself under this imputation, and felt compelled to subscribe my name to the protest of June 29th, lest my not doing so should give color to the idea that I had so schemed.

"There was another reason, not of a personal character, for my joining in the protest. The enlarged committee had adopted a rule which limited the conditions of membership, so far as Americans were concerned, while it left to foreigners free and untrammeled admission. Of this I could not approve. I at once wrote to the secretary of the committee and declined the nomination as Secretary-General, in advance of official notification, on the grounds that I was informed that Dr. Billings had not intended to resign, but had done so only because of the action of the enlarged committee; that the committee originally appointed had resigned; and that it was likely that the change of management would cause forfeiture of the foreign support of the Congress, as well as of much of that expected from the profession in this country. This letter I have not withdrawn.

"When I understood that there was hope of a compromise being effected in regard to the matters in dispute, and the propositions looking thereto were shown me, it seemed to me that they were faulty in that they dealt with the American membership only; and I ventured to submit one simply defining the conditions upon which any one, American or foreign, might come in. In handing this to Dr. Shoemaker I gave him also a note of explanation, in which I said that if anything better was offered I would gladly accept it. So far as I know, this was the only expression of mine which could be construed into a withdrawal from my former position.

"My own conviction is that it is contrary to all precedent for the American Medical Association to assume any control of the management of the Congress, which is a body by itself, and the members of which will be in no sense the guests of the association, or subject to it. Were I Secretary-General of the Congress I should not consider myself the appointee of the American Medical Association, nor responsible to it in any degree.

"And while it is eminently proper that the profession all over the country should be welcomed to membership in the Congress, and to a full share in its proceedings, the association does not seem to me to be, in its present form, a sufficiently representative body to undertake to insure this, even if it could properly claim the right to do so.

"I trust that you will bear with me in what is perhaps the wearisome length of this statement of facts aud opinions; but it has seemed to me to be due not only to myself, but to those who have been kind enough to consider me worthy of nomination to office in the Congress.

"No one can regret more than myself the prospect of wreck of a scheme in which the credit of the American profession is so deeply involved; and to avert it I would gladly do all in my power, but can not sacrifice my personal honor or stifle my convictions."

The "Medical Record" says:

"The 'Journal of the American Medical Association,' which has so steadily maintained a character for dignity and dullness, has recently lost its first attribute at least, without perhaps undergoing much change as regards the second. Its endeavors to prop up the present managers of the International Congress have led it into a curious position. It is no longer the organ of the profession, or even of the association, but is rather a strident defender of the clique who are bent on having their own way. Despite the almost universal condemnation of the policy developed at New Orleaus and Chicago, the 'Journal' continues to defend it. In doing so, it has uot had the courage of other journals, which it accuses of being 'organs,' but has systematically repressed all adverse critical comments even from disinterested European brethren. It has sneered at the eminent gentlemen who have withdrawn from the association, and has characterized them as thoughtless and foolish malcontents. Although resignations have now been going on steadily for over two months, it still chooses to regard the action as 'hasty.'

"With all this, however, we are each week informed that, if the withdrawing members will hurry up and return to the fold, it may not yet be too late for them to be forgiven! The 'Journal' is in much the position of a man on a raft, who threatens the passengers of a stanch ship with all the dangers of the sea if they do not soon come down and help him navigate.

"Last of all, the 'Journal,' to help itself along, has been guilty of misstatements, which, however, we can easily believe were accidental or typographical. We quoted last week from it the announcement that Dr. John H. Packard had withdrawn his resignation. We have the authority of the 'Medical News' that this is not true.

"Our Chicago contemporary, in discussing the question, has in every instance evaded the real issue, viz., that there should be no politics in a scientific convention. The introduction of this issue it can not excuse, and wisely has not attempted it.

"From its last announcement, we infer that no serious attempt at compromise is to be made. The present managers will, it is true, change the rules so that any regular physician can be a member of the Congress. But it is simply an insult to intelligence and self-respect to assume, as is done, that this is any concession. Gentlemen of new-code affiliations can contribute in money and work, but can not share the honors!

"There is a demand from the whole American profession, from that of England, Germany, and the other countries of Europe, that the code

issue he entirely left out. Will not the committee, which is to meet in this city on September 3d, respond to this demand? It would not be very difficult, and the success of the Congress would then be assured."

Vaccination after the Beginning of Small-pox.—As we have taken the ground that this practice is useless, we think it only fair to give heed to respectable testimony to the contrary. We therefore quote the following letter, addressed to the "Lancet" hy Dr. Francis J. Allan, of Edinburgh:

"On the evening of April 12th last I was called to see C. R——, a domestic servant, aged twenty years, with the following history: She had come to this situation on April 1st, feeling well, but at the end of a week she began to complain of lassitude and headache, and on the 10th and 11th these were accompanied by sickness and pain in the throat, back, and limbs. On the 12th a few papules appeared on the forehead, neck, and body, and on the legs were large red patches. When seen in the evening the girl said she was 'all right, except for the spots.' From the symptoms and the character of the papules a mild form of small-pox was diagnosed. The girl was removed next day to the small-pox hospital, and the other inmates of the house were revaccinated. C. R——'s fellow-servant, C. L——, eighteen years of age, who had occupied the same bed up to the 11th, complained at the time she was revaccinated of loss of appetite, and her arms were noticed to be rough, which she said was unusual. Next day (the 14th) she had severe pain in the back, the tongue was thickly furred and the fauces inflamed, with four small painful raised spots visible; temperature in right axilla 103° F. The patient had been excited and delirious during the night. On the 15th several papules were seen on the face, and the pain was not so severe. Meanwhile the left arm was becoming red and swollen at the seat of vaccination, which was evidently 'taking.' On the 16th the hard papules on the face were disappearing, and the skin of the legs and arms was desquamating slightly. The pain in the back continued until the 19th, by which time large vesicles had formed on the vaccinated arm, the four large pocks looking more like the result of a primary than a second vaccination. In a couple of days the pocks were at their height, and, with the exception of some swelling of the axillary glands and general weakness, the patient felt comparatively well. The skin very soon became clear and smooth, and she was able to resume her usual employment in a fortnight from the first appearance of the small-pox symptoms. On the others (four persons) in the house the vaccine took full effect. No other cases of small-pox have occurred in the house or vicinity since.

"No cases of small-pox had been known in the neighborhood for several months; and, as the incubation stage is of about twelve days' duration, it was presumed that C. R—— had been exposed to the infection previously to her taking the situation on April 1st. On the 12th the papules appeared, so that, allowing two days for the stage of invasion and twelve for that of incubation, it is probable she was exposed to the infection about March 29th. C. L—— slept in the same bed with C. R—— until April 11th, and, making the same allowances, possibly the poison entered her system the first night C. R—— slept with her. Even if the stages were shorter, it still shows that the infection may be communicated at a very early stage of the disease. A more important point is the action of vaccine as an antidote to small-pox. It has been asked, Is it worth while to vaccinate a patient who is beginning to show symptoms of small-pox? This case (C. L——'s) answers the question to the effect that small-pox may be checked, if vaccination be done with good lymph, even as late as the end of the incubation stage or the beginning of that of invasion. In this case, from the severity of the prodromal symptoms, the attack of small-pox would have been a correspondingly severe one; and this is borne out by the large typical vaccine vesicles produced, showing the great susceptibility of C. L—— to the small-pox poison. Evidently, it was the more rapid development of the vaccine which saved the patient from a virulent attack of the more slowly growing small-pox."

A Reminiscence of the Royal Society.—T. Wharton Jones, F. R. C. S., F. R. S., treats the readers of the "Lancet" to a recital of the part which he played, some fifty years ago, in the investigation of the ovarian ovum. He recounts having combated "the erroneous views of the late Dr. Martin Barry . . . . which were promulgated with the support and encouragement of the 'Royal Society of London for *promoting* Natural Knowledge' and of all the 'scientific world of London'—that is, a clique of the professing physiologists in London, who had got virtual possession of the Royal Society, and arrogantly pretended to decide what ought and what ought not to be considered facts in nature without themselves knowing anything whatever of the subject, for lack of original investigations of their own." Our author writes under the following noteworthy caption: "On the Ova of Man and the Mammifera before and after Fecundation. Historical Notice of the Discovery of the Germinal Vesicle of the Mammiferous Ovarian Ovum, and of the Recognition of a Superadded Investment around the Ovum of the Rabbit as it Presents itself in the Fallopian Tube after Impregnation: a Single-handed Struggle against the whole so-called 'Scientific World' of London Fifty Years Ago. *Dedicated to the Scientific World of the Present Day.*"

The "Journal of the American Medical Association."—In the course of an editorial article entitled "The International Medical Congress and the American Medical Association," the "North Carolina Medical Journal" says: "We trust that, whether we have an International Congress in the United States or not, the dilemma now puzzling the wisest men in the American Medical Association may be overcome, and that such safeguards may be devised as will give the smallest scope for medical politics in the future. It is almost marvelous that such a threatening condition of things was never before reached when one analyzes a few of the huge meetings of the association. It is evident now that, in the future, the opportunities for medical politics must be reduced to a minimum, and every effort made to make the production of scientific work the chief object of the association and a test for preferment. We do not sympathize at all with the suggestion that a new national society should be formed. Secession is a costly business—it arrays good friends against each other, consumes valuable substance, and is so liable to end at last in striking colors you have pride in, and in grounding your arms to an enemy having the only advantage over you in being more numerous and better fed. For these and other reasons we prefer to encourage every means which will make the American Medical Association what the British Medical Association is, and we believe that the surest means to this end is to build up the journal of the association; for no one can doubt, although of late some of the editorials on the Congress have been acrimonious, that the editor has all the qualities of an earnest heart."

Homœopaths and Homœopaths.—We find the following in a very interesting presidential address, entitled "The Latest Systems in Medicine," lately delivered before the Ohio State Medical Society, by Dr. J. C. Reeve, of Dayton:

"The diversity of homœopathic doctrines shows that the term 'homœopath' does not define a man's position with any accuracy at all. It covers very diverse, even opposite opinions. This fact has an important bearing upon the medical politics of the present. You know that our sister society of New York has been divided upon the question of consulting with homœopaths. It would be well for us, therefore, so long as this question remains a possible one for this and other societies to consider, to understand as clearly as possible what the term 'homœopath' implies.

"It includes, at least, three distinct and well-defined classes: A few homœopaths are Hahnemannians. At the meeting of the New York Homœopathic Society in 1883, three acknowledged themselves to be such out of sixty present. According to the 'British Medical Journal,' the real homœopathists of Great Britain can be counted on the fingers of a single hand. With this portion of the sect it is impossible to consult. You can not reason with a man who maintains that a part is greater than the whole. These are intellectual cranks.

"A considerable larger portion of the sect is made up of those who have been educated in all the branches of medical science, who practice in good faith according to the law of similars, but who are bound by no rigid rules as to dose. This class is more numerous in Eastern cities than here. It is large enough to have an organ. This journal carries at its head this extract from our code of ethics: 'A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the only acknowledged right of

an individual to the exercise and honors of his profession'; and this: 'Our practice is *not* based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology, and organic chemistry.'

"These men comprise the best of the sect. They support medical legislation to establish boards of health and insure to the public educated physicians. They are on their way back to the ranks of the profession; they are dropping their distinctive appellation, and certainly no obstacles ought to be placed in the way of their return. It is folly, and worse, to call them charlatans and quacks. They are men who exaggerate the value of the law of similars, and the efficacy of the small dose. There is room for honest difference of opinion as to the range of the law, and it will not do for men who use 'Ringer' as a text-book to be too particular about small doses. These men are but little farther from the general line of practice than many of our number who ride 'hobbies,' who appear so frequently in the journals with new and wonderful modes of treatment of diphtheria, scarlet fever, or of some other epidemic they have passed through. We smile at the enthusiasm of these men, we recognize their error to be the same as that of the system-makers, generalizing from a few facts, we glean from their bushel of chaff the few grains of truth there may be; we do not cut them off from professional fellowship. We ought to treat as professional brethren all men who have been educated in medicine, who are honorable in conduct, who elevate the profession above any of its sects, who are honestly trying to advance our knowledge, and to cure disease and alleviate suffering, whatever may be their methods.

"The majority of homœopaths are unfortunately of quite another character. They have adopted this line of practice for whatever there may be of popularity in it, and they pursue their calling in the sole spirit of trade. Shall I be charged with slandering my neighbors? Hear what the 'Medical Times' says. It has dropped the distinctive title of 'homœopathic,' and advises others to do the same: 'We are as confident as we can be of anything that many use the term from mercenary motives, and that it is in many instances only a trade-mark!' The editor says further that the reply to this advice always is that practice would be lost in doing so: 'With this fact in view, how can we reach any other conclusion than that the title is retained for the purpose of business?' In plain English, this means that they are obtaining money by false pretenses. These are the men who have kept bright the spirit of the founder—hatred of the regular profession. They habitually indulge in the grossest misrepresentations of regular practice, and play upon every prejudice which exists, or which they can excite, in the public mind. They sneer about 'drugs.' It is a good word to use; it sounds like *dregs*, and dregs means dirt. They boast much of using 'pure medicines,' thereby conveying the slander that others are not careful about the quality of the chemicals they administer. They instill into the minds of their patrons the fear of 'strong medicines,' and, while doing so, deal out '*lachesis*' (serpent venom) and '*crotalus*' (the poison of the rattlesnake)—medicines which are too strong for our pharmacopœia. They emphasize the single-medicine doctrine while dispensing several different kinds to be given at intervals of ten or fifteen minutes. These are the men who prate of being the 'advanced thinkers' of the age, implying that no one else is trying to extend the knowledge of cure of diseases, while they bitterly oppose all efforts to enforce thorough medical education. These are the men who, to prevent the establishment of boards of health, go to the public and whine about 'class legislation!' These are the men who are homœopaths in one house, and in the next are anything that will suit. With these men we can not consult. We want a basis of common honesty, at least, to say nothing of that dignity and education which should attach to a profession which deals with the dearest interests of humanity. We must treat them as we do those of our own practice, who, with unblushing impudence, placard the walls and fill the columns of the daily papers with boasts of their superior skill and false statements of cure.

"But all members of our profession who advocate consulting with homœopaths may set their minds at rest. The homœopaths do not want us to consult with them. When we decline to meet them, there is a loud outcry about professional intolerance and bigotry and persecution. But during this great movement in the State of New York to terminate this schism and bring about common consultations, not a motion in its favor was made on their side of the house. I have looked carefully through the files of their journals, but failed to find one word of friendly advance. Of course, schisms and sectarianism do not elevate medicine, or increase respect for it, any more than they do religion. It were better if this division was closed. But, judging from the spirit of the times, it will be a long time before this sect disappears. The better portion of the homœopaths make no organized effort toward reunion; those who ply it merely as a money-getting calling will never leave it as long as principles and prejudices exist in the human mind which make it profitable."

The Canada Medical Association.—We learn from the "Canada Lancet" that the following are the papers promised up to the 19th ult. for the Chatham meeting: Dr. Osler (Philadelphia), "The Clinical and Pathological Relations of the Cæcum and Appendix"; Dr. A. Grant (Ottawa), "Aortic Aneurysm, with a specimen"; Dr. W. B. Geikie (Toronto), "Retroversion of the Gravid Uterus"; Dr. Burt (Paris), "Internal Urethrotomy"; Dr. Holmes (Chatham), "Puerperal Mania"; Dr. Kerr (Winnipeg), "Fractures in the Neighborhood of Joints"; Dr. Fenwick (Montreal), "Amputation of the Breast, with cases"; Dr. Bethune (Wingham), exhibition of specimens: 1. "Parasite from an Abscess of the Thigh"; 2. "Aneurysm of the Pulmonary Artery"; Dr. Worthington (Clinton), "Epidemic Cerebro-spinal Meningitis"; Dr. Fulton (Toronto), "Subperiosteal Amputation"; Dr. Campbell (Seaforth), "Trephining the Mastoid Bone"; Dr. Rutherford (Chatham), "Supra-pubic Urination"; Dr. Lett (Guelph), "Inebriety, a Disease the Result of Physical Causes"; Dr. A. H. Wright (Toronto), "Phlegmasia Dolens"; Dr. McKeough (Chatham), "Pilocarpine in Puerperal Eclampsia"; Dr. J. E. Graham (Toronto), "Dissecting Aneurysm of the Thoracic Aorta, with specimen"; Dr. Shepherd (Montreal), "Excision of the Tongue"; Dr. Alloway (Montreal), "Puerperal Septicæmia"; Dr. Ryerson (Toronto), "Atrophic Nasal Catarrh"; Dr. Atherton (Toronto), "Abdominal Section for Uterine Myomata"; Dr. Nattress (Toronto), "Field Hospitals in the Northwest Territory"; Dr. A. E. Hanna (Lansdowne), "Enlarged Prostate"; Dr. Gardner (Montreal), "Double Uterus, with specimen"; Dr. Oldright (Toronto), "Pernicious Anæmia"; Dr. Ames (Brigden), "Rattlesnake Bite"; Dr. Wilkins (Montreal), "Specimens illustrating the Infective Nature of Tuberculosis"; Dr. Stewart (Montreal), "The Curability of Chronic Infantile Paralysis."

Ominico.—Mr. Stanley W. Neuer, the manufacturer of this new disinfectant preparation, has received the following letter from Dr. Edward R. Mayer, of Wilkesbarre, Pa.:

"Since you have made known to the public the constituents of your ominico compounds, there is no longer any objections to my replying to your request for a brief statement of the experiments made with it by me and of their results.

"This compound, which is a scientifically prepared solution of boracic acid, chlorate of potassium, chloride of sodium, and thymol, possesses active properties as a disinfectant and as an alterative to inflamed cutaneous and mucous surfaces. I have used it with excellent effect in many of those diseased conditions of the mouth, throat, and nasal passages in which Listerine and phenol sodique have been hitherto employed by medical men, and I regard it as not only a safe and very agreeable mouth-wash, gargle, and application for spraying, but as one having great efficacy in many cases of catarrh, sore throat, cankers, and in some chronic skin affections."

Dr. J. A. Murphy, of Wilkesbarre, writes as follows:

"I carefully indorse every word Dr. Mayer says of your ominico aseptine compounds, and will simply add that, after using almost every remedy recommended by the profession for the past ten years in the treatment of chronic nasal catarrh, I have found nothing so agreeable and to afford so much relief as your compound."

Sanitation and Milk.—The production, care, and handling of milk and its preparation for the market under the observance of the most rigid sanitary and hygienic conditions is a subject to which the medical profession has, so far as we know, given but little if any attention. These conditions, so essential for the production of a pure grade of

milk, are beyond the facilities of the ordinary milk-producer, involving, as they do, regulating and watching the physical condition of the cow; the quantity and quality of her food; the cleanliness of the stable; the entire absence of everything giving rise to odors in the dairy—as milk readily absorbs and retains any smell, such as that of rancid milk, manure, tobacco, etc.—the proper and careful cooling of the fluid; and, lastly, the complete disinfection and cleaning of cans or bottles in which it is sent to the consumer.

A recent visit to the dairies of the "Echo Farm Company," situated in the towns of Litchfield, Bantam, and Washington, Conn., demonstrated to us the possibilities in this direction. There absolute cleanliness is the rule and not the exception. The milk, as it is received from the various farms, is carefully strained into cooling tanks, in which the temperature is reduced to about 55° F., in which condition it is drawn into bottles that are hermetically sealed and packed in ice for the market. Tests of the cream-producing qualities of the milk are made weekly—the average being from 15 to 17 per cent. A competent medical man makes frequent and thorough inspections of the cows, their food, and the sanitary condition of their stables, and nothing that sanitary and hygienic laws can demand for the production of an absolutely pure milk is left undone.

THERAPEUTICAL NOTES.

Napelline in the Treatment of Odontalgia.—Grognot ("Bull. gén. de thérap.") gives brief notes of a number of cases in which he has used Laborde and Duquesnel's napelline, which, being obtained from *Aconitum napellus*, is to be distinguished from the substance to which Groves gave the same name, but which he extracted from *Aconitum ferox*. The author's plan was to give a granule of half a centigramme (= about ·075 of a grain) by the mouth every fifteen minutes. Notes are given of six cases, in only one of which did no notable improvement take place. Usually the pain was stopped or greatly mitigated by the time four or five doses had been taken. One of the cases was of two years' standing.

Salicylate of Cocaine in the Treatment of Trigeminal Neuralgia.—Schneider ("Allg. med. Ctrl.-Ztg."; "Ctrlbl. f. d. ges. Therap.") relates the case of a woman in her third attack of neuralgia of the second and third branches of the trigeminus. The first attack, five years before, had been treated successfully with large doses of quinine. The second attack lasted almost six months; quinine was of no avail, but the pain gradually disappeared under the use of morphine and iron. The third attack had continued four weeks when the author injected salicylate of cocaine experimentally. The effect was extraordinary; six grains of the salicylate, injected into the cheek, caused the pain to disappear entirely, and occasioned a general feeling of well-being wholly free from any unpleasant collateral phenomena. The injection itself was painless and did not give rise to irritation. The patient was enabled to sleep at night, although before the pain had been most severe at night. Eight such injections were given in the course of six days, and after that there was no pain except at the site of the injections, which was overcome by three applications of galvanism with the anode applied to the seat of the pain and the cathode to the back of the neck.

The Dose of Codeine.—Schneider (*Ibid.*) contends that the usual doses of codeine and its salts are quite ineffectual. In about thirty cases he has used it in doses ranging from a grain and a half to three grains, with the result of producing sleep for four or five hours or for the entire night, and without any unpleasant effects, except vomiting in one instance. He regards the drug as a great boon for victims of the morphine habit while they are under treatment, acting as a substitute and a palliative. In such cases he gives a grain and a half every three hours.

Resorcin in the Abortive Treatment of Gonorrhœa.—A. J. Munnich, of Amsterdam ("Monatsh. f. prakt. Dermat."; "Ctrlbl. f. d. ges. Therap."), has been led by a suggestion of Andeer's to try the effect of injections of resorcin in the treatment of gonorrhœa. He began with a two-per-cent. solution, but, being dissatisfied with the results, soon proceeded to the use of a three-per-cent. solution. One hundred and eight cases were treated; sixty-seven successfully, and forty-one unsuccessfully. The method was as follows: The patients were told to drink as much water or milk as they could, so as to be able to wash the pus out from the urethra by urinating before each injection. The patients managed the injections themselves, taking one every two hours by day and two during the night, and they were instructed to let the liquid flow out from the urethra at once. They usually reported on the fourth or fifth day, and in most cases the discharge was very decidedly diminished where it had been profuse, or at least not increased where it had not been copious from the start. When the night injections were omitted, the improvement of the day before was usually lost, and the duration of the case was lengthened. The injections were now reduced to three or four during the day and one at night, and in general, in the cases recorded as successful, the discharge was exceedingly slight on the seventh day, and had entirely disappeared on the fourteenth. In the cases set down as unsuccessful, *i.e.*, in which the discharge became prolonged or the deep part of the urethra was affected, at least the acute symptoms were always rapidly overcome. In only one instance was it necessary to discontinue the use of the injections on account of inflammatory symptoms, and in that case the patient had retained the solution too long in the urethra. The quickest and best results were obtained when the patients presented themselves soon after the appearance of the disease. The author thinks that still better success might be achieved in many cases by means of absolute rest and perhaps irrigations with weaker solutions.

Piscidia Erythrina in the Treatment of Dysmenorrhœa.—"Nouveaux remèdes" gives the following formula:

Mint water	120	parts;
Tincture of *Piscidia erythrina*	8 to 12	"
Syrup	30	"

A tablespoonful to be taken three or four times a day.

Scopolia Luridus.—According to Waring ("Pharm. Jour."; "Nouveaux remèdes"), this solanaceous plant, which is found at Nepaul and in the Himalayas, is equal if not superior to belladonna as a mydriatic. A tincture, made with one part of the leaves to eight parts of alcohol, causes such a dilatation of the iris that in two cases it gave rise to blindness, which did not disappear until the use of the drug was discontinued. The largest amount thus far given in twenty-four hours is twenty drops. The author recalls Christison's experiments with the drug.

Iodized Phenol in the Treatment of Whooping-cough.—Rothe ("Memorabilien") announces his continued satisfaction with carbolic acid as a remedy for whooping-cough, after fifteen years' experience with it. The formula employed is as follows:

Carbolic acid, Alcohol, each		7½	grains;
Tincture of iodine		5	drops;
Peppermint water		750	grains;
Tincture of belladonna		15	"
Syrup of diacodium		150	"

A teaspoonful is to be given every two hours, the administration being continued until the paroxysms entirely disappear.

Salix Nigra as a Sexual Sedative.—Dr. F. F. Paine, of Comanche, Texas ("Med. Age"), speaking from five years' experience with this drug, states that during a practice of fifty years he has not used a remedy that has yielded more satisfactory results. He recommends it particularly as an anaphrodisiac and as a remedy for ovarian irritation, including certain cases of dysmenorrhœa. He gives teaspoonful doses of Parke, Davis, & Co.'s fluid extract of the buds three times a day. He thinks it has something of a specific action on the nerve supply of the sexual apparatus in both men and women.

Buttermilk as a Remedy for Vomiting.—Dr. J. H. Owings, of Deer Lodge, Montana ("Maryland Med. Jour."), states that he has used buttermilk for the purpose of checking vomiting for ten or twelve years past—in as many as fifty cases, he thinks—without a failure. He knows of no other remedy equally satisfactory, and regards it as especially serviceable in cases of severe vomiting after a prolonged debauch.

Inodorous Iodoform.—The "Lancet" says that, according to M. Gillette, iodoform may be rendered inodorous by adding 1 part of sulphate of quinine and 3 parts of charcoal to 100 parts of iodoform.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON,

BY AMBROSE L. RANNEY, M. D., NEW YORK.

(*Continued from page 257.*)

ELECTRICITY IN SPASMODIC AFFECTIONS.

HYPERKINESIS is frequently encountered as one of the varied forms of external manifestation of irritative and destructive lesions of the central nervous system. For example, it is by no means uncommon to observe convulsions (of the clonic or tonic type), tremor, muscular rigidity and contracture, etc., in connection with morbid changes in the brain and spinal cord. By these symptoms we are often assisted in determining the seat of the lesion, although, as De Watteville remarks, "the pathogeny of spasm is one of the most obscure problems in neurology." On the other hand—in many instances chorea, epilepsy, hysteria, etc.—spasm may exist without any apparent structural changes in the nervous system, being excited by some source of reflex irritation—such as phimosis, visual defect, uterine displacement, insufficiency of the ocular muscles, etc. In tetanus the exciting cause is generally found in one or more of the peripheral nerves. Sclerosis of the motor fibers of the lateral columns of the spinal cord is known to produce muscular contracture as a prominent symptom, probably because the inhibitory influence of the brain upon the reflex excitability of the spinal cord is arrested, or because the sclerosis directly excites the motor apparatus of the cord. The peculiar deformities produced by post-paralytic contracture and the eccentricities of gait and posture exhibited by patients suffering from tetanoid paraplegia (lateral spinal sclerosis) are illustrative of the diagnostic value of tonic muscular spasm in the course of some spinal affections.

Respecting the effects of electrical treatment of spasm, I am convinced that in some cases many methods must be tried without benefit before the right one is discovered. I have occasionally had brilliant results follow some particular method, and subsequently I have been utterly disappointed when it was tried upon some other patient with identical symptoms.

I think that in this class of subjects more depends upon your success in ascertaining and removing the cause than upon any electrical applications (valuable as they may be as adjuncts). The correction of an optical defect by glasses, the relief of ocular insufficiency by tenotomy or prisms, the operation of circumcision, the mechanical relief of a displaced womb, and many other such procedures, form the basis of an absolute cure in many cases which have been otherwise treated unsuccessfully. This fact is too often disregarded.

Electrical currents may be made to act upon these cases (1) as a sedative (chiefly the action of the anode and static insulation); (2) as a stimulant (the action of the cathode, the static spark, or faradism); (3) as a counter-irritant; (4) as a check to the progress of some peripheral or central morbid state (catalytic action); and (5) as an agent for the destruction of some neoplasm, induration, etc. (electrolytic action), or as a cautery.

I have lately come to regard static electricity (franklinism) as more generally applicable to spasmodic conditions (hysteria, torticollis, blepharospasm, tremor, contracture, etc.) than either faradism or galvanism. It seems, in my experience, to act more promptly, and to produce more lasting results, than the methods more commonly recommended by authors. I would advise those of you who decide to purchase a static machine to try the effects of insulation, the "electric wind," and the indirect spark (as the circumstances may indicate) faithfully before you resort to galvanization or faradization. If good results are not obtained, you can easily substitute for it the other forms of treatment at a later date. I should never regard any case as hopeless until it had been thoroughly tried (after all reflex causes had been removed). I have cured several severe cases of tonic spasm of the muscles of the neck in a few sittings by means of the indirect spark, and relieved many cases of suffering from other forms of spasm in a short time.

In EPILEPSY, the employment of galvanism alone has never, to my knowledge, resulted in a complete cure, although some decided benefits have been reported from its continued use. There is, to my mind, a close relationship in many cases *between epilepsy and ocular defect*, to which I shall call your attention hereafter. This element in the causation of epilepsy certainly merits attention. When all defects in the visual apparatus have been corrected (in case such exist), or when other reflex causes (such as phimosis, for example) have been relieved, galvanism and static electricity may become valuable aids in controlling the subsequent convulsive attacks. Latent hyperopia, astigmatism, and insufficiency of any of the muscles of the eyeball may (and, in my opinion, often do) excite epileptic seizures. It is absurd to expect of electricity, or any other therapeutical agent, curative results when so important a source of irritation of the central nervous system is allowed to remain uncorrected.

Rockwell's method of employing "central galvanization" in epilepsy does not, to my mind, equal in beneficial effects the use of static insulation and the drawing of indirect sparks from the neck and back of the patient. It is my custom, however, in some cases to employ both of these procedures, each being used alone during alternate weeks for a period of two or three months with daily sittings.

In CHOREA I have obtained the best results with static insulation and sparks.

My previous remarks respecting the relationship between defects in the organ of sight and epilepsy apply with equal force to this disease and all other types of functional nervous derangements. I shall discuss this subject more in detail later in the course when functional nervous diseases are being considered.

If galvanism is employed, it is best to subject the muscles affected with spasm to the action of the *anode*. The

prognosis will depend somewhat upon the duration of the disease. The earlier you begin electrical treatment, the greater is the prospect of cure (provided all sources of reflex irritation have been successfully removed).

My experience with faradism in the treatment of chorea has been somewhat limited; but the results obtained by me have not been so satisfactory as with static electricity.

In facial spasm (histrionic spasm) good results are occasionally obtained by following the plan of treatment suggested in connection with chorea; but treatment of the facial nerve alone is seldom satisfactory. I have one case at present under treatment, however, in which I have thus far had little, if any, success in my attempts to control the spasm. It is a case of long standing, and is therefore more rebellious to treatment than if it were not chronic. The patient has an ocular defect which it is difficult to correct perfectly.

In these cases I have obtained the best results by subjecting both the cortical centers for facial movements and the nerve itself to stabile applications of the anode (the cathode being placed on the breast-bone), and by treating the nerve at intervals with static sparks drawn from the affected portions of the face. The electrode for the head should be large. The duration of each daily sitting should not exceed five minutes.

Nystagmus and blepharospasm belong to the choreic type of diseases, and are best treated by electrical currents, provided they are seen before the condition has become chronic. The prospect of a radical cure steadily becomes less as time elapses. If static currents are employed, wooden tips to the electrodes should be used. I usually treat these cases as if the seventh nerve were involved in all of its branches. Sometimes it is well to place the anode upon the mastoid process and the cathode upon the closed eyelid. The current should be very weak at first; should be gradually increased until faint flashes of light are perceived; finally, it should be again decreased to the faintest perceptible point.

Torticollis, or wry-neck, when subjected early to static sparks or strong faradization, may often be cured very rapidly. Interrupted galvanic currents are also of material benefit in some cases.

The spinal accessory nerve is usually the one which is at fault. A rheumatic origin may often be detected. If so, judicious medication will tend to hasten the cure.

Some cases of wry-neck are associated with symptoms of paresis. These have, as you might suspect, a more serious prognosis. Electrical treatment will prove, as a rule, only palliative. Too often organic changes have already occurred in the spinal accessory nerve, the spinal cord, or the vertebræ. The duration of treatment should extend over a period of months.

Spasmodic asthma may often be benefited by galvanism of the neck. I have previously described the steps of this procedure. Its beneficial effects are probably due to changes induced in the vagi. Drawing of indirect sparks (by means of the static machine) from the anterior and posterior surface of the chest has proved, in my experience, an admirable preventive against such attacks.

Some patients have assured me that they experienced a sense of great comfort after each sitting, and that the frequency of the paroxysms of asthma has been perceptibly modified by them. My experience in the electrical treatment of these cases is as yet somewhat limited; but I am inclined to believe that greater benefit can be derived from it than from internal medication. Certainly it is worthy of a more extended trial, as an adjunct, if deemed wise, to other remedial measures, or as a substitute for them.

In tetanus (both of the traumatic and idiopathic varieties) two cases of cure have been reported by Mendel, of Berlin. He employed galvanization and subjected the muscles affected with spasm to the stabile influence of the anode, the cathode resting over the spinous processes of the vertebræ. The applications were continued for fifteen minutes, and the currents employed were mild ones. Bartholow suggests, when speaking of these cases, that the effect of these applications was probably due "to the influence of the currents upon the sensory nerves, thus lessening the intensity of the reflexes." The cures were complete in about ten days.

Personally, I have not as yet been able to test the effects of the different forms of electrical currents upon a case of tetanus. To my mind, it would be very interesting, however, to observe the effect of static insulation and static sparks upon the spasms which occur paroxysmally in this disease. It is well known that this agent exerts a remarkable effect upon contracture of muscles. Thus far, to my knowledge, it has never been tried in tetanus.

Sneezing, hiccough, and coughing are spasmodic efforts of a reflex character. Occasionally they become distressing from their persistency. They may, in some instances, be relieved by faradization of the epigastrium, galvanization of the neck, and static electricity. De Watteville reports some curative effects of galvanization of the nasal mucous membrane in chronic cases of persistent sneezing.

ELECTRICITY IN DISORDERS AFFECTING SENSORY NERVE-TRACTS.

The discovery that different bundles of fibers which help to compose the substance of the spinal cord serve to convey sensory impulses only, and the later researches which have also been made respecting the paths of conduction specially prepared for sensations of pain, touch, temperature, pressure, the muscular sense, visceral sensations, etc., have a practical bearing upon both diagnosis and treatment.

Clinical observations go to show that, of the separate and distinct types of sensation enumerated, some may be partially or completely destroyed by diseased conditions without impairing the others. Thus, for example, a patient under certain conditions may be able to exercise his sense of touch with normal acuteness and yet be rendered absolutely insensible to pain; again, he may be unable to discriminate between degrees of heat or cold (provided the tests do not produce pain), although he retains unimpaired sensory faculties in all other respects. We are, therefore,

forced to recognize a variety of types of anæsthesia as presenting themselves for diagnosis and treatment.

The sensory functions may be either increased (*hyperæsthesia*) or diminished (*anæsthesia*).

Either of these states may be of *organic origin* (by which we mean that structural changes in the nervous tissues accompany them), or of purely *functional origin*, in which case no structural changes can be shown to exist. Examples of the former are found in connection with central lesions (those of the brain or spinal cord), and with peripheral lesions of the sensory nerves or the organs of special sense, while examples of the latter are frequently encountered in connection with hysterical conditions, neurasthenia, cold, injury, imperfect capillary circulation, rheumatism, neuralgia, and many other morbid conditions.

In all forms of sensory disturbance the removal of the cause constitutes in many cases the basis of a cure, and the treatment will necessarily be modified by the causal indications.

Many suggestions which have previously been offered respecting electrical applications to the brain, spinal cord, and peripheral nerves are applicable alike to sensory as well as motor disorders when due to organic changes; hence, when this fact is borne in mind, it will be unnecessary to repeat what has already been given you.

In the treatment of ANÆSTHESIA nothing can surpass in its results the daily rise of the *wire brush* for about ten minutes over the regions affected. This form of electrode should be applied dry and with the *secondary coil* of a faradaic machine. The stabile electrode should be well moistened and pressed closely in contact with some distant point.

If *trophic disturbances* co-exist with anæsthesia, I have found the "combined current" (galvano-faradaic) to be more efficacious than faradism alone.

Static sparks and static insulation often act wonderfully in functional nervous diseases.

Static *insulation* has been previously described. It should be administered daily for from ten to thirty minutes.

If the "*indirect spark*" is employed (see Fig. 30), the length of the spark should be sufficient to be perceptible to the patient, and the duration of the application should seldom exceed five minutes. It is well to administer a fusillade of sparks to the region of the spine after each insulation, in case the sensory disturbances are dependent upon hysteria or neurasthenia.

I seldom employ the "*direct spark*" (Fig. 3) except in the treatment of organic disturbances of sensation or motion.* This form of administration should be used with extreme caution if the generating machine is a powerful one.

The "umbrella" electrode furnishes an agreeable and effective method of concentrating static electricity to the head of the patient. The sensation is one which resembles that of a strong breeze circulating through the hair.

HEMIANÆSTHESIA (whether of cerebral or spinal origin) is often benefited by cutaneous faradization of limited portions of the area affected—a point first observed by Vulpian, who employed this method with marked success.

TROPHIC DISORDERS may occasionally manifest themselves, often in the skin, nails, hair, and muscles, when sensation is markedly affected. One such case (suffering from locomotor ataxia) was lately placed under my care. The fingers of both sides were almost destitute of sensibility to pain, and tactile sensation was impaired. The nails were thickened, loosened for half of their length, and deeply pigmented (as if stained with iodine). The terminal phalanges were "clubbed," the nails being bent almost into a semicircle. The skin was thickened and very hard under the loosened nails. The "combined current" (galvano-faradaic) with a wire-brush electrode caused decided improvement within a few weeks.

NEURALGIA (when of idiopathic origin) is more successfully treated to-day by electricity than by any medicinal agent. In many instances it is cured in a few sittings.

It is well to bear in mind, however, the fact that neuralgic pains are very often symptomatic of causes more or less remote from the affected nerve, and that a permanent cure is impossible in many instances as long as that cause actively exists. Defective teeth, morbid processes in the bones, pressure upon a nerve, organic changes in the nerve itself, toxic diatheses, rheumatism, gout, reflex irritation from the eye, uterus, digestive tract, ovaries, etc., cardiac and pulmonary disorders, and many other morbid conditions, may be enumerated as among the exciting causes of neuralgia.

Respecting the electrical treatment of neuralgic pains (*per se*) the following deductions may prove of some advantage to you:

1. If points of tenderness to pressure (*puncta dolorosa*) exist along the course of the affected nerve or its branches, it is well to subject them to stabile galvanic applications of the anode, the cathode being placed at a neutral point.

2. The anode should be made to cover as large an area as possible.

3. The duration of the sitting should not exceed five minutes, save in exceptional cases. The sittings may be repeated several times a day if necessary.

4. As a rule, it is unwise to break the current. In obstinate cases the current may occasionally be reversed, without changing the poles, by means of the commutator.

5. Faradization of the nerve and the use of the wire brush upon the skin have been recommended when galvanism proves unsuccessful in arresting the pain. It should not be used (in my opinion) until galvanism has been thoroughly applied.

6. It is well in obstinate cases to direct the applications of galvanism to the central origin of the affected nerve, as well as to its peripheral distribution.

* Since these lectures were delivered I have at last perfected an improvement upon the Holtz static machine, upon which I have been working for some time, and I have had one of this pattern built for my own use by Waite & Bartlett, of New York. I intend soon to present this improvement formally to the profession with appropriate cuts and a description of the various modifications made. My own machine after this model gave me a ten-inch spark during a "muggy" day in July, when most static machines would produce but a feeble spark. It is the most effective instrument of the kind which I have yet seen. It consists of nine twenty-four-inch glass plates, six of which revolve. All the joints of the case are hermetically sealed with soft rubber.

7. Static electricity often produces marvelous results in neuralgia. I have more faith in it as a cure for sciatica than in any other remedial agent. It should be applied (by the "spark" method) over the affected nerve. One sitting has, in my experience, frequently arrested severe pain. It gives immediate relief, in most cases, to muscular rheumatism also, and to lumbago. Sufferers from muscular and neuralgic pains are perhaps as frequently encountered by the physician as any class, and static electricity should highly recommend itself to your confidence for such cases. The expenses of the outfit, and the fact that the machine is too large for transportation, will probably prevent its general use by the profession; but, until its effects upon a patient have been tried, I would caution you against expressing an unfavorable opinion, even if galvanism, faradism, and medicinal treatment have proved powerless to relieve the suffering.

8. The operation of electro-puncture of a nerve for the relief of neuralgia has proved of benefit in the hands of some neurologists; but it is an operation which, if injudiciously employed, will produce electrolysis, and serious results may follow its use.

9. The electrical treatment of various other forms of pain is similar to that of neuralgia. The judgment of the physician should be exercised regarding the position and size of the electrodes, the variety, strength, and duration of the current employed, and various other minor points suggested by the condition of the subject.

10. *Visceral neuralgias* (as, for example, the conditions known as hemicrania, migraine, gastralgia, enteralgia, hepatalgia, etc.) are often relieved by electricity, irrespective of the reflex or constitutional condition which induces the morbid state. The removal of the exciting cause, however, will greatly assist in making the cure a radical one. I have long taught in my lectures that I had yet to encounter a patient who had suffered for years from migraine who had not some defect in the eye or its muscles as an exciting cause. Experience leads me still to strongly assert this as my conviction. The same cause is very frequently manifested by paroxysms of spinal pain—peculiarly so at two points, viz., between the scapulæ, and at the junction of the last lumbar vertebræ with the sacrum.

The currents which act best upon these cases are the galvanic and static. I have in two instances employed faradism in gastralgia with good results, but I regard it as inferior to galvanism or franklinism.

In treating the abdominal viscera by galvanic currents, one rheophore may often be attached with advantage to a rectal electrode, and the other to a large electrode placed over the organ to be influenced. I do not believe that polar effects are to be particularly aimed at. In some cases, an occasional substitution of the "combined current" (galvano-faradaic) for galvanism makes the improvement of the patient more rapid.

Static applications to the abdomen are best made by employing indirect sparks of about two inches in length. Long sparks are not borne well by sensitive subjects. If patients are subjected to static insulation alone for twenty minutes daily, or to the electric spray over the abdomen, relief is often afforded and the application is painless. The clothing need not be removed in making applications of franklinism by either of these methods—a point which renders the treatment particularly agreeable to ladies.

(*To be concluded.*)

Original Communications.

ERYSIPELAS OF THE LARYNX AND PHARYNX.*

By D. BRYSON DELAVAN, M. D.

Since the remarkable and exhaustive thesis of Cornil, which appeared in the "Archives générales de médecine" in 1862, little new knowledge has been advanced, either in the pathology, the clinical features, or the treatment of this affection. Morell Mackenzie, in his excellent *résumé* of the subject, tells us that erysipelas of the mucous membrane of the pharynx and larynx is, pathologically, similar to the same malady when situated on the skin, and that it occurs either primarily or by extension from the face along the mucous tracts of the mouth, nose, or ear. Its causes are the same as those which give rise to it when situated upon the external parts of the body, although it has been most often observed in the course of general epidemics of the disease. Of eighteen patients seen, in whom the pharynx was affected, fifteen were under the age of thirty, and two thirds were females. Again, on inspecting the pharynx, the appearance of the mucous membrane when affected with erysipelas differs considerably according to the form of the disease which is present; the local phenomena are generally very different from those of tonsillitis, but often can not be distinguished from those of simple inflammation of the part. Cornil makes three divisions of the malady, viz.: (1) erysipelas with simple redness; (2) erysipelas with phlyctænulæ; and (3) erysipelas terminating in gangrene. Erysipelas most commonly reaches the larynx from the pharynx, but the former organ may be primarily affected while the pharynx remains healthy. According to one author, quoted by Mackenzie, the disease may extend still farther down the respiratory tract. In cases which come under the first division the diagnosis must remain doubtful except in cases where the throat lesion is accompanied by manifestations upon the skin.

As to the prognosis, the dictum of Hippocrates—namely, "When erysipelas extends from within outward it is a favorable symptom, but when it removes to the internal surfaces it is a deadly one"—has been confirmed by modern observation. In nine cases analyzed by Cornil where the face was first attacked, seven deaths occurred; whereas, in nine other instances where the enanthem preceded the skin eruption, seven recoveries took place. Mackenzie states that he has seen but four cases in the whole course of his practice.

* Read before the American Laryngological Association, June 24, 1885.

From the foregoing statements it would appear that the disease in question has been so long ago recognized, and its nature is so well understood, as to render its introduction at the present time unnecessary. In searching for the records of authentic cases in available American literature, however, we are surprised to find but a single instance in which the disease has been described, namely, the case reported last year by Dr. T. A. De Blois. The case reported by Dr. William Porter, of St. Louis, was that of an Englishwoman whom Dr. Porter attended while residing in London. Whether it is more rare in this country than in Europe, or whether, on the other hand, it is either allowed to pass unrecognized or else regarded as a simple and ordinary complication of the general affection unworthy of special mention, it is impossible to say. That the condition is an important one no one will question, while the very general nature of the treatment suggested proves that additional light upon the subject is greatly to be desired. With the intention of awakening a sufficient interest in it to secure a more general recording of such cases as may arise, the following histories are presented:

Edward Smith, aged twenty-nine, of robust appearance, had always enjoyed good health. On February 10, 1883, two months after admission to the workhouse, applied at the dispensary, complaining of chilliness, general muscular soreness, and pain in the bones. There was slight soreness of the throat, and pain in deglutition, which he stated he had first felt upon the right side. The tonsils were congested and slightly enlarged, particularly the right.

February 11th, 12th.—Felt much worse and experienced more dysphagia. He also complained of a feeling of dryness in the nasal passages and inability to breathe through the nose. Described the nasal condition as being like a "cold in the head." The pulse was somewhat accelerated, and there was a slight rise of temperature.

14th.—Was transferred to the hospital, all of the above symptoms being exaggerated. Temperature 102°, pulse 96, respirations 27. Tongue and teeth covered with sordes; tonsils and pharynx deeply congested. At this time also a herpetic eruption appeared on the face, below and to the outer side of the angle of the mouth.

15th.—On the morning of this day an erysipelatous redness, attended with swelling, appeared upon the upper lip, adjoining the alæ of the nose, and fading off upon the cheeks. There was also severe pain in the back of the head and the neck. The appetite was good, and there was little malaise. The temperature, however, was 104°, pulse 96, respirations 24.

17th.—The swelling and redness had extended to the margin of the hair, and had invaded the neck. The face was covered with blisters. The pulse was running and intermittent at 80, and the tongue black and dry. Severe pain still continued in the back of the neck.

18th.—Did not appear to suffer much pain. Erysipelas not extending.

19th.—Patient fell into a semi-conscious condition, from which it was impossible to arouse him, and questions put to him met with no response.

21st.—Semi-consciousness continued, but the patient began to be very restless and delirious. His hands were kept in constant motion, and it was almost impossible to keep him in bed. The facial swelling had subsided, and exfoliation of the epidermis had begun. The tongue was still black and thickly coated. The pulse and temperature were normal.

22d.—Patient was more rational and able to answer questions.

23d.—Was again slightly delirious, constantly sitting up in bed and throwing off the bedclothes, and fighting any one who came near him. Temperature 97°, pulse 50, respirations 21.

24th.—The delirium became active and of an hilarious character, the patient singing, shouting, and constantly arranging the bedclothes, and imitating the actions of the ward attendants. The condition of the tongue had cleared somewhat, and the appetite had returned.

26th.—Patient was slightly irrational. Tongue clean; exfoliation of epidermis of face, neck, and ears progressing. Temperature and pulse normal.

March 3d.—Delirium entirely gone. Exfoliation almost complete. Hair began to fall out. During the whole illness there was obstinate constipation.

12th.—Patient was discharged, apparently cured.

On the morning of March 16th, however, the attention of the house surgeon was called to Smith on account of his wild appearance and strange actions. He was wandering aimlessly about the corridors, and seemed sullen and morose. This continued until the morning of the 18th, when he was transferred to the hospital again. He would pay no attention to those about him, answered questions a long while after they were put to him, imagined that his fellow-workmen were trying to annoy him, and that every one was plotting against him. While in the hospital he had delusions of a religious character at times, and at other times he imagined that some one whom he did not know was constantly urging him to the performance of a variety of strange actions, and he believed that he must obey. He was treacherous, and would strike at the attendant whenever a good opportunity presented. His nights were restless and sleepless, and the constant hallucination of an outside impelling influence kept him busily engaged, while he would hide under the bed, fix himself in various positions in bed, arrange the bedclothes, and at times sit and stare at some one object for half an hour. If given something to do, he did it well, and while busy was happier and more satisfied to stay in the ward, but, when unemployed during the day, would constantly walk up and down, watching an opportunity to escape. During the five days he remained in the hospital he had no rise of temperature, his pulse was somewhat accelerated and weak, and his appetite good. As soon as his transfer could be effected, he was sent to the Insane Asylum at Ward's Island, where, when last heard from, he still remained.

The following case occurred in the wards of the New York Almshouse Hospital during the service of the writer in the spring of 1882. Unfortunately, careful notes were not taken at the time, and it will, therefore, be possible to report only as much as can be given from memory. The patient was an aged pauper of about seventy years, large, somewhat stout, and decidedly rheumatic. She was attacked with what at first seemed an acute laryngitis. The disease, however, spread rapidly in both directions, involving both the lungs and the pharynx, producing in the former distinct and widespread broncho-pneumonia, and in the latter an intense congestion. The mucous membrane here was also œdematous, and of a dark, purplish color. So peculiar was its appearance, and so threatening the extent of the œdema, that a laryngoscopic examination was made to ascertain the probable necessity for tracheotomy. Although in a state of general tumefaction and of the same dark color as the pharynx, there was an ample rima glottidis, but marked hoarseness of the voice. The constitutional symptoms were slight, considering the nature and severity of the attack. By degrees the inflammation extended from the pharynx to the lips, whence, apparently having received a fresh impetus, it

spread over the face. Meanwhile, the co-existence of diarrhœa, mild delirium, and continued high temperature rendered the general condition grave. This period marked the height of the attack. The lungs were first to improve, and the disappearance of the pneumonia was followed by a subsidence of the laryngeal and pharyngeal inflammation and a marked improvement in general. Strange to say, as desquamation occurred in the face and neck, the erysipelas extended, by slow degrees, over the whole body, the march being slow, the general symptoms mild, and no great extent of surface being involved at any one time. At the end of several weeks this process was completed by involvement and subsequent desquamation of the legs and feet. The patient recovered.

The case first related would, if classified according to the method of Cornil, belong to division number two, since it was decidedly severe in its nature, and the presence of phlyctænulæ, although not mentioned in the history by my house surgeon, was distinctly observed by myself. The features of the case which especially distinguish it are, first, the occurrence of the disease idiopathically in a patient who, so far as could be learned, had not been exposed to any erysipelatous infection; secondly, the distinct limitation of the disease to the tonsil for a period of three days; and, thirdly, the marked cerebral disturbance and subsequent insanity.

No especial cause of irritation was apparent in the tonsil; the man had been to all appearances unusually strong and healthy, and the sanitary condition of the premises was at the time tolerably good. The limitation of the inflammation and its absolutely benign appearance at the beginning of the attack were sufficient to disarm suspicion as to its true nature, and entirely out of harmony with the subsequent severity of the symptoms. By far the gravest of these was the effect of the disease upon the brain. So far as could be ascertained, the patient had never before manifested any sign of mental aberration. His insanity, therefore, bore such a distinct relation to the attack that, beyond question, the one was intimately associated with the other. Of course, it is by no means unusual for facial erysipelas of the ordinary type to be complicated with delirium and coma, and even the more serious cerebral symptoms indicating meningitis, so that it is not surprising to find it developed by the form under special consideration. The mechanism of this metastasis, however, is a matter of as much interest as it is of uncertainty. Formerly it was explained as being a localized manifestation of a general morbid condition. At present believers in the germ theory will probably maintain that it is due to an incursion of the bacillus of erysipelas from the frontier regions to the interior. Before accepting the foregoing it seems but just to call attention to the possibility of *direct extension* of the disease from the deeper layers of the olfactory region, and through the cribriform plate of the ethmoid bone, to the meninges. Improbable as this may appear, it is still worthy of notice, since the influence of inflammatory conditions of the middle ear and of the frontal sinus in exciting cerebral complications is well attested. By whatever process it may have occurred in the case under consideration, there was established, without doubt, a meningitis, at first acute. Subsequently the acute attack passed into the chronic form, presenting the symptoms of this condition typically described toward the end of the history.

Case number 2 is more after the usual course of the disease. The patient was old, feeble, and lithiatic. She was housed in a crowded, ill-ventilated hospital ward, in which, although there may not actually have been another case at the time, erysipelas was never, for any great length of time, absent.

In an article published in the "Rivista Clinica e Terapeutica," No. 1, 1885, Dr. F. Massei, of Naples, endeavors to prove, from a study of thirteen cases, that the so-called primary œdema of the larynx, or phlegmonous laryngitis, corresponds clinically to a localization of erysipelas in the larynx. He describes the objective symptom of the disease as being a marked swelling, which, beginning at the epiglottis, extends to the mucous membrane of the arytænoepiglottic ligament and the inter-arytænoid space, causing dyspnœa, dysphagia, and aphonia. The onset is generally sudden, and the laryngoscope shows such intense swelling that the interior of the larynx can not be demonstrated. Blood and pus are occasionally poured forth from spontaneous rupture of the mucous membrane. Often the swelling migrates, decreasing on one side and increasing on the other. The prognosis is, either recovery or else death by asphyxia or pneumonia.

Massei considers the disease erysipelatous for the following reasons:

1. Its rapid development and its tendency to wander, as well as its predilection for parts in which the lymphatics are abundant.

2. The constitutional symptoms which resemble those of erysipelas.

3. Its want of resemblance, from its migratory character, to the ordinary forms of laryngitis.

4. The tendency of the disease to extend to the lungs, and, finally, its occurrence during the course of epidemics of erysipelas.

He concludes:

1. There is a primary erysipelas of the larynx.

2. Many cases reported as primary œdema of the larynx are really cases of erysipelas; this occurs more commonly than is generally supposed.

3. There are two forms: in the first the local manifestations precede the general; in the second they close the scene.

4. The best methods of treatment are applications of cold, scarification, and, finally, if asphyxia threatens, tracheotomy.

It will be seen that Massei's observations relate solely to the larynx. Although somewhat general in their nature, they are given as supplementing the views of the writers quoted above, while the recommendations as to treatment still leave much to be desired.

The writer is certain that, as house surgeon ten years ago in a large public hospital in which the erysipelas pavilions formed an important part of the service, both laryngeal and pharyngeal cases were occasionally presented. Unfortunately, their real nature was not then recognized, and in the lapse of time which has since occurred the recol

lection of the facts connected with them has become too indistinct to enable him to refer to them with any confidence or accuracy.

DISCUSSION.

Dr. De Blois said: My case, to which the reader has just referred, closely simulated follicular tonsillitis, and I treated it as such for twenty-four hours. The pharynx was involved in the inflammatory process, and both tonsils were equally affected. On the next day it appeared to have extended to the nasal cavities. There was a discharge from the nose, and what was much like a diphtheritic membrane in the posterior nasal cavities. There was no appearance on the face of any skin affection. There was some malaise, but the patient did not have a higher temperature than would be usual in the course of a severe tonsillitis. On the fourth day, when the disease passed on to the nasal cavities, the inflammation of the tonsils was somewhat improved. Later erysipelatous redness appeared over the bridge of the nose. The internal manifestations meanwhile became somewhat better, and the case progressed to a very severe attack of facial erysipelas. She subsequently recovered. The point which I wished to bring out was, the difficulty of diagnosis.

Dr. Rice.—It would seem strange that erysipelas of the larynx and pharynx should be such an infrequent disease when the conditions are so favorable to its development. Cases of facial erysipelas are very common when at the same time the patient is suffering with extensive ulcerations of the nose and pharynx, which, we should suppose, would invite an extension of the disease to this locality. And yet this is a rare occurrence. Ulcerations on the cutaneous surface are almost always attacked; on the mucous membrane it is the exception. I am convinced that erysipelas of the larynx does exist where a diagnosis is not made. I remember in the erysipelas wards of Charity Hospital there were two cases (which were called "œdema glottidis") where tracheotomy was done; the inflammation here was probably of an erysipelatous nature.

Dr. Roe.—An interesting case of erysipelas of the larynx and pharynx came under my observation about a year and a half ago, in a lady, about thirty-seven years of age, of a nervous sanguine temperament. She was under treatment for naso-pharyngeal catarrh. The attack seemed to be due to exposure during a slight fall of snow, in the course of which she rubbed her face with snow. Within six hours afterward she had well-marked facial erysipelas. This went on its usual course, but soon assumed a severe type. Within thirty-six hours afterward she had delirium. The erysipelas extended to the neck and into the pharynx, also into the larynx, causing marked œdema of the larynx and pharynx, so that there was severe dyspnœa for about twenty-four hours. One night I remained in the house expecting to have to perform tracheotomy before morning. I used the usual course for erysipelas—*i. e.*, mild alkaline sprays, with a little alcohol—which seemed to have a very quieting and soothing effect, and soon the erysipelas began to subside in the face and gradually in the larynx and pharynx. In about four days the symptoms in that region disappeared. These cases must be unusual, as Dr. Delavan has said, although often attributed, probably, to other causes.

Dr. Cohen.—Having seen the admirable effects of the hypodermic injection of hydrochlorate of pilocarpine in facial erysipelas in hospital practice, it occurs to me that it would be an admirable method of treating these rare cases. Its action in doses of one sixth of a grain is very prompt.

Dr. Delavan, in closing the discussion, said: There seems to be no reason why any inflammatory condition of the pharynx—such as diphtheria, follicular tonsillitis, or peritonsillar abscess—should not excite an attack of erysipelas, so that a case beginning as a simple attack of one of the former affections may result in the latter. With regard to the use of pilocarpine, I have found the dose recommended to be, in some cases, excessive, and would urge the employment of this potent drug in smaller quantities, one twentieth of a grain often being sufficient.

REFLECTIONS ON THE ÆTIOLOGY OF THE SIMPLE INFLAMMATORY AFFECTIONS OF THE UPPER AIR-PASSAGES.*

By JOHN N. MACKENZIE, M. D.,
BALTIMORE.

"*Ille bene curet, qui bene morborum causas agnoscit.*"—Celsus.

In view of all that has been said and written concerning inflammatory conditions of the naso-laryngeal tract, it is amazing to find what little advance has been made toward a more rational conception of the causes that underlie diseases of such prevalence and wide distribution.

It is not the purpose of the present communication to treat in an exhaustive manner the conditions under which inflammation of the upper air-passages develops, but simply to offer for your consideration a few general observations and desultory reflections, which, I trust, through the discussion which follows them, may serve to throw new light upon the subject, and stimulate others to more perfect and fruitful research.

At the outset of our inquiry we should divest the mind of the idea that the pathology of nasal and laryngeal disease is an isolated pathology. The eruption of catarrhal processes in the respiratory tract is governed by the immutable laws that condition the development and course of inflammation in general, and the rational interpretation of nasal and laryngeal affections presupposes, therefore, the application of general pathological principles to the peculiar conditions which the anatomical and physiological functions of the structures involve. Above all, we should remember that peculiarity of structure is not anatomical isolation; we should remember the correlation of organ and organ, the sympathy of tissue and tissue which make up the perfect physiological life of man. In looking upon the subject from the high vantage ground of general pathology and laws of health, we may, therefore, more readily apprehend the rôle which external and internal influences play in the evolution of nasal and laryngeal disease than if we viewed the same from the level of a narrow specialism or from the standpoint of the mere empiric.

I. Inflammation of the upper respiratory tract, either in its entirety or localized in its individual parts, is a disease of the human race which has existed from the remotest period of historic time.

II. As the chief predisposing and exciting causes of the affection have been in operation for all ages, it follows, therefore, that its origin is coeval with the birth of man.

III. The evolution of nasal, pharyngeal, and laryngeal inflammation in a given locality is, in all probability, a part

* Read before the American Laryngological Association, June 24, 1885.

of its geological history, and goes on *pari passu* with its varying meteorological conditions. Hence the geographical limits of the disease have varied with the different epochs of the earth's formation.

The elaboration of the above propositions involves an inquiry into the origin, the predisposing and exciting causes of nasal, naso-pharyngeal, and laryngeal inflammatory affections, and their distribution over the surface of the earth.

Origin.—In the third book of Plato's "Republic" the philosopher tells us that the names of catarrhs were unknown to Homer, and only came into use in the age of Socrates. This assertion of the Grecian sage has been made the groundwork of the thesis that catarrhal diseases are the products of civilized life, and furnishes, among other things, the basis of the Schneiderian argument that these affections are born of luxury and ease and of the general degeneracy of mankind.

It is doubtless true that a marked tendency to catarrhal diseases belongs to modern man from the accidents which pertain to his environment, and that as civilization awakens morbid conditions unknown or rarely met with in the savage state, so the disposition to inflammatory troubles of the upper respiratory passages may be encouraged by transmitted vices and the enervating surroundings of modern social life. At the same time it is reasonable to assume that, as the chief causes productive of acute and chronic inflammation of the naso-laryngeal tract have been in operation from the remotest times, the origin of the affection is therefore traceable to that of man himself.

The very etymological derivation of the word *coryza* carries us back through the dialects of the Hebrews, Arabians, Chaldeans, and Assyrians to the time when history emerges from fable; the attention paid by the most ancient exponents of medical art, of which we have any record, to inflammatory states of the nose and throat, implies the former frequency of these affections, while the derivation of the terms *angina* and *cynanche*, and the early origin of bronchotomy, point to their recognition of the most dangerous forms of laryngeal disease. The classification and correct clinical history of disease is, moreover, a process of gradual evolution, and, in view of the confusion which reigned among the latter-day nosologists in regard to laryngeal affections, it is not surprising that in the most ancient records of medicine we fail to find that exact anatomical division of catarrhal affections which was the natural outcome of subsequent more advanced anatomical and physiological investigation.*

Inflammatory disorders of the upper respiratory apparatus may be the result of a host of conditions external to the body which arise from man's relation to the outer world, may proceed from agencies within the organism, whose sphere of operation embraces the system as a whole, or is limited to its individual parts, or, finally, they may be the outcome of defective anatomical and physiological relations —of absence or abrogation of activity in the respiratory structures themselves and in the functions and forces under their control.

The discussion of the causes proceeding from the first source leads naturally to the consideration of the geographical distribution of the affection.

Geographical Distribution.—*Predisposing and Exciting Causes.*—The geographical limits of nasal and post-nasal catarrhs are as yet imperfectly defined, but it is highly probable that they bear a close relationship to the distribution of catarrhal affections of the respiratory organs in general over the surface of the earth. Thus it may be laid down as a rule that catarrhal inflammation of the nasal passages is much more frequently met with in cold- than in warm countries, in high than in low latitudes. The observations of travelers and explorers show that the nearer we approach the equator the less prevalent become affections of the respiratory apparatus, while in the temperate zone they are the most common of all diseases, and preponderate in these regions according to the proximity of the individual localities to the polar circle. In the temperate zones of both hemispheres catarrhs are more frequently met with in those places which lie between the isothermal lines of 18° and 4° (Seitz). The prevalence of these affections is related not only to the geographical position of a given country, but also to its elevation above the surface of the sea; the higher above the sea-level, the more marked the tendency to catarrh (Hirsch, Seitz), a fact partially explicable by the analogy of natural conditions or meteorological relations between high mountainous regions and those of the frigid zones. In every zone the geographical distribution of the complaint depends, other things being equal, apparently mainly on climatic influences. *In those countries where extremes of temperature follow each other in rapid succession, where the thermo- and barometrical fluctuations are most sudden and occur with the greatest frequency, and where the material composition of the atmosphere is continually changing, catarrhal affections of the naso-laryngeal tract are most frequently met with. The appearance of the disease seems to depend not so much upon the degree of heat or cold as upon the rapidity and intensity of the change from the one to the other.* In warm countries, coryza and allied affections most frequently prevail during the sudden cooling of the atmosphere by rain-showers, electrical disturbances, or when the heated condition of the atmosphere alternates with dampness and chilliness of the nights. In a similar manner the more or less sudden passage from a dense to a rarefied atmosphere, as in balloon and mountain ascensions, favors the development of nasal congestion and inflammation.

The influence of season in the production of nasal inflammation is simply a part of the greater question of temperature mutations, and will therefore vary with the period of greatest temperature changes in a given year. While spring and autumn furnish perhaps the largest percentage of nasal and laryngeal catarrhs, the coryza which appears in the summer months, when the air is suddenly cooled or altered by electrical and other disturbances, yields to none in the severity of its symptoms and course.

Of all conditions of the atmosphere the most pernicious

* Hence we find in the Ayur Véda affections of the larynx confounded with those of the palate and pharynx, and among certain of the Hippocratic and Galenic schools the names pharynx and larynx are occasionally employed as convertible terms.

to the nasal, and consequently to the pharyngo-laryngeal mucous membrane, is perhaps its saturation with aqueous vapor. Its influence is much more potent in the production of nasal inflammation than that of cold. Indeed, the injurious effect of the latter, *per se*, has been grossly overrated, and, if we examine the subject closely, we will find that there are many other agencies at work whose operation explains the prevalence of these affections in the frigid zones and in the regions of perpetual snow. *The effect of moisture is furthermore intensified by its association with intense cold or oppressive heat.*

It is impossible to overlook the rôle of the *winds*, especially when associated with brusque thermometric changes, in the spread of coryza and allied affections. The strata of air of different temperatures which they bring with them, the moisture, dust (germs?), and, in some instances, the physical shock and pressure which they exert upon the body, as well as the rapidity of evaporation of the cutaneous and respiratory transpiration which they occasion, are powerful agents in the determination of naso-laryngeal catarrh. The terrible effect of the hot wind of the desert upon the throat and nose leads the camel instinctively to bury its nose in the sand until the fury of the tempest is past.

Besides the meteorological relations which condition the geographical distribution of these affections, there are others which pertain to the *geological character of the soil*, to the *configuration of the locality*, and to the *emanations which arise from the surface of the earth.* The two former furnish additional proof in favor of the power of climatic conditions in the evolution of naso-pharyngeal inflammation. It is not within the scope of the present paper to enter into an elaborate discussion of this vast and imperfectly understood question, but it may be said, in general, that the temperature of a given locality will depend, to a certain extent, upon the color of the soil and the presence or absence of vegetation. In some countries—as, for example, in Savoy—the peasants spread dark earth upon the land which they desire to cultivate early, which causes the snow to melt fifteen to twenty days earlier than in other localities (Tortual); it is a well-known fact that the temperature is lowered and humidity of the soil encouraged by the presence of forests or large tracts of dense undergrowth. The presence of vegetation exerts, too, a remarkable influence upon the chemical composition of the air, and hence upon the development or dissipation of nasal and other forms of catarrh. The noxious exhalations from certain forms of vegetable life probably act as indirect or predisposing agencies in the spread of catarrhal disease, while the presence of others, by purifying and tempering the atmosphere or filling it with certain odors, seems to secure immunity from the affection. The sulphurous air of volcanic regions has been utilized from time immemorial in the treatment of laryngeal affections, and the singular infrequency with which the latter are encountered in places where the air is laden with resinous and balsamic odors has been familiar from the earliest times. The *configuration* of a country enters as a factor in the localization of catarrh in so far as it conduces to exposure to the variations in temperature which have been mentioned above.

There are also a vast number of injurious influences dependent upon *modes of life, dress, imperfect sanitary conditions*, etc., which have been brought forward as the alleged causes of localization of catarrhal affections of the respiratory tract, which, although exercising an undoubted irritating effect, are nevertheless purely secondary and accidental, and have led to crude hypothesis and hasty generalization concerning the essential causes of these diseases.

There are a multitude of conditions which follow as the natural results of imperfect sanitation and professional occupation which act as predisposing and often exciting causes of nasal inflammation. In general, it may be said that residence or work in a confined or overheated atmosphere, or in one filled with impure gases or floating particles of organic or metallic matter, conduces to the development of the disease. Thus it is well known that artisans who are subjected to a dusty atmosphere—tobacconists, workers in woolen goods, stone-cutters, millers, laborers in chemical works, etc., or in overheated apartments, as, for example, bakers—are thereby rendered more susceptible to catarrhal affections. In addition to the meteorological conditions which prevail in elevated regions, as, for example, the Alps, the finely divided particles of metallic dust suspended in the atmosphere are said to be important factors in determining affections of the respiratory apparatus. The nasal erectile bodies are peculiarly sensitive to the impression produced by certain noxious gases, especially those given off in the combustion of coal, while the furnace heat of the modern dwelling, and the dry, impure air of apartments fed by the majority of coal-burning stoves, and the varying temperatures of the different rooms, create a vulnerability of the mucous membrane which, in our American cities, constitutes a not unimportant ætiological factor.

In some parts of our country there is a widespread popular belief that *dust* is the chief factor in the localization of inflammatory disease in the naso-pharynx. As there are some who ascribe all diseases to the peripatetic excursions of a vagrant micrococcus, so there are others who see in dust the source of all our ills. While it is undoubtedly true that dust, when accidentally lodged in the naso-pharynx, may give rise to inflammation, I believe that comparatively few cases originate in that way. In some of the Western States the prevalence of large quantities of dust in the atmosphere is supposed to determine the geographical distribution of the complaint; but even here, in estimating the amount of injury done by dust in this case, we should not forget the important meteorological changes that condition its presence in the atmosphere, nor should we lose sight of the fact that these localities are thousands of feet above the water-level, a condition that subjects them more easily to impressions made by sudden variations in the temperature and brings them directly under the dominion of the winds that sweep across the continent from sea to sea. Moreover when an individual is exposed to an atmosphere filled with dust, the greater portion of the inhaled particles is retained within the nostrils. This is due in a great measure, as I have pointed out elsewhere, to the erection of the turbinated corpora cavernosa, which latter serve, in that respect, a certain teleological purpose. That portion which finds its

way into the posterior nares is carried into the lower (not the upper) pharynx, not only by the force of the inspiratory stream but also in obedience to the law of gravitation. When the atmosphere is unusually dense, as in storms of dust, this erection of the corpora cavernosa is often so considerable as to necessitate mouth-breathing, and it is to a large extent in this way that the lower pharynx and larynx become filled with foreign matter. It is also a notorious fact that in the nasal passages themselves the region of olfaction is much less liable to catarrhal inflammation than the respiratory passage. The nasal pharynx is therefore infinitely less liable to inflammation from a dusty atmosphere than either the larynx or lower pharyngeal cavities.

*Among the influences which, approaching from the external world, encourage the eruption of naso-laryngeal affections, the chief, and at the same time predisposing, exciting cause, and that which determines the geographical distribution of nasal, naso-pharyngeal, and laryngeal catarrh, is that combination of varying meteorological conditions which are understood when speaking of a changeable climate; the home of naso-laryngeal catarrh is the land of the greatest and most rapid thermo- and barometrical change.**

Turning now from the effect of temperature changes and the direct action of local irritation from substances derived from the external world to the agencies which, operating within the organism, determine the localization of catarrhal disease in the nasal passages and throat, we must confess that the ancients exhibited the greatest shrewdness of observation when they referred these affections to defective digestive processes and lowered powers of assimilation. Catarrhal diseases, according to the fathers of medicine, are due to imperfect "coction"—that is to say, imperfect assimilation—and the resulting discharge or secretion was looked upon as aliment which had not undergone the necessary digestive changes, or, in other words, as half-cooked food. While their notions of the ætiology of catarrhal affections were in the main crude and curiously influenced by the prevailing philosophical vagaries of their time, they nevertheless contain an amount of common sense which it behooves us to pause and consider.

It may be said, in general, that all those influences which impair the general health, interfere with the proper circulation or impair the constituents of the blood, retard the processes of digestion and assimilation of food, or beget a hypersensitive condition of the vaso-motor nervous system, react upon the upper respiratory tract in common with the other organs of the economy, and predispose, other things being equal, to catarrhal inflammation of the same. Thus the latter is more liable to develop in anæmic persons with weak, relaxed conditions of the tissues and who lead sedentary lives, and in those of highly nervous organization, than in those of strong and vigorous constitution and who pass most of their time in active out-door exercise. The existence of syphilis or tuberculosis in an individual is a constant invitation to catarrhal inflammations of the nose and throat, and the same is true in regard to the rheumatic, gouty, scorbutic diatheses, to chronic alcoholismus, and a host of other affections.

Over-indulgence of the appetites, excesses of all kinds, habitual interference with the bodily excretions, notably the intestinal, predispose to inflammatory disease of the naso-laryngeal tract, so that Schneider was not far from the truth when he said that the cure of catarrhs consisted in "sobriety, continuous bodily exertion, and tranquillity of mind."

(*To be concluded.*)

* The alternate subjection of the pharynx and larynx to extremes of heat and cold in the ingesta acts, though to a far less degree, in the same manner in determining catarrhal inflammation as the sudden changes in the temperature of the external air.

CATARRHAL AFFECTIONS OF THE NASAL PASSAGES

AS A CAUSE OF

PULMONARY PHTHISIS,

WITH SPECIAL REFERENCE TO THE QUESTION OF HEREDITY.

By WILLIAM CHAPMAN JARVIS, M. D.

(*Concluded from page 265.*)

I will now direct your attention to the color of the mucous membrane of the upper air-passages as an indication of incipient or developed pulmonary phthisis. The color I refer to is a peculiar anæmic, pink hue, resembling that sometimes observed in hypertrophy of the tonsils. This pallor is by no means confined to the atrophic form of rhinitis, where, as far as the nostril is concerned, it invariably occurs, but exactly opposite to what we might expect is discoverable in rhinitis hypertrophica, where its presence should naturally lead one to suspect and find the anæmia of pulmonary phthisis. In two of the reported cases appended to this paper the condition was found in connection with a rhinitis hypertrophica; and in another, likewise phthisically inclined, it was associated with an hypertrophic and atrophic process in the same individual. I still favor the view advanced by me several years since, in an article on laryngeal phthisis,* that anæmia of the upper respiratory mucous membranes influences the character of reparative changes, as exhibited, for instance, in the conversion of accidental abrasions in the larynx into phthisical ulcerations. It would seem to indicate diminished vitality or a lowered power of resistance. As an example, I might mention that my experience in operations upon the septum leads me to expect an exceedingly slow reparative process, and one usually requiring assistance in patients presenting marked anæmia of the septal mucous membrane.

In this class of cases, as we might naturally expect, the slight vascularity of the mucous membrane favors the action of the cocaine salts, and they are, in my experience, the only ones in which we can positively promise freedom from pain before operating.

I have selected a few histories from my case-book as good illustrations of the ætiological relations of nasal catarrh to pulmonary phthisis.

Case I.—Mr. ——, engineer, aged thirty, came to me for treatment in October, 1884. His complaint was a long-

* "Archives of Laryngology," vol. iv, p. 187.

standing catarrh. The right nostril (Fig. 9) for respiratory purposes was practically useless, and had been so as far back as he could remember. Nasal respiration was, and had always been, carried on through the left nostril. Despite, however, the ease with which air was inspired through the free nostril, he had never been comfortable, on account of the respiratory obstruction referred to the narrow nostril, and eagerly utilized the smallest amount of space afforded at intervals by the temporary subsidence of the congested turbinated tissues. In addition to the respiratory discomfort, he was annoyed by the accumulation of inspissated mucus in the larger naris, and was wearied by the constant though ineffectual efforts employed to remove the ropy muco-purulent matter and offensive crusts. He was also tormented with the usual throat and laryngeal symptoms which occur as a result of the disturbances to nasal respiration and drainage. The slightest exposure was likely to be followed by obliteration of the insignificant respiratory aperture in the right naris, producing a disagreeable sense of tension in that nostril, evidently arising from the turbinated turgescence. The same exposure sometimes resulted in attacks of lung trouble, occasionally confining him to the house. In appearance he was thin and anæmic, his emaciation carrying with it more the impression of a peculiar build than an unusual or rapid loss of flesh. His appetite, though usually excellent, was capricious, and even at its best was not followed by any noticeable increase in weight.

Examination.—An examination of the nares anteriorly with my nasal speculum revealed the presence of just those conditions which would serve to account for the symptoms complained of. The vomer, ethmoid, and triangular cartilage projected to the right in the form of a *general* and easy incline from above downward. Anteriorly, however, the columna was displaced laterally to the right as an irregular knuckle of cartilage (see Fig. 9). No evidence of disfigurement of the external naris could be observed on ordinary inspection (another indication of the hereditary character of the complaint). An interesting feature observed upon the septum in the left nostril was a vertical elevation near the ethmo-vomerine suture, caused by the abrupt interruption of the perpendicular plate of the septum at this point. Behind this vertical ridge quantities of glairy or inspissated mucus would collect, and, by reason of the excessive breadth of the inner naris at this point, they would effectually elude the action of the respiratory pressure exerted by the patient to remove them. The turbinated structures and peri-turbinated mucous membrane was markedly atrophic in the larger or left nostril, but the inferior turbinated tissue in the right or narrow nostril was slightly hypertrophied. Just here we note an instructive example of cause and effect, for, as we might have expected, the life-long inspiration of air through a single nostril—unable, through secretory disturbances, to furnish the necessary amount of moisture—is naturally followed by desiccation and atrophy of the pituitary membrane. The right nostril, on the contrary, being almost completely stenosed, is always bathed in the nasal fluids. In other words, with certain modifications, it is a case of unequal distribution of respiratory labor with the natural consequence, a rhinitis atrophica and hypertrophica occurring in the same individual. The pharynx, larynx, and trachea presented the anæmia of phthisis. The patient's lungs were carefully examined by Dr. W. H. Katzenbach, of the Chest Department of Bellevue Hospital, and myself, and our suspicion was confirmed by the detection of the very early signs of pulmonary phthisis.

An interesting point in the patient's family history related to his brother, a physician, who, several years since, was threatened with a pulmonary phthisis and only escaped with his life by abandoning his labors and by careful treatment and systematic change of climate. It is easy to foresee the probable fate of the subject of this history under unfavorable circumstances, for there is every reason to believe that we have here an individual afflicted from childhood with a nasal disease due to a malformed septum, doubtless hereditary in character. I infer the hereditary character of the complaint from the peculiar form of the deviated septum already pointed out, from the fact that the brother and several ancestors of the patient were afflicted with pulmonary phthisis, and for other reasons already given.

Treatment.—Measures were at once employed to relieve the patient of the discomfort occasioned by the accumulation of muco-purulent matter and crusts in the ample interior of the right nostril. This was readily accomplished by thoroughly cleansing the nostril with warm detergent washes, and by the assiduous employment of the cotton probe. The naris, once renovated and relieved of all offending substances, was kept constantly clean by the daily employment of a convenient post-nasal douche, in the use of which the patient acquired much manual dexterity.

To prevent the adherence of nasal crusts to the sinuosities of the nostrils, the membrane was bathed at convenient intervals in a fine spray of vaseline. The douche became part of the patient's daily toilet, and he soon ceased to feel any discomfort except in the right nostril. A sense of oppression from his inability to breathe through this side increased his desire to obtain any relief offered by a surgical remedial measure. I therefore operated with this intent, leveling the deviated structure. This included a portion of the vomer as well as the deflected triangular cartilage. I employed my tubular forceps, fenestrated cartilage forceps, and rongeur or bone forceps. There were two sittings of about an hour each. The use of cocaine upon the patient was particularly satisfactory. A ten-per-cent. solution was applied in the form of a spray, and the parts in two or three minutes were so completely benumbed that bone and cartilage were crushed at short intervals without the slightest manifestation of pain. I have noticed a singular obtuseness to pain in other cases in which cocaine has been applied to an anæmic mucous membrane.

Fig. 9, taken from a life-sketch, shows the deviated septum anteriorly, and Fig. 10 the same after operating. Nasal respiration was completely re-established through the stenosed nostril, and this and the relief from other catarrhal complications left the patient in a most excellent condition —almost, in fact, unconscious of his trouble.

He embraced a good opportunity, and is now traveling abroad; on his return he will arrange to spend the winter

farther south than New York. Under the favorable conditions afforded by physical ease and a suitable climate the chances of this individual escaping the ravages of tubercular phthisis appear most excellent.

Fig. 10.

Case II.—Mr. ——, merchant, aged thirty-one, from Owego, N. Y., consulted me in January, 1884. The patient distinctly recollects having suffered with a nasal catarrh seven years ago. Although the affection at that time proved troublesome, still the excellent state of his general health induced him to consider the malady as trifling and transient in character. Small quantities of phlegm were constantly hawked up from behind the palate. There was a disposition to clear the windpipe of particles of viscid matter. At that time and for several years subsequently he plowed the fields as a farmer.

The catarrhal symptoms, instead of disappearing, as he had hoped and expected, became more pronounced and troublesome, and, his stomach becoming incidentally involved, dyspepsia was added to his misery. The prolonged physical and mental discomfort resulting from the persistent catarrhal disturbances ultimately sapped his energy and strength, rendering him unfit to pursue his usual occupations.

Clammy night-sweats commenced last summer, and have continued with varying frequency and severity since then. Becoming alarmed about himself, he was easily induced to seek medical advice.

Prominent among the symptoms given me at the first interview was a cough, which had, however, commenced only about a year ago. Phlegm was expectorated with the cough, particularly on rising in the morning. The cough, though annoying, was not painful. Six months ago only a pellicle of mucus was raised in coughing. There is now a disposition to draw flakes of mucus from behind the soft palate.

Examination.—General thickening of the nasal mucous membrane, post-inferior turbinated hypertrophy (dextra). The usual inflammatory redness of chronic hypertrophic coryza is replaced by the pale, anæmic hue peculiar to atrophic catarrh. The same pallor occurs upon the mucous membrane of the throat, larynx, and trachea. A livid, circumscribed, inflammatory process is visible upon the edge of the left true vocal cord.

Percussion furnished pronounced dullness over a large extent of the chest. The resonance on the right side was higher pitched than on the left. Auscultation demonstrated the presence of numerous fine crepitant râles diffused throughout the right lung and commencing in the left; also cog-wheel respiration, etc.

The patient, though feeble, was able to exercise in the open air and to visit my office. This, however, was in accordance with his own wish. Indeed, he seemed to dread nothing so much as confinement to the house—a natural feeling for one who has largely led an out-of-door life. The unusually cold and inclement February weather severely tried the patient's feeble powers of endurance, and with the decrease in his appetite and strength there was an increase in the copiousness and frequency of the night-sweats. I foresaw the patient's rapid decline under these unfavorable surroundings. He followed my advice and went South to escape the harsh wintry weather, and possibly to prolong his life a little. On the advent of the warm weather he returned, passing through New York on his way home. I then examined his chest and found that the fine râles had become generally diffused throughout both lungs. The patient safely reached home and died, near the middle of the summer, surrounded by his family.

Remarks.—The important and instructive features of this case are, first, *the history of a long-standing catarrhal affection* (of at least seven years' duration) *preceding any symptom referable to the lungs.* Although not holding myself in abeyance to the history of patients as given by themselves, still the exceptional intelligence displayed by this individual in relating his symptoms, and their agreement with the local findings, induces me to believe that *the nasal catarrh preceded the pulmonary disease.* In other words, in the combined constitutional depression and pulmonary irritation, resulting from the mental and physical wear and tear, respiratory disturbances, dyspepsia, etc., following in the train of a long-neglected nasal catarrh, we recognize the precursors of a fatal pulmonary tuberculosis. The peculiar blanching of the intra-nasal mucous membrane, and also of the pharynx and larynx, afforded additional evidence of the existence of a pulmonary phthisis secondary to a hypertrophic rhinitis. Such an appearance is just the opposite to what we might expect to find in this affection, and therefore indicates the anæmia of phthisis, for, although the catarrhal hyperæmia had entirely disappeared, its pre-existence is presumable from the presence of the more persistent products, namely, the intra-nasal hypertrophies.

The circumscribed congested area upon the right vocal cord probably resulted from the rasping character of the efforts constantly employed to clear the larynx of irritating mucus. Its very existence constituted an additional source of irritation, and, although not to be designated as an ulcer, it is highly probable that this abraded surface would have eventually proved to be the starting-point of a phthisical process, in accordance with a pathological process already described by me.*

Case III.—Mr. ——, aged fifty-three, from Ohio, came to me, through the recommendation of his son, a patient referred to me by Dr. M. J. Roberts, of New York, in quest of relief from an annoying nasal catarrh. The malady had existed for many years. Much discomfort was caused by

* "Archives of Laryngology," vol. iv, p. 187.

the constant efforts required to remove a constant accumulation of thick, tenacious nasal mucus. Examination of the nostril revealed, among other signs of a rhinitis hypertrophica, the presence of an irregularly shaped posterior turbinated hypertrophy, occupying the right post-nasal fossa. The hypertrophy exhibited no signs of active congestion, but was dark-blue in color, evidently indicating much passive engorgement of the turbinated venous sinuses. The nasal mucous membrane, throughout almost its entire extent, presented the pallid hue of phthisical anæmia. Exploration of the chest demonstrated the existence of catarrhal phthisis, most markedly developed at the apex of the right lung.

Believing the posterior hypertrophy to be responsible for much of the patient's discomfort, I concluded it best to remove this source of irritation. I employed my nasal écraseur, easily encircling the hypertrophied tissue with a loop of No. 5 piano-wire. As might naturally be anticipated from the blanched appearance of the pituitary membrane, the operation was a bloodless one. The patient pronounced himself much benefited by the operation and after-treatment, and returned to his home well satisfied. This was in January, 1881. In July, 1882, I was informed that he had caught cold and was carried off by an attack of pneumonia, thus confirming my suspicions that his pulmonary phthisis would eventually lead to his death.

The son of the deceased, a man about thirty years of age, had, as I have already indicated, consulted me for relief from a chronic coryza. The coryza, I discovered, was due to an hereditary malformation of the septum and nasal chamber. I succeeded in rendering him comparatively free from his complaint by removing the offending deviation of the septum. He has enjoyed excellent health ever since. It was interesting and instructive to note the close resemblance between the forehead and face of the father and son. The frontal prominences of both projected so far forward as to place the forehead almost on a vertical plane with the face. The face beneath the overhanging forehead appeared unnaturally narrow, affording an example of Blumenbach's observation of the marked retrocession and contraction of the bones of the face in individuals exhibiting great cranial development.

The father was an intelligent man, and his son, utilizing excellent educational opportunities, developed unusual literary ability as the editor of a journal. The youngest, and only other son of the family, about whom I was consulted but never saw, I am informed possessed a rare degree of intelligence, and have a right to suspect that he possessed the cranial conformation of his father and brother.

A few days ago I was informed that this son had just fallen a victim to consumption. Despite the discouraging family history of the surviving son, I feel confident that *timely* treatment and care have sufficiently removed the impress of his unfortunate inheritance to enable him to live out his natural life.

Here, then, we have the mournful picture of a father, afflicted with a life-long catarrhal malady, eventually perishing with pulmonary tuberculosis, his eldest son harassed by a nasal catarrh traceable to a deviated septum, and another son, a young man, dying two years after the father with the same disease.

I might add other illustrations to the foregoing cases did not the typical character of those just reported make this unnecessary.

Treatment.—The treatment of these and similar cases is essentially one aimed at the direct cause of the disease—namely, the deviated septum and co-existing turbinated hypertrophies. It largely consists in the restoration of nasal symmetry by methods which facilitate the excision of bone and cartilage, and the removal of intra-nasal redundancies. A variety of instruments are therefore required, their character being determined by the density and situation of the offending structures. My regular office operating-set consists of my wire-snare nasal écraseur, and transfixion-needles for removing soft redundancies; a fenestrated cartilage forceps, tubular-spring forceps, beaked scissors, and trimming scissors for excising cartilage; and my rongeur forceps for cutting through bone. Nearly all the operations indicated by these instruments are, through the benumbing influence of cocaine and rhigolene anæsthesia, rendered bloodless and painless. Most of you are acquainted with my methods of operating, and, inasmuch as more than a mere reference to them would exceed the limits and not accord with the purpose of this paper, I must refer those ignorant of these procedures to my earlier publications.

Appropriate treatment should also be instituted to heal and contract the raw surfaces, to remove and prevent the reformation of nasal crusts in the atrophic forms of the disease, and to check excessive discharges of nasal mucus. In other words, to borrow an expression from Niemeyer, "Where there is the slightest suspicion of a predisposition to consumption, every catarrh, no matter how slight, is to be treated with the utmost care, which is not to be relaxed until the catarrh is entirely well."

Conclusions.—Briefly reviewing the subject-matter I have just presented, you will observe that, in determining the relations of nasal catarrh to pulmonary phthisis, I have, in the order of its origin and sequence, commenced by observing and interpreting the catarrhal manifestations as they occur in the nares, and have traced the gradual extension of the nasal disease to the larynx.

Within the larynx we discovered the catarrhal impress in the form of a chronic irritative hyperæmia of the larynx, brought about by the combined action of nasal discharges, habitual mouth-breathing, and inflammatory changes, chronic catarrhal hyperæmia of the larynx; to go a step further, ofttimes merges into an acute laryngitis, and this in turn may develop bronchitis. We recognize the deviated septum as a most common cause of nasal catarrh, producing this disease by pressure irritation, interference with nasal drainage, and unequal distribution of the nasal respiratory function. We have seen the importance of heredity as a factor responsible for the existence of certain forms of deviated septa, and noted the conditions indicating the hereditary character of these abnormalities.

Viewing the larynx as really the upper portion of the lung, although divorced from it on artificial anatomical grounds, we are often enabled to determine approximately,

by the appearance of the laryngeal and tracheal mucous membrane, what conditions may exist beyond the line of laryngoscopic vision, and thus complete our pathological picture, beginning in the nares and ending in the lungs.

It is hardly necessary for me to insist upon the value of the lessons to be derived from the early recognition of the clinical facts I have just presented. They at least offer something tangible as regards prophylaxis against phthisis or tuberculosis, for their successful treatment falls in the positive domain of surgery. The results are for the most part favorable and speak for themselves, provided the methods which I have proposed and published for removing redundancies or the remedying of defects are not commenced too late.

It is hardly necessary for me to add that great care should be exercised to properly discriminate between cases in which pulmonary phthisis or tuberculosis precedes or exists with nasal catarrh, and are, therefore, not related to the last mentioned affection as cause and effect, and those developed by a catarrhal affection. Being mindful of this, I have felt the necessity of sometimes giving details which were indispensable but which may have been wearisome. It must also be borne in mind that errors are likely to creep in from difficulty or carelessness in differentiating distortions of the septum resulting from injury from those dependent upon heredity. My experience, however, encourages me to state that, different from what you might probably imagine, in most instances, such a distinction, when properly made, constitutes a simple question of differential diagnosis. I have already referred to some of the rules which facilitate the recognition of the septum of heredity; and, were it advisable just here, I could mention other criteria of equal value. It is obvious that, in treating a subject of this kind, many questions present themselves, the proper interpretation of which must, for the present at least, baffle scientific investigation — such, for instance, as the proneness of some families with malformed septa to phthisis or tuberculosis, while others, on the contrary, are afflicted with annoying sthenic but, as far as the life of the individual is concerned, harmless pulmonary maladies. These, among similar speculations, though perhaps partly explainable by ingenious hypothetical methods, must, nevertheless, for want of sufficient demonstrative and experimental evidence, prove for the most part unintelligible. But even in the contemplation of such obscure problems the earnest investigator may derive encouragement from Prof. Huxley's remark, that "whatever may be men's speculative doctrines, it is quite certain that the order of nature is constant, and that the chain of natural causation is never broken."

25 East Thirty-first Street, N. Y.

The American Social Science Association held its annual meeting at Saratoga Springs on Wednesday, September 9th. Papers were read by Dr. Lucy M. Hall, of Brooklyn, on "The Physical Training of Women"; by Dr. D. A. Robinson, of Bangor, Me., on "The Therapeutics of Exercise"; by Dr. Grace Peckham, of New York, on "The Influence of City Life on Health and Development"; and by Dr. Charles Harrington, of Boston, on "The Adulteration of Food, particularly in Cities." Other papers were read by Miss Marian Talbot and Mr. C. F. Wingate.

PRACTICAL COMMENTS ON THE USE AND ABUSE OF COCAINE;

SUGGESTED BY ITS INVARIABLY SUCCESSFUL EMPLOYMENT IN MORE THAN A THOUSAND MINOR SURGICAL OPERATIONS.

By WILLIAM S. HALSTED, M. D.

Neither indifferent as to which of how many possibilities may best explain, nor yet at a loss to comprehend, why surgeons have, and that so many, quite without discredit, could have exhibited scarcely any interest in what, as a local anæsthetic, had been supposed, if not declared, by most so very sure to prove, especially to them, attractive, still I do not think that this circumstance, or some sense of obligation to rescue fragmentary reputation for surgeons rather than the belief that an opportunity existed for assisting others to an appreciable extent, induced me, several months ago, to write on the subject in hand the greater part of a somewhat comprehensive paper, which poor health disinclined me to complete.

In the mean time we have been reading of unsuccessful and occasionally fortunate hypodermic experiments with cocaine, without finding a hint as to possible causes for the very positive contradictions, or even an intimation that they were not precisely such as must have been expected.

And just now appears a frank confession from Dr. Garrigues,* who narrates his case with so much care and in such detail as to permit one to say positively why cocaine in this instance should have proved inefficacious and have seemed inert, and as to encourage me to do this, and then perhaps to recommend attention to a few of the facts about cocaine which in the records of my personal observations are styled useful, preferably such as may enable us to better recognize proper conditions and cases for its employment, having indicated methods which insure success.

Like most other contributions to cocaine's subcutaneous scrap-bag, the latest stakes its own and the drug's reputation on the luck of a single experiment; and again, like many of them, records the "failure of cocaine hydrochlorate to produce anæsthesia." Were success, however, and not failure, the rule, less conspicuous would the occasion have become for any one (of the majority) to publish the reasons why cocaine injections should have accomplished nothing for a few others (the minority), and as much feebler the excuse for circulating the results of inexperience, as the possibilities to continue unformed had been reduced. All things considered, the journal contributions and personal communications, the interrogations and opportunities for observing the methods of others, incline me to regard the ultimate conviction of Dr. Garrigues as a fair expression of average notions on the reliability and practical value of subcutaneous injections of cocaine.

I feel sure, furthermore, that the aforesaid observer will be gratified at finding his communication offered up in explanation of honest differences of opinion.

* "N. Y. Med. Jour.," August 29, 1885, p. 240, "Failure of Cocaine Hydrochlorate to produce Anæsthesia," by Henry J. Garrigues, M. D.

Proposing to enlarge an artificially small vaginal orifice by incision, he says (*loc. cit.*):

"Since here was only a thin layer of skin and mucous membrane to be cut, both surfaces of which were easily accessible, it seemed to be a case peculiarly well fitted for local anæsthetization. I began by painting both surfaces with a four-per-cent. solution of hydrochlorate of cocaine. When two grains of the salt had been used in this way and there was not the slightest diminution in the sensitiveness of the skin, I injected a quarter of a grain hypodermically into the tissue to be divided, and continued soaking the skin and the mucous membrane."

While in sympathy with Dr. G.'s desire to test, where convenient, the statement of others by an observation of his own, it is not so evident why he should expect cocaine, in this particular instance, to make an exception in his favor. For, when it has been repeatedly observed that a four-per-cent. aqueous solution does not anæsthetize the sound skin, fresh demonstrations of the fact should not cause surprise.

"About seven minutes after the first hypodermic injection I repeated it, introducing the needle from the posterior commissure all the way back as far as the tissues were to be divided. In spite of the previous injection, this caused as much pain as if nothing had been done before to produce anæsthesia."

Injected *under* the skin, cocaine probably produces anæsthesia of the same only when made into or very near a nerve-filament or nerve-trunk; and then, according to circumstances, the anæsthesia persists, more or less complete, from ten minutes to an hour or more. After an injection into the skin, the anæsthetic effects seldom last more than two or three minutes, and often vanish in less than a minute.

If Dr. G. injected strictly under the skin, he might, by chance, have paralyzed some nerve-filament; but there is scarcely a possibility that its distribution could have corresponded to the line of the incision, and a strong improbability that any filament was encountered, because no trace of anæsthesia remained.

On the other hand, it would be strange if none of the solution had been forced into the skin layer of this thin membrane; in fact, judging from the description of the part, I doubt if one could have avoided doing so. We may suppose, therefore, that certain areas of skin were anæsthetized for two or three minutes, and that the operator, by waiting seven minutes, lost his opportunity.

In the light of a little experience, such events would not be regarded as unusual.

"This second time, likewise, a quarter of a grain of the salt was injected slowly, while withdrawing the needle, over the whole tract with which it came in contact. Finally I bathed again the two surfaces until I had used in all five grains of hydrochlorate of cocaine, one half grain of which had been injected hypodermically. This application of a four-per-cent. solution had then been kept up for twenty-five minutes."

Here, again, the incision should have been made as soon as possible after the injection, and the latter *into*, not *under*, the skin.

"In spite of this thorough and protracted application of a comparatively strong solution of cocaine, the sensibility was not lessened the least, so far as the complaints and screams of the patient could be used as a measure of her pain."

There suggests itself the propriety of testing the sensibility before cutting.

(*To be concluded.*)

Book Notices.

Praktische Beiträge zur Kinderheilkunde. III. Heft. Die Verdauungskrankheiten der Kinder. Von Dr. Adolf Baginsky, Privatdocent der Kinderheilkunde an der Universität Berlin. Mit 3 Tafeln mikroscopischer Abbildungen. Tübingen: H. Laupp, 1884. Pp. 232. [Price, 6 M.]

This monograph, the third of the series, contains a thorough and quite exhaustive discussion of the commoner diseases of the digestive system, the rarer forms not being noticed.

It is divided into five chapters, in which are described, respectively, primary dyspeptic gastro-intestinal catarrh, acute gastro-enteritis (cholera infantum nostras), acute follicular entero-colitis, secondary subacute or chronic gastro-intestinal catarrh, and gastro-intestinal atrophy (atrophia infantum). The author's investigations into the subject of ætiology lead him to the conclusion that these diseases are not influenced by sex, atmospheric pressure, rainfall, fluctuations in ground water, or dentition. The great causes are the heat of summer, the mode of feeding (five sixths of the fatal cases being in those who were fed artificially), and age. Over ninety-five per cent. of the persons who died of diseases of the digestive organs in Berlin were under five years of age.

Special attention has been paid to the pathological side of the subject. Both the gross and the microscopical lesions are exceedingly well described, and twenty-nine original drawings are given in an appendix illustrating the microscopical appearances of organs, discharges, and microbes. Into the investigation of the question of bacilli he has entered quite fully. The dejections furnished an immense number and variety of microorganisms. The most characteristic in the simple gastro-intestinal catarrh were little rods and cocci, their number varying with the development of the case. In true cholera infantum the bacilli most abundant were broken rods, not stained easily by either Bismarck-brown or gentian-violet, but best seen by adding liquor potassæ to the fresh specimen. These were found very constantly both in the walls of the intestine, particularly in the lymph vessels and follicles, and in the dejections. Although the author has as yet made no experiments with cultivations from this bacillus, he is strongly inclined to regard it as the cause of the disease.

In the treatment of simple catarrh, after the bowels have been cleared by either castor-oil or an enema, antiseptics are relied upon very largely to control the disease. Of these he prefers resorcin to all others, giving it in doses up to one grain every two or three hours to a child a year old. Large doses of this drug are not to be used. Iodoform in one- or two-grain doses he has found of value, and also bismuth. Opium may be advantageously combined with any one of these three drugs. It is specially indicated where increased peristalsis is a prominent symptom. It favors rather than prevents decomposition. Simple and astringent enemata are highly spoken of in almost all forms of diarrhœal disease, but especially in cases of colitis.

One or two grains of nitrate of silver are added to each enema in cases of frequent mucous and bloody stools, tincture of opium when the tenesmus is great—injected with water, never with starch. Injections should be made through a soft catheter or a rectal tube carried high into the bowel.

In choleraic diarrhœa astringents are useless. The prognosis is bad under almost any treatment, but the best results are reported from free stimulation, hypodermically if the vomiting is persistent, and irrigations of the bowel.

The author takes issue with Biedert regarding the existence of "fat diarrhœa" as a peculiar form of disease. Fat is found in the stools of every child suffering from indigestion while nursing; it may be present in very large amount without any diarrhœa. Examination of the pancreas has so far, in his own cases, been without result.

The diagnosis of gastric indigestion is to be made, he states, not so much from the condition of the vomited matters in curds, or their sour reaction, as from the fact that food undigested is vomited at a considerable time after it is taken. The stomach of a nursing infant should be empty in an hour, or at least in an hour and a half, after taking food.

The last chapter, upon atrophy, is exceedingly good. The stools in this form are pasty and homogeneous, alternating with those which consist almost entirely of watery elements. They all have an exceedingly foul odor, and particles of food are not visible; they contain no epithelium and no cell-elements. The food is not digested, but its appearance is completely destroyed by decomposition. The lesions well explain the symptoms, especially the extreme emaciation which exists. There is an extensive proliferation of new connective tissue in the submucosa, and the contraction of this and pressure upon the glandular structures leads to the destruction and disappearance of the latter, so that neither absorption nor secretion can take place in the bowel. The condition is a hopeless one when it is reached.

This book is worthy of a more extended review than our space here will permit. Throughout the author shows a practical grasp of his subject. We should like to see the book given to American readers in a translation.

BOOKS AND PAMPHLETS RECEIVED.

Poisons: their Effects and Detection. A Manual for the Use of Analytical Chemists and Experts. With an Introductory Essay on the Growth of Modern Toxicology. By Alexander Wynter Blyth, M. R. C. S., F. C. S., etc. With Tables and Illustrations. Vol. II. New York: William Wood & Co., 1885. Pp. 668. [Wood's Library of Standard Medical Authors.]

On Renal and Urinary Affections. By W. Howship Dickinson, M. D. Cantab., F. R. C. P., etc. Miscellaneous Affections of the Kidneys and Urine. New York: William Wood & Co., 1885. Pp. x–343. [Wood's Library of Standard Medical Authors.]

A Practical Treatise on Diseases of the Kidneys and Urinary Derangements. By Charles Henry Ralfe, M. A., M. D. (Cantab.), etc. With Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1885. Pp. xii–572. [Price, $2.75.]

Proceedings and Addresses at Sanitary Convention held at Hillsdale, East Saginaw, and Lansing, Michigan, April 17 and 18, 1884, December 2 and 3, 1884, and March 19 and 20, 1885. [Supplements to Annual Reports of the Michigan State Board of Health.]

Report of Proceedings of the Illinois State Board of Health. Quarterly Meeting, Chicago, July 2–3, 1885.

Transactions of the Medical Society of the State of West Virginia, 1885.

Cholera in Europe in 1884. Reports from Consuls of the United States.

Transactions of the Louisiana State Medical Society, 1885.

Report on Cholera in Europe in 1884 and 1885. By D. N. Kinsman, M. D., Columbus, O. [Reprinted from the "Cincinnati Medical News."]

The Latest Systems in Medicine. The Presidential Address, delivered to the Ohio State Medical Society, June, 1885. By J. C. Reeve, M. D., of Dayton.

Hydatid Tumors in the Brain. By R. Harvey Reed, M. D., of Mansfield, O. [Reprinted from the "Journal of the American Medical Association."]

Case of Missed Labor with Cæsarean Section. By Stanley P. Warren, M. D., Portland, Me. [Reprinted from the "American Journal of Obstetrics."]

Les remèdes dits spécifiques sont des agents antizymasiques. Lettre adressée à M. le Dr. Dujardin-Beaumetz, par G. Pecholier, professeur agrégé à la Faculté de médecine de Montpellier. Montpellier: Camille Coulet; Paris: A. Delahaye & E. Lecrosnier, 1885.

Cholera: its Nature, Symptoms, History, Cause, and Prevention, etc. By J. B. McConnell, M. D., Professor of Materia Medica and Therapeutics, etc., University of Bishop's College, Montreal. Montreal: Robert Miller, Son, & Co., 1885. Pp. 40.

Case of Poisoning resulting from Chloroform taken internally, etc. By Llewellyn Eliot, M. D., etc., Washington. [Reprinted from the "Medical Record."]

Fissura Ani, or Fissure or Irritable Ulcer of the Bowel. By Archer Atkinson, M. D., etc. [Reprinted from the "Journal of the American Medical Association."]

Floating Minute Organic Matter in the Air, etc. By David Prince, M. D., Jacksonville, Ill. [Reprinted from the "St. Louis Medical and Surgical Journal."]

The Nature and Treatment of Sporadic and Epidemic Cholera. By Alexander Harkin, M. D., F. R. C. S., etc. [Reprinted from the "Dublin Journal of Medical Science."]

Laryngeal Hæmorrhage. By J. W. Gleitsmann, M. D., etc., New York. [Reprinted from the "American Journal of the Medical Sciences."]

Deviation of the Nasal Septum. By J. W. Gleitsmann, M. D., etc., New York. [Reprinted from the "American Journal of the Medical Sciences."]

Some Personal Observations on the Work of Lawson Tait, etc. By A. Van der Veer, M. D., etc., Albany. [Reprinted from the "American Journal of Obstetrics."]

A Memoir of Charles Hilton Fagge, M. D., etc. Philadelphia: P. Blakiston, Son, & Co.

Fourth Annual Report of the State Board of Health of the State of New Hampshire, for the Year ending April 30, 1885.

On the Importance of Certain Signs in Making the Diagnosis of Fracture near a Joint. By Oscar J. Coskery, M. D., etc., Baltimore. [Pamphlet.]

Seventeenth Annual Catalogue and Announcement of the Woman's Medical College of the New York Infirmary.

Laws of Maternity. By Nathan Allen, M. D., LL. D., Lowell, Mass. [Reprinted from the "New England Medical Monthly."]

Tabular Statistics of One Hundred Cases of Urethral Stricture Treated by Electrolysis, without Relapse. By Robert Newman, M. D., etc., New York. [Reprinted from the "New England Medical Monthly."]

Surgical Notes from the Case-Book of a General Practitioner. By William C. Wile, M. D., Sandy Hook, Conn. [Reprinted from the "New England Medical Monthly."]

Seventeenth Annual Report of the President of the Inebriates' Home, Fort Hamilton, N. Y.

Histero-Ovariotomía Seguida de Curación, etc. Por el Dr. D. Manuel Cárceles Sabater. Precedida de un Prólogo del Dr.

D. Rafael Martinez y Molina. [Reprinted from the "Revista de Medicina y Cirugía Prácticas."]

The Mechanical Treatment of Talipes Calcaneus. By A. B. Judson, M. D., New York. [Reprinted from the "Medical Record."]

Voice in Singers. By Carl H. von Klein, A. M., M. D., Dayton, Ohio. [Pamphlet.—Price, 25*c.*]

Diagnosis and Treatment of Posterior Positions of the Occiput. By William L. Richardson, M. D., Boston. [Read before the Massachusetts Medical Society.]

Hard Chancre of the Tonsil. By Frank Donaldson, Jr., M. D., Baltimore. [Reprinted from the "Medical News."]

An Address on Cholera Infantum. By William Perry Watson, M. D., Jersey City, N. J. [Reprinted from the "Archives of Pædiatrics."]

Twentieth Annual Announcement of the Missouri Dental College, St. Louis.

Forty-fourth Annual Announcement of the St. Louis Medical College.

Annual Announcement of the College of Physicians and Surgeons, Baltimore.

Seventy-eighth Annual Announcement of the College of Physicians and Surgeons, New York.

Duty of the State toward the Medical Profession. An Address, etc. By Conrad George, M. D., Ann Arbor, Michigan. [Reprinted from the "Physician and Surgeon."]

The Germ Theory of Disease, and its Relations to Sanitation. By P. C. Barker, M. D., Morristown, N. J. [Extracted from the "Transactions of the Medical Society of New Jersey."]

Correspondence.

LETTER FROM BOSTON.

The Boston Water-Supply.

BOSTON, *September 8, 1885.*

IF the newspapers are to be believed, Boston is to-day without a drop of good water to drink. We had just got over our cholera scare, and were thinking of bringing our families and patients home, when the Mayor sent a document to the Water Board which caused considerable consternation. For years we had been receiving our water from Lake Cochituate, and the supply equaled the demand, and was good, but, when the surrounding territory was annexed, that supply ceased to be large enough, even with that from Mystic River (which came to us through the taking in of Charlestown) and the water from Jamaica Pond, Jamaica Plain, and Roxbury; so that, in June, 1874, the Hon. Samuel C. Cobb, at that time Mayor of Boston, appointed a committee of three physicians to examine and report upon various sources for a new supply. The committee consisted of Dr. Charles W. Swan, Prof. Edward S. Wood, and Dr. Henry P. Bowditch, and they carefully examined the waters of the Sudbury, Mystic, Shanshine, and Charles Rivers. They said: "The resultant estimate, therefore, of the sanitary qualities of the four rivers places them in the following order of preference: 1. Shanshine. 2. Charles. 3. Sudbury. 4. Mystic." On account of superior storage facilities, the Sudbury was chosen.

It is unnecessary to go into details as to the mechanical part of the work; but, in order that your readers may have some idea of how we are supplied now, I will say that the Sudbury River was diverted from its natural channel, and, by means of storage reservoirs, Beaver-Dam Brook and Farm Pond brought in with the Cochituate system. At the time that the Farm Pond plan was being considered by the city government, those most interested in the work wished to have the bottom of the pond (which was a peaty soil) and the conduits dredged and a hard bottom of sand and gravel substituted for the loam, maintaining that such a procedure would greatly benefit the water, and that the loam could be used by the city in other work it was contemplating. On account of the additional cost, this was not done. The new system had not been long in operation before a change in the color and taste of the water was noticed. The taste kept growing worse and worse until the so-called "cucumber taste" was reached. Many theories were advanced as to what caused this, but nothing satisfactory was offered until a gentleman from Baltimore examined the water and reported that this peculiar condition was due to a growth which took its origin from the peaty soil, the flow of the water being so slow that the growth was not interfered with. The city authorities now ordered—what they should have ordered at first—the removal of the loam and its replacement with sand and gravel. This done, the cucumber taste disappeared. During this period the hydrant-water was used only for bathing and cooking; for drinking purposes people bought spring water from various sources, and it was astonishing to see the amount that a few springs would furnish—so that many believed that charcoal or some other filter was all that was necessary to create a "spring."

It is not necessary to go into the politics of the subject and state how two water boards were suspended on account of want of confidence, as all this has been amply made public in the newspapers. In May, 1884, Dr. Henry J. Barnes, in a paper upon "Sewerage Systems and the Epuration of Sewage by Irrigation and Agriculture," read before the Section of Clinical Medicine and Hygiene of the Suffolk District Medical Society, showed that our water-supply was contaminated with the sewage of the Woman's Prison at Sherburn, in addition to other sources well known, from which he had for years been trying to get relief by legislation. As an outcome of this paper, committees were appointed by the Norfolk and Suffolk Medical Societies to investigate the sources of our water-supply, and report. They have done so, and their conclusions are not of a nature to give confidence in the purity of the water. They state that all the fountain-heads are polluted with the sewage of villages and towns, which drain either into the soil or directly into the brooks from which the supply is derived; that numerous factories, tanneries, and other industrial establishments are drained directly into the rivers; and that, even where screens and filters are used to keep out offensive matter, they do not act sufficiently to be of service. Of course, these statements have in several instances been denied, and in others the local authorities assert that the condition of things has been greatly exaggerated. The fact that our water-sheds are among thickly settled communities can not be denied. These communities have to dispose of their sewage, and, no matter how that is done, some of it must flow into and follow the watercourses.

This question of water-supply and the disposal of sewage is one that has been constantly before the community, and various suggestions have been offered; but heretofore the trouble has been that nobody in the city government was really responsible. Now, by our new city charter, the Mayor is responsible for everything, and Mayor O'Brien has given his word that he and the Water Board will investigate the subject carefully and thoroughly, and, if possible, remedy the trouble, even if it becomes necessary to take water from Lake Winnepesaukee, and build a sewer from the mountains to the ocean.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.
NEW YORK, SATURDAY, SEPTEMBER 12, 1885.

A PROPOSED NEW NATIONAL MEDICAL ASSOCIATION.

The deep dissatisfaction of the profession with the American Medical Association has found renewed and energetic expression week by week since we first insisted upon its responsibility for the deplorable prospect now before the Ninth International Medical Congress, in case the attempt should yet be made to hold the session of 1887 in this country. This feeling of dissatisfaction is deeply tinged with indignation and disgust. It is entertained by honorable physicians in every quarter of the United States, as is amply shown by the extracts we have published of late from a great number of our contemporaries. It was hoped at first that the unutterably foolish and presumptuous action taken at New Orleans was in a certain sense an accident; that it would be rescinded when its real purport and the disfavor with which it met came to be understood by the leaders of the association, so that even the success of the Congress would not be seriously imperiled; and that the incident would, in the long run, prove a blessing in disguise by demonstrating the necessity of taking prompt measures to remodel the organization. Although we have been quite as decided as any of our contemporaries in denouncing the association, we nevertheless shared the hopeful feeling alluded to until it became evident that the managers of the organization were determined to give no heed to the voice of the profession. But it is quite manifest now, not only that the profession at large is to be disregarded, but that even the members of the association can not be counted on to continually hold in check the schemers that control it. Nothing but a radical re-organization would put it on a satisfactory basis, and the outlook for such a regeneration is not promising. It must be conceded, therefore, that the rapidly increasing number of those who hold that the American Medical Association "must go" are taking a position that is not at all unreasonable.

But a national organization of some sort we must have, although the less it occupies itself with politics the better. Several suggestions have been made as to the establishment of a new society, but none of them have struck us as quite so feasible as one which is outlined in a communication lately sent to us by a member of the profession who modestly asks us to withhold his name. We will say, however, that he is a gentleman of deservedly high position, and one for whose judgment those who know him have the very highest respect. Like many others, who have been falsely accused of being actuated by a feeling of hostility toward the American Medical Association, his present despair of the regeneration of that body has been slowly brought about, and his proposition would never have been broached, or even taken shape in his mind, but for the indisputable and confirmed degeneracy of the association.

Our correspondent thus sets forth his plan: "I think we need a medical association corresponding to the French Academy of Medicine; that it should be few in numbers, filling its own vacancies, and so honorable a body that membership in it would carry the highest reward that medical men here would have to hope for. Its annual (business) meeting should be held always at the same place (? Washington) and at the same time of year; its semi-annual, or scientific, meeting movable by vote of its members from city to city. The original organization might well take its inception in a small gathering of eminent physicians, who should send out a circular, signed by a committee composed of representative men from the principal cities, inviting the appointment of delegates to a nominating convention, which should appoint the first half of the Academy. Let the first half proceed at its ample leisure to fill its own numbers."

Our correspondent adds that his idea has met with hearty support from the influential men to whom he has been able to suggest it. It certainly seems to us feasible and judicious. Matters of detail would of course come up for settlement in considerable variety, but the essentials of the plan are such as could scarcely fail to secure the establishment of a body of men quite above the petty idea of geographical representation, creditable to the country from a scientific point of view, and conservative in the few matters of legislation that they would tolerate. No fraction, even, of such a body—supposing a meeting to be scantily attended—could be "captured" by schemers or cajoled by buncombe. The author of this plan says that he is quite aware that it could not be carried out at once—not soon enough, indeed, to meet the exigency now upon us in connection with the International Congress — but it is for the future that we must provide. It is not without due consideration that we have resolved to favor the idea, but we do so now without reserve, and we trust that the profession will take it into serious consideration. That there is a widespread inclination to take some such action we have no doubt.

"THE WAY ACROSS IS LONG; THE FEAR OF THE SEA IS STRONG."

With this quaint statement of a truism does Prof. Hansen-Grut, of Copenhagen, whose letter to a New York physician we publish elsewhere in this issue, tenderly disguise the disgust that our European colleagues are beginning to feel at the wretched results of the American Medical Association's meddlesome and revolutionary course in the matter of the Ninth International Medical Congress. But politeness will not long cover that disgust. How keen a feeling of indignation is entertained in our own country we can not better express than by quoting from an editorial article in the September number of the "Pacific Medical and Surgical Journal," of San Francisco (on the cover of which journal, by the way, appears the name of R. Beverly Cole, M. D., M. R. C. S., as a collaborator). Our esteemed contemporary prints Sir James Paget's letter toDr. I. Minis Hays, and adds the following comment:

"It will be seen from this that the power of making the necessary arrangements has never been put in the hands of the British, Danish, or any other national medical society; but intrusted to a few men of established reputation, who co-operated with the Executive Committee of the Congress. Perhaps the American Medical Association will now be convinced that they have meddled in a business over which they had no direct authority; that, in making themselves the instruments of men who have since boasted of the mischief they have done, they have struck a blow at medical culture, the effects of which only the lapse of long years can remove. The 'American Medical Journal' has vainly reasoned with and finally abused as obstructionists to the work of organization those men who have refused to acknowledge the supremacy of the association. Let us hope that its editor will now see that they were right in so doing; that the only men recognized as a committee by the Medical Congress were the American delegates to Copenhagen; that these gentlemen are accountable to the Congress; that it is now their duty to utterly ignore the American Association as an organization, and continue to make the necessary arrangements for the convening of the Congress, which, according to the law of usage, it is their right to do. Should Dr. Billings and his colleagues not recognize the fact that they are the men intrusted by the Congress with making the arrangements, that they are answerable to that body, and that the American Medical Association has absolutely no authority over them in this matter, then the Executive Committee of the last Congress, which still exists, and will not be discharged until the next meeting, should take this matter into its own hands and arrange to hold the meeting in some other country."

We are sorry to say that the American Medical Association seems not to have the slightest glimmering of an idea that it has done anything wrong, although it finds itself at bay, and is ready to resort to tactics, such, for instance, as what it is pleased to regard as the compromise involved in throwing the membership in the Congress (a matter over which it has no control) open to the whole regular profession, while denying official positions to all but those it considers its friends. The eyes of our foreign colleagues are upon us. What will they think of the secrecy in which last week's committee meeting was shrouded? Are they not perfectly well aware that, if the meeting had really done anything calculated to set things right, the committee would not have concealed the fact, but would have made haste to publish it? Truly, our friends in Europe would find the way across long and the fear of the sea strong, but it looks as if they would not have to encounter either.

NEWS ITEMS, ETC.

The International Medical Congress.—In addition to the declinations already announced, those of Dr. R. P. Lincoln, of New York, and Dr. J. H. Kidder, of Washington, have been sent in.

A special meeting of the American Medical Association's new committee on the Congress was held at the Murray Hill Hotel, in New York, on Thursday and Friday of last week. About thirty members of the committee seem to have been present from first to last, but probably nothing like that number at any one time. The utmost secrecy was observed, reporters being excluded, and there appears to be ground for the inference that continued secrecy was enjoined upon those who were present. Nevertheless, certain facts have become known —among others, that Dr. Lewis A. Sayre, of New York, tendered his resignation from the committee, that Dr. N. S. Davis, of Chicago, was made secretary-general of the Congress, and that the so-called compromise was adopted of allowing all members of the regular profession to register and pay their fees, but not to hold office in the Congress unless by virtue of membership in some society in affiliation with the American Medical Association.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 8, 1885:

DISEASES.	Week ending Sept. 1.		Week ending Sept. 8.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	1	0	0
Typhoid fever	34	3	36	10
Scarlet fever	13	2	15	1
Cerebro-spinal meningitis	2	1	1	1
Measles	9	1	3	1
Diphtheria	21	11	35	15
Small-pox	0	0	2	0

The Health of Michigan.—In addition to his usual monthly statement, the secretary of the State Board of Health has issued a supplementary bulletin for August, in which he clearly shows the connection between the board's sanitary work and the decided decrease that he is enabled to record in the prevalence of a number of destructive diseases. The diminished prevalence of fevers and intestinal diseases is very marked.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 30, 1885, to September 5, 1885:*

Magruder, D. L., Lieutenant-Colonel and Surgeon. Granted leave of absence for fifteen days. S. O. 201, A. G. O., September 3, 1885.

Middleton, Passmore, Major and Surgeon. Assigned to duty as attending surgeon at these headquarters, vice Major J. V. D. Middleton, surgeon, hereby relieved. S. O. 131, Department of the Missouri, August 28, 1885.

Girard, Alfred C., Captain and Assistant Surgeon. Assigned to duty as post surgeon at Boise Barracks, Idaho Territory. S. O. 142, Department of the Columbia, August 22, 1885.

Davis, William B., Captain and Assistant Surgeon. Having reported for orders from leave of absence, assigned to duty at Fort Porter, N. Y., as post surgeon. S. O. 183, Department of the East, August 28, 1885.

Kane, John J., Captain and Assistant Surgeon. Upon expiration of his present leave of absence to be relieved from duty at Willet's Point, New York Harbor, and to report to commanding general, Department of Texas, for assignment to duty. S. O. 201, A. G. O., September 3, 1885.

Banister, John M., Captain and Assistant Surgeon. Assigned to temporary duty at Camp of Competitors, at Creedmoor, N. Y., arriving not later than September 4, 1885. S. O. 58, Division of the Atlantic, August 31, 1885.

Richards, Charles, Captain and Assistant Surgeon. To be relieved from duty in Department of the East, and to report to the commanding officer at Willet's Point, New York Harbor, for duty at that station. S. O. 201, C. S., A. G. O.

Kendall, William P., First Lieutenant and Assistant Surgeon (recently appointed). To report in person to the commanding general, Department of California, for assignment to duty. S. O. 201, A. G. O., September 3, 1885.

Society Meetings for the Coming Week:

Monday, *September 14th:* New York Ophthalmological Society (private); New York Medico-Historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *September 15th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); Medical Society of the County of Kings; Ogdensburg, N. Y., Medical Association; Connecticut River Valley Medical Association (Bellows Falls, Vt.).

Wednesday, *September 16th:* Northwestern Medical and Surgical Society of New York (private); Medical Society of the County of Allegany, N. Y. (quarterly); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological).

Thursday, *September 17th:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *September 18th:* Chicago Gynæcological Society.

Saturday, *September 19th:* Clinical Society of the New York Post-Graduate Medical School and Hospital.

Letters to the Editor.

SMALL-POX AND VACCINATION.

Franklin, Pa., *August 1, 1885.*

To the Editor of the New York Medical Journal:

An editorial in your valuable journal of date August 8th, on the important subject of vaccination after the beginning of small-pox, induces me to ask the privilege of recording therein the following experience of my own:

On Monday I was called to see J. H., a farmer, who had returned home Saturday night sick. He was covered with an eruption which I thought was probably small-pox. The family of four children were removed from the house, leaving the old mother, his wife, and a babe of three months to occupy the same room with him. The mother was said to have been vaccinated; the wife and babe had not been.

On Tuesday I returned with a portion of a fresh crust of vaccine virus. I vaccinated the three with a small spring vaccinating lance, making probably six strokes, and beginning above. Wednesday the same was repeated lower down. Thursday, also, the same again, still lower. Sunday following the husband died of confluent small-pox, the wife, the babe, and the grandmother having occupied the room all the time, and the mother and babe slept in the bed with the patient.

The vaccination of Tuesday failed on all, that of Wednesday took effect on the babe and grandmother, and that of Thursday on the wife. The old woman had a few pustules of varioloid; the babe, a smart fever and a dozen or two pustules, which aborted promptly without pitting. The wife had no fever nor any sign of pustule; her vaccination was severe and the areola large, and she entirely escaped, though she had occupied the same bed with her husband for five successive nights previous to her vaccination, and for at least three nights after the smell and eruption were distinct, and would, I believe, be considered ripe enough to propagate the disease.

I have since, in four cases, vaccinated daily small-pox patients before the eruption was perfected, marking the lance strokes. In two of these, which turned out mild cases, the vaccination appeared to have some effect, as I thought, in modifying the severity of the disease. In the other two the lance strokes produced no effect, nor did the pustules of small-pox show on the cuts. But the experience in the four cases was such as to favor a resort to prompt and efficient vaccination as a hope of modifying a terrible disease, especially if resorted to early.

Stephen Bredin, M. D.

Proceedings of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of June 24, 1885.

The President, Dr. John A. Wyeth, in the Chair.

A Circumscribed Congenital Tumor of the Leg.—Dr. A. Jacobi presented a baby, eight months old, whose mother was sixteen years of age. The baby had a tumor on the outer aspect of the lower portion of the left leg, extending about one third of the distance around the leg and upward a distance of about 5 ctm.; its surface was a little above the surface of the surrounding integument. The skin as a whole could not be raised from the mass, which was of soft feel, and not nodulated. The tumor had grown slightly since birth. The diagnosis lay between congenital lipoma and local elephantiasis. The skin appeared to be hypertrophied, and it was by no means certain that it was not elephantiasis, which condition he had seen congenital in this neighborhood before.

The President asked if it might not be a congenital sarcoma, and said that he once saw a small congenital sarcoma on the chin of a boy which had the appearance of a mole or reduplication of the integument. After a year and a half the tumor grew rapidly and the boy died at two years and a half of an enormous sarcomatous tumor.

Dr. Jacobi thought that by this time the growth, if it were a sarcoma, would begin to manifest peculiar characters pointing to that condition. He hoped to have an opportunity to make a positive diagnosis from a microscopic examination of some of the tissue.

Salpingo-oophorectomy.—Dr. W. Gill Wylie said that in January last he presented to the society fourteen specimens of tubes and ovaries removed by laparotomy for disease of those organs. This evening he had another series of eleven specimens. The histories were largely similar to those in the first series. One of the eleven patients died, making a mortality of three out of the entire twenty-five cases. In this fatal case, as in the others, death was due to septic poisoning, and was in a hospital patient. In all the eleven cases, except two, there were evidences of local inflammation, and in almost all there was a history of peritonitis. The majority of the women were bedridden; the remainder were laboring women, and unable to make a living because of their disease. All were under observation several weeks, months, or a year or more, before the operation was performed. In reply to Dr. Amidon's question as to how many of the patients were hysterical, he said probably one fourth or one third. He was disposed to think those who had cystic degeneration of the ovaries without disease of the tubes were the ones likely to be hysterical. He had never seen a case of hysteria in which there was not found, if laparotomy was performed, a cyst in the deep stroma of the ovary. He was beginning to lose faith in the so-called ovarian dysmenorrhœa; in the great majority of cases it was caused by

hyperæsthesia of the mucous membrane at or near the os internum.

The PRESIDENT had seen some cases comparatively recently which had impressed upon him the great importance of two principles which should be observed in order to obtain success in abdominal surgery; the first was, to avoid septic matter entering the abdominal cavity; the other, to secure free drainage. It had usually been taught that rupture of the bladder with escape of urine into the peritoneal cavity was sure death. He had seen one case of recovery after washing out the peritoneal cavity with bichloride solution. In another case, in which the peritoneal cavity became infected by the escape of matter from cysts, it was washed out two or three times by being completely filled with a weak solution of corrosive sublimate, which prevented septic reaction or peritonitis, although the patient died of exhaustion.

Perineal Section and Internal Urethrotomy for Stricture and Urinary Fistulæ.—Dr. C. H. KNIGHT presented the bladder and penis removed from the body of a man, forty years of age, who died from poisoning by cyanide of potassium. Twelve years ago he had gonorrhœa, and a second attack two years later. Stricture developed, for which he used a sound for many years. There also appeared urinary fistulæ in the perinæum, for which he received no treatment until they were divided by Dr. Knight in 1883, who at the same time performed internal urethrotomy. Urine ceased to pass by the fistulæ almost altogether after the operation. The sounds were passed for some time. Subsequently the patient fell, and as a result a perineal abscess developed, and this was followed by a renewal of the fistulæ. The operation of division and of further enlargement of the urethra with the urethrotome was repeated, and, after healing of the wounds, no urine escaped by the fistulæ for five weeks, when a slight dribbling occurred. Shortly afterward the man committed suicide. At the autopsy the deep urethra showed an abscess cavity, capable of containing about two drachms. In the immediate neighborhood were four fistulæ, the largest of which readily admitted a No. 28 sound. The bladder walls were much thickened, and the capacity of the organ was markedly diminished. The appearance of the urethra led him to think the fistulæ resulted from rough usage during the passage of sounds.

Dr. J. H. RIPLEY had once performed perineal section and urethrotomy in a man sixty years of age who had not passed urine by the urethra for six years. The fistulæ healed and the urine was passed by the normal channel.

Fibro-sarcoma of the Naso-pharynx recurring Eleven Months after Operation.—Dr. R. P. LINCOLN presented the specimen, which had been removed from a lad, seventeen years of age, on whom he had operated, removing a similar but smaller growth eleven months ago by the galvano-cautery wire. The first specimen was presented before the society in October last. The patient failed to keep his promise to have the cauterizations repeated, and hence the re-development of the growth, which was larger and more vascular, and was with considerable difficulty completely removed. The base was broad. The case emphasized the importance of repeated cauterizations of the surface of attachment. In this way he believed all these tumors which could thus be reached (and he had found none which he could not thus reach) could be radically cured.

Fracture of the Occipital Bone.—Dr. W. P. WATSON presented the occipital bone of a young man who had probably received an injury from a stone. The three following days he was able to work, but on the evening of the third day complained of headache, and sent for a physician, who found him unconscious. The remaining clinical history was incomplete, but two or three hours before death there was profuse hæmorrhage from the nostrils. There were found at the autopsy a soft spot on the scalp in front of the occipital protuberance and infiltration of the scalp with blood. On the right side the occipital bone was fractured, the fracture extending into the foramen magnum; on the left side was a fracture which extended a shorter distance. There was slight congestion of the surface of the brain.

Ulceration of the Vocal Bands during Measles.—Dr. VAN SANTVOORD presented a larynx in which the vocal bands had become markedly ulcerated during the course of measles. The child suffered from a pharyngitis and broncho-pneumonia developing in the course of the exanthematous disease. While he had not made it a custom to examine the vocal bands in children who had died during the course of measles, unless there were symptoms pointing specially to them, he had not supposed that ulceration of the bands was common. He was, therefore, surprised to learn, on studying the literature of the subject, that this complication was very common.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Ninth Annual Meeting, held at Greenwich, Conn., Wednesday, Thursday, and Friday, August 26, 27, and 28, 1885.

The President, Dr. W. A. HARDAWAY, of St. Louis, in the Chair.

(*Concluded from page 272.*)

Thursday's Proceedings.

Officers for the Ensuing Year were elected as follows: President, Dr. E. Wigglesworth, Boston; Vice-Presidents, Dr. I. E. Atkinson, Baltimore, and Dr. A. R. Robinson, New York; Secretary, Dr. G. H. Tilden, Boston; Treasurer, Dr. H. W. Stelwagon, Philadelphia. Dr. E. B. Bronson, of New York, was elected to membership. It was decided to hold the next meeting the last Wednesday of August, 1886, at Indian Harbor Hotel, Greenwich, Conn.

Dysidrosis.—Dr. G. H. FOX gave a brief description of two cases. The first one, for want of a better term, he classed under this heading. The patient was twenty-nine years of age, and had always perspired freely. Four years ago the eruption began on the palms of the hand, and had persisted. The soles of the feet had also been affected at one time. The skin of the hands was decidedly thick and had a dark hue, and was dotted with numerous elevations of epidermis, averaging in size that of a hemp-seed. The patient had never seen any moisture in connection with this. There had been no itching. The skin never peeled off. Puncture with a needle revealed no serum or fluid of any kind.

The second case was that of a woman aged forty-five, a cook, whose general health was good. The present trouble began five years ago. The eruption was on the face, and consisted of numerous large and small vesicles containing clear fluid.

Mycological Studies in Tinea Favosa and Tinea Trichophytina.—Dr. A. R. ROBINSON, of New York, prefaced a paper on this subject with a few general remarks. The epidermis of different individuals differed in susceptibility to these parasites. Children were more apt to suffer with tinea trichophytina and favus, while adults more frequently presented tinea versicolor. All children were not equally susceptible. In many cases of parasitic disease there was impaired vitality previous to the development of the affection. The author then gave an account of his investigations to determine the exact anatomical seat of the parasitic diseases in question, and to determine the changes which they produced in surrounding tissues. The con-

clusion was that in favus the rete was not affected until the later stages, when ulceration had made its appearance. The parasite confined itself more particularly to the corneous layer. The parasite of tinea trichophytina in some cases passed down into the rete, while in others it did not. A number of sections were shown under the microscope which illustrated the points brought out in the paper.

Dr. White would ask the reader what evidence he had that in ringworm and favus a decreased vitality was necessary.

Dr. Robinson thought that it was found in the fact that it was exceedingly difficult to cure these affections occurring in broken-down subjects until the general health was improved.

Dr. White could not agree with the speaker in the importance of depressed general health as a factor in the production of these diseases. He had never seen any necessity for internal treatment in these cases. Where the disease affected the general surface of the body it was readily removed, but where it involved a portion covered with hair it was difficult to cure.

Dr. Piffard agreed with Dr. Robinson that there was a relation between the condition of the general system and the rapidity of development and rapidity of cure of the disease.

Dr. Duhring had always held the view that a particular condition of the epidermis was necessary for the growth of the fungus. The majority of cases of obstinate ringworm that he had seen had been in individuals in poor health, but there were exceptions to this rule. What this peculiar condition of the skin was had not been determined.

Dr. Denslow had recently seen a large number of cases of ringworm of the head and beard, but all the patients were well-developed, muscular subjects. These were cured without internal treatment.

The Structure of the Derma and the Development of Elastic Tissue in it.—Dr. C. Heitzman, of New York, read a paper on this subject. He drew attention to the fact that Stricker had now accepted his (the author's) views concerning the life of basis substance. Dr. Gartner, Stricker's assistant, who was present at the meeting, had brought an electric-picture microscope, by means of which these newly discovered facts could easily be demonstrated to a large audience upon a screen. There were three varieties of basis structure, differing from each other in their chemical constituents—viz., the glue-yielding basis substance proper, producing the spindles within the bundles of so-called fibrous connective tissue; the cement substance between the spindles; and the elastic substance developing along the edge of the bundles in advancing age and in some tumors. All three varieties were traversed by a delicate reticulum of living matter in connection with the protoplasmic cords, that filled the interstices between the bundles in the shape of a comparatively coarse reticulum. Thus it became intelligible that in morbid processes not only the protoplasm, but also the basis substance, participated in an active manner. After the liquefaction of the solid fields of glue-yielding basis substance the bundles were directly transformed into inflammatory corpuscles, from which started every physiological and pathological new formation.

A Case of Multiple Myomata of the Skin accompanied with Severe Pain was described by the President. A. B., aged thirty-six, married, with healthy children and good family history, had never had syphilis. His present trouble began a year ago. Changes in the weather produced pains in the parts which had since become affected. To relieve these, firm pressure was made with the hand. Between the paroxysms, pain was not produced by pressure. Afterward the lesions presented themselves. The pains still persisted, recurring at intervals varying from a day to a week. The attack lasted two or three minutes and did not return the same night. The growth was situated on the right side of the back, in the mid-dorsal region, and the course of the growths was obliquely outward. There were one or two of the elevations on the left side. Three of the growths were as large as peas. The others were small. The epidermis was not abnormal. On passing the hand over these growths, there was no hyperæsthesia, but, on deep pressure in the neighborhood of the larger masses, the patient sank moaning to the floor. One of the larger growths was removed, and microscopical examination showed it to be composed of smooth muscular fiber. From a clinical standpoint, the case bore a close relation to the cases of neuroma which had been reported. The author concluded that certain new growths in the skin, accompanied with severe pain, might be widely different histological structures. We were not justified in assuming that a painful tumor of the skin was a neuroma or fibro-neuroma simply from its clinical history, without a microscopical examination.

An Unusual Case of Tylosis of the Hands was related by Dr. R. S. Morrison, of Baltimore. The patient was a negro, aged thirty-two, muscular, well developed, and apparently healthy. He was a fireman of a steamer and had occupied this position for ten years, shoveling coal with the right hand grasping the upper portion of the shovel and the left hand sliding up and down the handle. Two fingers of the left hand were worn off to the second joint, while the other two were going in the same way, the nails having nearly disappeared. On several occasions he had drawn pieces of bone from the fingers. There had been no pain at all connected with the affection. On this hand there were some large blisters, beneath which there were red granulating surfaces, which were painless. There was no history nor evidence of syphilis. Specific treatment had been used without effect. The man obstinately refused to give up his work, so that little could be done in the way of treatment.

Dr. Tilden thought there was a good deal of resemblance between this case and cases of perforating ulcer of the foot, and this would lead us to suspect a nervous element.

Dr. Wigglesworth remarked that it resembled anæsthetic leprosy in some respects, but differed from it in other points.

Dr. Morrison considered it a strictly local affection from the fact that the hand which was most exposed to rubbing and to the heat of the furnace was the one most affected.

Dr. Duhring would be inclined to consider the callosities a secondary condition. The occupation probably had something to do with the aggravation of the disease, but, if the occupation had been different, there would probably have been a similar change. He would regard it as dependent on some deep change in connection with the nerves, similar to what occurred in perforating ulcer of the foot.

Dr. Morrison could hardly admit that it was an affection of the nerve in the first place. It might be that the continued congestion of the skin dependent on the man's occupation had produced changes in the nerves or other part, which culminated in this affection. Referring to the literature of the subject, he had found similar cases attributed to mechanical irritation.

The Relations of Herpes Gestationis and certain other Forms of Disease to Dermatitis Herpetiformis.—Dr. Duhring read a paper with this title. Attention was briefly directed to the author's previous articles on dermatitis herpetiformis, and to a paper showing its identity with the impetigo herpetiformis of Hebra; also to a preliminary note on the relation of this disease to herpes gestationis and other similar forms of cutaneous disease, read before the association at the last meeting. The object of the present communication was to prove the identity of so-called herpes gestationis with a vesicular variety of dermatitis herpetiformis, and to show that the term herpes gestationis was a misnomer, the affection being found in men as well as in

women. Secondly, that certain other so-called forms of herpes—such as herpes pemphigoides, herpes vegetans, herpes pyæmicus, etc., as well as certain cases regarded by the reporters as peculiar forms of pemphigus—must be viewed as examples of this disease; and, finally, that instances of the same affection were also met with in literature under the title of hydroa and under divers other captions. Numerous cases from English, French, and German literature were cited. The paper was to be looked upon as supplementary to the preliminary note referred to, and embodied the results of considerable research into literature. If the views put forth proved to be correct, a great deal had been gained for dermatology in bringing these peculiar forms of disease together.

Dr. White thought that the term dermatitis herpetiformis was a misnomer. The disease should be called dermatitis multiformis. The herpetic element was often wanting.

Dr. Robinson agreed with Dr. White that the term dermatitis herpetiformis was too restricted, but would prefer some term which did not indicate the pathology, until the disease was better understood.

Dr. Hyde said there were reasons why he would disagree with the last speakers. The term herpetiformis was preferable, if for no other reason, because it was suggestive.

Dr. Fox showed a photograph of a case which might be mistaken for dermatitis herpetiformis—namely, erythema multiforme. This disease should be placed in strong contrast with dermatitis herpetiformis.

Dr. Duhring said the name dermatitis herpetiformis had been adopted because it seemed the least objectionable. The herpetiform character of the disease was to his mind characteristic. The term dermatitis multiformis was already employed to designate a form of skin trouble.

Mycosis Fungoides.—Dr. Tilden described the case of a man aged twenty-eight years when he came under observation. Three years before, several red, desquamating spots had been observed on the elbows. Several months later erythematous spots, accompanied with pruritus, were noted. These lesions retained a dry, scaly character. There were no vesicles or pustules. At the end of a year several red nodules appeared on the face and throat. These, however, disappeared. Afterward a small papule appeared on the right thigh, and increased in size. From this there exuded a thin fluid. This was followed by the development in many parts of the body, particularly the axillæ, groins, and neck, of similar lesions, in some cases reaching the size of a hen's egg. After a time there was superficial erosion of some of the tumors, but these excoriated tumors remained firm in consistence. Some of the masses which were covered with epidermis were soft, but there was no evidence of the formation of pus. There was also indolent enlargement of the lymphatic glands. The general health continued good. The patient passed from observation, and died at the end of three years and a half. The report of the microscopist who examined the tumors was read. His opinion was that the growths consisted of the formation of lymph tissue in the corium. Reference was then made to the literature of the subject, and the various cases, some thirty in number, were given. Sections of the growth were also presented for examination.

Dr. White said that this patient had been under his care during the last stages of the disease, and presented the changes which had been described. Some of the larger growths disappeared. During the last months of his life the man was taking arsenic. Death resulted from the occurrence of diarrhœa.

Dr. Rohé said that four years ago he saw a case of what he thought was the same affection. A man, sixty-two years of age, had a multitude of these tumors. Several had been extirpated before he came under his care, but there was recurrence with this fungoid appearance. The man was given arsenic, but he died from exhaustion. No autopsy could be obtained. As far as could be detected, there was no affection of the liver or spleen.

Dr. Morrison had seen a similar case, which was diagnosticated as multiple sarcoma of the skin.

Dr. Fox said that one or two similar cases had been seen in New York. Should one come under his care, he would try the effect of chaulmoogra oil. Judging from its effects in other cases, it should be useful.

The President said that in a case of alveolar sarcoma which he had reported, the disease had existed fifteen years, but the clinical features were about the same as they were years ago. There was marked enlargement of the lymphatic glands. The general condition was good.

Dr. Heitzman said that the description of the microscopic appearance and the examination of the specimen confirmed him in the view that this was a case of lympho-sarcoma.

Dr. Sherwell, to show the amount of involution that might take place, would refer to a case of melano-sarcoma under his care. The man was treated with arsenic, mercurials, etc. After six months' treatment, the tumors had almost entirely disappeared. There was not the slightest evidence of syphilis.

Dr. Fox had seen chaulmoogra oil used in a case of leprosy. There was now not a trace of leprosy, except the contraction of the fingers, which was, however, a secondary condition. It had failed in many cases, but a trial of it was justified in the chronic inflammatory affections referred to.

Urethral Irritation in the Male as a Cause of Certain Neuroses and of Acne was the title of a paper by Dr. Denslow, who first gave a brief review of the cases of contracted meatus reported by Dr. Otis. He then gave an account of a number of cases that had come under his observation in which there were reflex conditions associated with morbid states of the urethra—such as contracted meatus, stricture, and excessive sensitiveness of the prostatic urethra. In these cases removal of the urethral trouble produced an alleviation or cure of the affection to which attention had been directed. He also reported four cases of severe acne in which the same treatment had been followed by marked improvement or cure. In some of the cases ergotin was also employed. He simply reported the cases as so many observed facts, and did not express any theory. He would keep the cases under observation, and at a subsequent meeting give a further report.

Dr. Sherwell thought that acne was largely a reflex disorder, but was not in the habit of introducing a sound in every case of acne. He produced good results with other measures. He believed in the action of ergot in connection with local applications, especially in females.

Dr. Hyde thonght that many of these patients with urethra trouble associated with acne had probably been taking balsamic preparations for some time, and, as a result, had acne.

Dr. Denslow said that in all the cases reported the acne had existed since puberty. The patients were not hypochondriacs, and they were not masturbators. He was satisfied that no drugs had been used by any of them.

Friday's Proceedings.

Remarks on Electrolysis and other Practical Topics was the title of a paper by Dr. Heitzman. The reader spoke very highly of electrolytic epilation. For this purpose he used the Leclanché battery. He employed a needle devised by Leiter, of Vienna, which permitted the depth to which the needle penetrated to be measured. He had had good results from electrolytic destruction of dilated blood-vessels in the face, but less satisfactory results in the treatment of port-wine marks, a perma-

nent cure of which was only exceptionally attainable. Sodium ethyl had been highly recommended for the destruction of angioma of the face, but it was in no way superior to nitric acid. The author maintained, after observing two hundred cases of falling of the hair caused by seborrhœa, that the method he recommended in 1876 gave fair results. This was the application of a ten- or twenty-per-cent. ointment of crude oleum rusci in vaseline and paraffin. For the removal of freckles he used an ointment recommended to him by Wertheim, of Vienna:

White precipitate, Subnitrate of bismuth,	each.....	1 drachm;
Glycerin ointment.....		1 ounce.

This was to be applied in a thin layer every other night, and in from four to six weeks the result would be found to be highly satisfactory. As to the permanency of the cure he was unable to state. In regard to the reappearance of hair after removal by electrolysis, he considered it to be due to the growth of the fine hairs, which was increased by the transfer to them of the nutrition which should have gone to the hairs removed.

Dr. Hyde said that, in the removal of hair by electrolysis, the question was not what the result would be at present, but what it would be in the future. Electrolysis produced a hyperæmia, which tended to stimulate the growth of the remaining hair. He had found the rectified oleum rusci very valuable.

Dr. Fox had used nitric acid for angioma, making the application in the form of small dots, a quarter to half an inch apart, with great advantage. In one case in which a nævus occupied half the body he had used this treatment with much success. In regard to the return of the hair after electrolysis, if the needle was carefully inserted and gentle traction was made on the hair, that hair would not return. In some cases there was a constant increase in the downy hairs from some cause, but these were exceptional cases. He did not think that the removal of hairs increased the growth of others. In the case of a young woman with a heavy beard he had removed, by actual count, eight thousand hairs. This process had required two or three years. Since then it had been necessary to remove only a few dozen hairs.

Dr. Robinson had used a similar ointment for the removal of freckles, but its effect had been only temporary. He thought that the growth of the remaining hairs was increased by the removal of a portion.

Dr. Wigglesworth had for the past fifteen years used the following ointment, which was almost identical with that mentioned by Dr. Heitzman:

White precipitate, Subnitrate of bismuth,	each.....	10 parts;
Vaseline.....		100 "

The President had performed the operation of electrolysis for ten or twelve years, probably longer than any other member of the association. He used the irido-platinum needle, which had the advantage of being bent and was not likely to pass through the follicle-wall. The moment the follicle was entered there was an escape of sebum. One case, that of a woman with a heavy black beard, had been entirely relieved. Electrolysis with a fine needle afforded a method of getting rid of freckles. The plan was to dot the surface covered by the freckle with the needle.

Dr. Heitzman said that the percentage of recurring hairs was greater in some situations than in others. In the submaxillary region it was greatest.

Syphilitic Reinfection.—Dr. Taylor read a paper on this subject. He first referred to the literature, and gave a brief review of the authentic cases on record, with the names of the reporters. The number of cases previously reported was between thirty and forty. To these he added the histories of three more. A fourth case had been observed by him, but, as the complete history had not been prepared, it was not given.

Case I.—A barkeeper, aged twenty-five years, was first seen in 1868, suffering with gonorrhœa. Three years previously he had had indolent enlargement of the lymphatic glands in the groins. Examination showed the presence of lymphatic enlargement in certain regions. Inquiry into the history showed the existence of a chancre three years before, which had been slow in healing. About two months later he became sick and suffered with a roseolous eruption, sore throat, falling of the hair, and rheumatic pains, worse at night. Under treatment he improved, but afterward exhibited a papular eruption. He was then seen by the late Dr. Van Buren, who pronounced the case one of syphilis and ordered mercurial treatment. He recovered after two years, but of his own accord continued the treatment two years longer. He then remained well until the attack of gonorrhœa. In February, 1870, he again appeared, presenting a typical indurated chancre on the pubes. It presented every evidence of a primary infection. Afterward a papular syphilide appeared over the body, there were several mucous patches on the pillars of the fauces, and the throat was red and swollen. The joints soon became the seat of nocturnal pains. The patient also presented a form of syphilitic epididymitis. Under mercurial treatment there was some improvement, but a year later there were some tertiary manifestations. By 1874 he seemed very well. During the next three years there were no evidences of syphilis, but he continued the "mixed treatment." In the autumn of 1882 it was learned that his good health had continued and that he was the father of a healthy child. The child was examined, and no evidence of hereditary syphilis was detected.

Case II.—In June, 1873, the patient had a typical indurated chancre, followed by distinct secondary symptoms, which disappeared under treatment. He then passed from observation. In February, 1874, he presented several ulcero-tubercular lesions on the outer aspect of the forearm. He then remained under treatment six months. In January, 1875, he had spots of thickening of the periosteum of both tibiæ. He was again treated with benefit. In June, 1876, there was a typical indurated nodule on the prepuce, from which indurated lymphatics extended to the inguinal lymphatic glands. The incubation of this sore had lasted about twenty days. This was followed by malaise, sore throat, and swelling of the post-cervical and epitrochlear glands. Over the body and arms there was a fine mottling of a light pink color. The patient then went to Europe and was not seen until March, 1885, when it was learned that the symptoms had been well marked, and that he had been under treatment for them by several Continental physicians.

Case III.—A man, forty-one years old, had had a typical indurated chancre in 1874. There had been inguinal adenitis, followed by roseola, falling of the hair, and subsequently severe iritis. He was treated with mercury. In February, 1882, he returned with a typical hard chancre. In April he became sick, having rheumatic pains and a mixed erythematous and papular eruption. In May iritis again appeared. In 1883 he had a late secondary rash.

These cases were reported with the object of throwing some light upon the natural history of second infections of syphilis. In all of them relapsing indurations had been carefully excluded.

Observations on the Oleates.—Dr. Stelwagon read a paper on this subject. In regard to the chemistry and preparation of the various oleates, both as to their manufacture by the direct combination of the acid with the base and by double decomposition, almost, if not entirely, as much could be found in the

English translation of Gmelin's "Handbook of Chemistry," published in 1866, as in the writings of the past several years. Of all the oleates, those of mercury, zinc, bismuth, and lead had a place in the treatment of diseases of the skin; and, in view of their costliness, the seeming unavoidable frequency of badly made preparations, the disagreeable oleic-acid odor, and the irritation so frequently observed after their use, it was probable that of these four only the mercuric oleate promised to retain a permanent value. This last was especially valuable in ringworm of the scalp, but for inunctions in the treatment of syphilis it was of doubtful utility, as it was questionable whether it was absorbed. Oleate of copper, which had been so highly recommended for ringworm of the scalp, was not comparable in that affection to oleate of mercury or to tar and sulphur preparations.

Dr. WIGGLESWORTH had practically renounced all oleates except the oleates of zinc, lead, and mercury as parasiticides.

Dr. DUHRING's experience with these preparations had been in accord with that of the reader of the paper. He had employed the oleate of copper in varying strengths in thirty or forty cases of ringworm, but it had seemed to exert no influence whatever. But they had been obstinate cases. Other methods of treatment had afterward been tried, and they were finally cured. As to its efficiency in acuter forms of ringworm, he was not prepared to speak.

Dr. HEITZMAN had tried the oleate of copper in chronic cases of ringworm, without any result, but in the acute cases it cured after a time. It was not so efficient, however, as the preparation recommended by Dr. Taylor—four grains of bichloride of mercury to the ounce of tincture of myrrh.

The PRESIDENT had almost entirely discarded the oleates. In some recent cases the oleate of copper had seemed to be successful, but in chronic cases it had entirely failed.

A Case of Syphilitic Aphasia and Paraplegia followed by Death, with an Account of the Autopsy.—Dr. DENSLOW read a paper the object of which was to put on record a case in which an autopsy had been obtained in early syphilitic cephalalgia. The patient was seen in consultation April 29, 1885. Two months previously he had begun to suffer with severe headache, worse at night. There was also a papular eruption. He acknowledged the existence of a sore six months previously. Iodide of potassium with chloral had been given. Two weeks later the patient was free from pain, but it returned in one month and he stopped taking medicine. Iodide of potassium was again given, with the effect of relieving the pain. Aphasia and paraplegia then developed, and the patient died four days later, within nine months of the initial lesion. At the autopsy, the dura mater, along the superior longitudinal sinus, was thickened and adherent. There were numerous small gummata in the pia mater, situated along the right border of the longitudinal sinus and extending back to the fissure of Sylvius. The pia mater exhibited evidences of simple acute inflammation.

NEW YORK OBSTETRICAL SOCIETY.

Meeting of March 3, 1885.

Dr. E. NOEGGERATH in the Chair.

Drainage-Tubes.—The CHAIRMAN showed a series of drainage-tubes for use after laparotomy. The first one was the straight glass tube known as Tait's, the second was Sims's rubber tube, and the third was one which Dr. Noeggerath had himself used on one occasion. The large curved glass tube used by Hegar was next shown. Its wall was perforated in numerous places at its lower portion, the openings being not above 1 mm. in diameter. The advantages of the instrument were its large size, which not only admitted of free drainage, but allowed a reflector to be passed into the tube so that the neighboring parts could be explored. The lateral openings permitted the fluid to enter the tube readily from all sides. They should not be too large, as there was danger of the intestines becoming engaged in them.

The CHAIRMAN also gave an outline of the after-treatment of Hegar's ovariotomy cases. For the first twenty-four or forty-eight hours the patient received only ʒ ss. of cold water every hour, then ʒ ss. of sour wine every hour for the next twenty-four hours.

Dr. J. B. HUNTER asked in what cases such large drainage-tubes were indicated, and how the inference could be drawn that there would be so much fluid secreted as to require one.

The CHAIRMAN replied that they were used in cases in which there were extensive adhesions, not only to the parietes, but to the abdominal viscera. He admitted that the necessity for their use was rare.

Dr. B. McE. EMMET asked if it was not difficult to close a wound after the introduction of so large a tube.

The CHAIRMAN replied that, on the contrary, the wound contracted so rapidly that a smaller tube must be introduced immediately after the withdrawal of the large one.

Dr. W. G. WYLIE thought that, judging by his own experience, the cavity would only drain for a short time. He had sometimes found it necessary to move the lower end of the tube about to break up adhesions.

Dr. B. F. DAWSON thought that the excessive outpouring of fluid to which the chairman had alluded might be the ordinary peritoneal secretion, which, being innocnous, did not require to be drained away.

Dr. HUNTER said that he had used even smaller tubes than Tait's, and had never found any difficulty in removing all of the fluid by means of a syringe. He preferred straight tubes, since they could be carried down to the very bottom of Douglas's pouch.

Dr. WYLIE also favored the use of small tubes.

Dr. W. M. POLK recalled a case, related to him by Dr. Thomas, in which a hernial protrusion of the intestine took place through one of the lateral openings in a drainage-tube.

Hysterectomy for Fibroma.—Dr. H. D. NICOLL presented a fibroid tumor with a portion of a uterus removed by Dr. Thomas at the Woman's Hospital. The patient gave a history of profuse hæmorrhages. The diagnosis of interstitial fibroid located in the posterior uterine wall was made, and Dr. Thomas resolved to perform a myomotomy. The usual incision was made through the abdominal wall, the uterus was rolled out of the cavity, and its neck was constricted with an instrument devised for this purpose, consisting of two semicircular pieces of steel, provided with handles, something like a pair of tongs. The tumor was found to occupy the posterior wall. An incision was made down to the capsule, which was opened, and the tumor was readily enucleated. On relaxing the pressure of the clamp the hæmorrhage from the wound was so profuse that Dr. Thomas saw that it would be necessary to remove the entire uterus. This was then accomplished, the stump (which was long and rather narrow) being secured with Dawson's clamp. The patient's condition had been perfectly satisfactory. Dr. Thomas was for a time under the impression that he was the first who had followed this method of enucleation, but he now yielded the priority to Dr. Hunter.

Dr. P. F. MUNDÉ said that Schröder had first performed this operation.

The CHAIRMAN was of the opinion that Martin was entitled to that honor.

Dr. HUNTER asked if Martin used drainage.

Dr. Mundé replied that he drained the wound through the vagina in cases where the growth extended down into the pelvis or between the folds of the broad ligament.

Dr. B. McE. Emmet asked concerning the relative merits of myo-hystereetomy and removal of the ovaries as a means of relief from hæmorrhage resulting from the presence of uterine fibroids.

The Chairman said that the question was not yet settled, English surgeons being rather in favor of oöphorectomy, while the Germans preferred hysterectomy.

Dr. Dawson, referring to the fact that his clamp had been used in this operation, said that his idea in devising it had been: 1. To secure perfect constriction of the stump by an instrument which should compress it into the form of an ellipse. 2. To have a smooth lower surface which should allow the external wound to heal perfectly and to become perfectly adherent to the stump.

Dr. Hunter said that he preferred to transfix the stump with needles and to encircle it with a rubber ligature.

The Chairman thought that by the use of the clamp the adhesion of the skin, as well as of the peritonæum, to the sides of the stump was secured.

Dr. Dawson explained that he removed the clamp after a few days and substituted for it transfixion with needles.

Salpingo-oophorectomy.—Dr. Hunter presented the following specimens: 1. A specimen of double hydrosalpinx, removed at an autopsy from a case of cancer of the omentum, the patient having died from fatty heart several days after the operation. 2. Pyosalpinx (private case). The patient was a young single woman who had suffered with extreme dysmenorrhœa. She had been completely relieved by the operation. 3. A case at the Woman's Hospital. A married woman who had suffered greatly from menorrhagia and metrorrhagia, symptoms which disappeared after operation. 4. In this case the operation was done for dysmenorrhœa, and was easy. Another case was also related, but the specimen was not shown. The patient had had severe hæmorrhages. On examining her, Dr. Hunter thought that he detected a small tumor behind the uterus, and also an enlarged tube. At the operation a small ovarian cyst was found upon one side, with an enlarged tube. During the attempt to remove it, the tube ruptured, and a quantity of fœtid pus escaped. The opposite tube was so firmly bound down by old adhesions that it was removed with great difficulty. There was a good deal of hæmorrhage, which was not checked until much time had been spent. In the search for the bleeding points the operator was greatly assisted by the combined use of a cylindrical speculum and the small electric light which had been designed for this purpose. The patient developed septic peritonitis, and died on the sixth day.

Dr. Hunter stated, in general, that it was his custom to introduce a drainage-tube if there was much hæmorrhage, but it was soon removed. In regard to the symptomatology of pyosalpinx, he said that an important point was that the patient complained of pain just *before* her periods, excessive flow, and a subsequent discharge of fœtid pus. In one case he had even seen this purulent fluid escaping from the os. He concluded with the remark that he now used spray in the operating-room, although it was not thrown directly upon the wound. This was a necessary precaution in the presence of a miscellaneous crowd of spectators; he also endeavored to have his ligatures perfectly aseptic.

Dr. Mundé mentioned a case which showed the difficulty of making an accurate diagnosis before operation. A patient was sent to him with a history of recurrent attacks of peritonitis. On examining her, he thought he detected an ovoid, fluctuating mass upon the right side on the left side nothing could be felt but a diffuse swelling. On opening the abdomen, nothing could be differentiated; the pelvis was filled with an inflammatory deposit, in which both ovaries and tubes were indistinguishable. The only thing which could be done was to ligate the broad ligament in two places by carrying a threaded needle deep into the pelvis and removing the mass by burning it through with Paquelin's cautery. The patient made a good recovery. Dr. Mundé admitted that there were cases in which it was possible to make the diagnosis of enlargement of the tubes, but it was frequently quite impracticable. He had at the time a patient under treatment, on examining whom for the first time he had discovered a sausage-shaped mass situated on the right of the uterus. He aspirated this tumor through the vagina and withdrew about ʒ iij of clear fluid, in which was found cylindrical non-ciliated epithelium. This was undoubtedly a cast of hydrosalpinx.

Dr. Wylie said that it was not necessary to make such an exact diagnosis. If a patient had been under observation for some time, and the subjective symptoms were such as to warrant an operation, he did not disturb himself about the exact condition of the tubes. But, he added, it was possible in many cases to so clear up the inflammatory deposits by a course of treatment with boro-glyceride tampons that the diagnosis could be positively made. He believed that many of the so-called cases of "thickening in the broad ligaments" were really cases of enlarged tubes.

B. McE. Emmet, M. D.,
B. F. Dawson, M. D.,
H. C. Coe, M. D., *ex officio*,
Committee on Publication.

Miscellany.

The International Medical Congress.—Professor Hansen-Grut, of Copenhagen, who was president of the ophthalmological section of the last meeting of the Congress, and took an active part in the affairs of the organization, has written the following letter to a New York physician:

"I am sorry you have so much bother about the Congress. The spirit that is at the bottom of the dispute is to me a proof of such exclusiveness as I should not have expected to find in your country. I will answer to your question:

"1. That the controversy about codes was never thought of, as we have nothing resembling your codes of ethics.

"2. The invitation was decidedly given for the *whole* medical profession; none of us thought of, or even mentioned, the American Medical Association.

"3. The *only* qualification required was, that the member be a *legally acknowledged* medical practitioner in his country. *Our* homœopathists who were legally acknowledged practitioners (Dr. Siemsen-Ferish and others) were actually members, and undisputed members, of our Congress.

"I have sent your letter to Prof. Lange, who will, no doubt, corroborate my statements. To my knowledge, he has already had similar questions addressed to him from America, and answered them in the same way as I have now done.

"The way across is long, the fear of the sea is strong. I do therefore firmly believe that it is injurious to the interests of the Congress to have too many restrictions put for admittance."

The "New Orleans Medical and Surgical Journal" says:

"Since the August issue of the Journal there has been but little change in the controversy over the organization of the American meeting at Washington in 1887. The disagreement remains as irreconcilable as ever.

"The situation is certainly without precedent, and all brought about by the action of a very small majority of a very small meeting of the American Medical Association, an organization which itself represents only about one twentieth of the American medical profession. The association has unjustly been held responsible for the action of scarcely one fourth of its members, and on this account has suffered severely of unfriendly criticisms. We trust that these criticisms, instead of impairing the usefulness of the association, will rather enliven the interest of many of the older and more sturdy members whose conservative presence at the last meeting surely would have averted all our recent troubles; very likely the new committee would never have been created. However, let us speak of the realities.

"No sooner was the new committee organized than it evinced the temper of the resolution under which they were appointed. They began to revise, alter, and amend the work of the original committee with a vengeance. They announced a new plan of organizing the Congress, based upon an illiberal policy, which, for one reason and another, excluded from membership on the sub-committees and sections a number of names of international prominence. There was at once dignified opposition to the course of the committee, which was all the more determined because of a lack of respect for their authority, owing to the unpardonable impropriety of the proceedings under which they were appointed. Numerous resignations from the sub-committees and sections have followed in rapid succession. So far, upward of one hundred and twenty names, all told, have been either dropped by the committee or voluntarily withdrawn from all official connection with the Congress. Many of these names are classical in the history of American medicine, and their disaffection alienates from the coming Congress the friendly interest of our more distinguished *confrères* abroad, without whose support the American meeting can not succeed. Our brethren from over the sea are very emphatic in expressing their views of the situation. Their criticisms are sharp and well directed. In the pages of those solid contemporaries, 'The Medical Press,' the 'Lancet,' and 'The British Medical Journal,' we can see ourselves as others see us.

"Public professional opinion in the United States demands a truce of all our domestic differences and the organization of the Congress upon a broad and liberal basis, recognizing the representatives of American medicine, those so considered at home and abroad, regardless of all local code, or purely personal issues, which are so entirely irrelevant to the purposes of the international body. We say *demand* advisedly, for the sixty odd thousand American physicians, in whose name (whether right or wrong) the invitation was extended and so accepted, as well as the foreign gentlemen of our own profession, invited to our shores, surely have some rights entitled to respect.

"If the committee continue much longer in disrespect of those rights, with as little progress in organizing the Washington meeting, then the officers of the Congress may see proper, as intimated in some of our foreign exchanges, to recall acceptance of the American invitation in favor of Berlin, or some other European medical center, where, as the 'Lancet' says, 'the medical profession will not find it impossible to combine for international purposes.' The stigma upon us of such an occurrence the present generation would not outlive.

"The committee must surely by this time realize the impossibility of organizing the Congress in further pursuance of their present policy. As gloomy as the outlook appears, we yet hope that at the coming meeting of the committee in New York, on the 3d of September, some way may be found of reconciling all our differences and organizing the Congress upon a high and broad basis, upon which we can all stand for the time without jostling and jarring.

"NOTE.—Since the above went to press, we have received a circular entitled 'The Pennsylvania Physicians Indorse the Code of Ethics,' which demands a word from us. The circular is signed by a number of the ex-presidents of the State and various county medical societies of Pennsylvania, and others, who indorse the action of the American Medical Association at New Orleans, as well as the action of the new committee at Chicago, and call all this sustaining the code of ethics. This would intimate that those who have not approved of the action of the American Medical Association or its Chicago committee, on the subject of the International Medical Congress, do not indorse the code of ethics of the association. We desire to place ourselves right in this matter. This journal indorses the code of ethics of the American Medical Association, but emphatically disapproves of the action of that body regarding the meeting of the International Medical Congress. While we support the code of ethics, we do not believe that it was expedient or right to inject that code into the organization of an International Medical Congress. We believe that the organization of the Congress, as proposed by the original committee, ought to have been accepted, or at least should have been less radically modified. We do not take sides with the new-code physicians of New York or elsewhere, but we sincerely believe that it was inexpedient and unwise to exclude them solely on account of their ethical sentiments. We are advocates of the national code, and shall exert our influence to uphold it; but we favor no plan of organizing the International Medical Congress that is not high and broad and liberal, in full accord with the spirit of the international body, and entirely acceptable to the better sentiment of the home profession, as well as to the guests invited to our shores.

"Under the circumstances, having foreknowledge of the views of many of our foreign brethren on this subject, we should be more consistent with the principles enunciated by the Chicago committee, under direction of the American Medical Association, if we should frankly acknowledge our mistake and withdraw the invitation we have extended. Either do this or meet them in the spirit they demand."

The "Cincinnati Medical Journal" says:

"It was hoped that the enlarged committee of the American Medical Association, at its Chicago meeting, would so shape its deliberations as to escape the imputation of being actuated by sinister motives. The further we get away from that meeting, however, and the more we learn of its inside workings, the more are we convinced that personal pique, local jealousies, sectional prejudices, college hatreds, and clique antipathies, were more responsible for the changes made than were any considerations of professional morality or ethical punctilio, or what should have been first, foremost, and alone, a desire to strengthen the Congress by bringing to the front our ablest and most representative men."

The "Chicago Medical Journal and Examiner" says:

"In the organization of the Congress, the same rules should govern in the next that have obtained in the past. No distinction should be made between the foreign and the American members. The fact should be distinctly kept prominent that it is not a delegated body. It has not been in the past; there is no valid reason why there should be any effort to make the next one such. There should not be two or more classes of members. All must meet on the same plane—with equal privileges, equal duties, and equal responsibilities. Let all local ethical questions be eliminated. The foreign representatives expect and demand this, and such is their right. There may be honest differences of opinion, in our own country, on certain points of principle and policy, but there can be no valid reason for thrusting them, or their effects, upon foreigners who may come here. Sight should not be lost of the fact that science and humanity are the objects for which these congresses convene, and that all matters of selfishness and partisanship should be subordinated thereto.

"As our faith, as a profession, was pledged, when our invitation was accepted, to do all in our power to make a success of the Congress, we can not do less. Everything that might conflict therewith and diminish the prospect of such success must be kept in abeyance."

The "Maryland Medical Journal" says:

"In view of the fact that the American Medical Association committed an unjustifiable and unnecessary blunder in authorizing a new committee to organize the preliminary arrangements for the Ninth International Medical Congress, we had hoped that this committee, after the experience of its late meeting at Chicago, would recognize the absurdity of its position and gracefully decline to take further steps looking to an arrangement for the Congress.

"It has seemed to us that the action of this committee has been so universally condemned, and its resignation so loudly insisted upon by the almost unanimous voice of the profession, both in this country and in Europe, that it would not have the boldness to proceed with its work in face of such outspoken opposition. At first we were disposed to lay

the entire blame for the present muddle of the affairs of the Congress upon the shoulders of the association. We assumed that this committee was acting under the instructions of the association, and, therefore, in accordance with these instructions, had performed the work assigned to it in as mild a way as was to be expected under the circumstances which had called it into existence. After the utter failure of its efforts at Chicago, and in view of the disturbance its action has brought about, we have felt that this committee was in duty bound to decline any further participation in the work of re-organization of the Congress. Having so signally failed at Chicago, we are unable to understand upon what ground it can hope to be more successful in its future undertakings. From a circular which has recently come into our possession, we fully recognize the part which this new committee will attempt to perform. Bracing itself up under the issues of the 'code,' this committee will urge the re-organization of the Congress upon this platform. It proposes to stand by this issue alone, and to distribute its loaves and fishes to those only who obligate themselves to support the national code of ethics.

"We have already shown the absurdity of this issue as applied to the organization of an International Medical Congress. We must insist that this attempt of the association and of its committee to hoist this issue into prominenee is an insult to the medical profession throughout the entire world, and an insult to scientific medicine wherever it is taught and practiced. To attempt to enslave individual opinion in this manner is a stab at ethical principles which will penetrate into the very heart of the national code of ethics and create a prejudice against these time-honored observances which the association can not stay. The association and its committee is standing on dangerous ground, and is inviting a controversy and a strife about medical ethics which will surely plunge the association into the deepest grief. The American Medical Association is yet an infant organization. It has not the power to dictate its terms to the intelligence of the profession in this country. With a membership of less than three thousand it is assuming prerogatives and asserting principles which may endanger its very existence.

"But, after all, this cry of the 'code' has a tamer significance than a easual observation would indicate. We have already noticed the fact that the 'code' issue has been repudiated by the very best scientific minds in this country and in Europe. The present committee has caught on to this issue as a possible popular wave to ride into high official position and authority.

"In our opinion it cares but little for the success of the Congress apart from the popular conception of such an organization. Its proposition to organize a Congress simply means a jolly good meeting, with code for breakfast, scientific medicine for lunch, and the American Medical Association for a sumptuous dinner. On this mixed diet our foreign friends are to be hospitably banqueted, and, if enough foreign guests will not come across the waters to partake of this repast, the jolly feast will be enjoyed all the same by the code adherents and their friends. Indeed, the whole outlook for the Congress is utterly ridiculous and absurd. The profession in this country may well cry shame over its present humiliation. Who can look on and not blush over such an arrangement as is proposed by our National Medical Association in honor of a great and influential body of scientific workers? Who can indorse the work of a committee or accept its proffered honors when one has considered the fact that it would gauge scientific opinion and practice by a standard of conduct which is applicable only to the most ignorant or unprincipled members of the medical profession? The empire of science is not bounded by the restrictions of narrow opinions and prejudices. It demands liberty of action and conduct, and it can only make large and enlightened progress when endowed with these functions.

"The effort of our National Medical Association to impose upon a Congress of scientifie men absurd rules of ethical conduct recalls to mind the narrow prejudices of the middle ages, when men were punished for asserting that the sun stood still, or that the world was not made in six days. In the last quarter of the nineteenth century will the rank and file of the medical profession tolerate such narrow-mindedness? We believe not. This utter absurdity of the association will surely reach upon its unwise and impious head."

The New York Polyclinic.—We learn that during the sessions of 1885–1886 there will be fifteen clinics in gynæcology each week, including operations at Mt. Sinai, Bellevue, St. Elizabeth's, and the Woman's hospitals; six clinics in the department of diseases of children; fourteen surgical clinics, including operations at Mt. Sinai, the German, and St. Elizabeth's hospitals; six, each, in diseases of the skin and of the mind and nervous system; eight in physical diagnosis, including ward lessons at Bellevue Hospital; eight in diseases of the eye, including operations at Mt. Sinai and the German hospitals and the Manhattan Eye and Ear Hospital; four in diseases of the throat and nose; two in diseases of the ear; and four lessons and clinics in obstetrics—making a total of seventy-three clinics every week. The laboratory of pathological histology and State medicine will be open every day and evening up to ten o'clock, and the laboratory of physiological chemistry on Tuesdays, Thursdays, and Saturdays. Special attention has been paid to the outfit for the laboratory, which is fully furnished with all the necessary apparatus for day and evening work in microscopy, bacteriology, chemistry, etc.

THERAPEUTICAL NOTES.

Cocaine in the Treatment of Vaginismus.—Iwow ("Russkaja Medicina"; "Dtsch. Med.-Ztg.") reports the ease of a woman, thirty-two years old, who had been married ten years, and had suffered with vaginismus all that time, in spite of every kind of treatment. She was of slender build, very anæmic, and easily thrown into nervous excitement. The external genitals were normal, as well as the uterus. The vagina was short. Only remnants were found of the hymen. A five-per-cent. vaseline ointment of cocaine was ordered to be rubbed upon the vulva before each coitus. This was late in February, and in April it could already be ascertained that she was pregnant. In May indisposition to coitus supervened, but it yielded to tincture of damiana leaves (twenty drops every two hours). The author attributes the cure of the vaginismus not to the action of the coeaine alone, but in great measure to the moral effect of his positive assurance that it would do away with the pain.

The Choice of Excipients for Topical Applications.—Vigier ("Gaz. hebd. de méd. et de chir.") has written a note on this subject, with special reference to vaseline and some of its congeners, such as *pétréoline, neutroline, carburine, and pétrobaseline*, the last-mentioned of which is the newest of the series and is described as a liquid of fine appearance. Valuable as these hydrocarbons are, the author deprecates their indiscriminate use, and summarizes the principles which should guide prescribers in choosing excipients for external applications. Lard and the oils which resemble it in their action on the skin are the best vehicles for medicaments. The mineral fats, solid or liquid, although having the great advantage of being unalterable, offer a eertain impediment to absorption, retarding it at least. Glycerin prevents absorption, and should never be used as an excipient, but only for its own effect. On the contrary, it should be chosen when it is an object to avoid absorption, as in the use of corrosive sublimate, or to temper the action of irritants, like earbolie acid or arnica. *Pétrobaseline* seems destined to play a prominent part in therapeutics, but its properties, which are curious in some respects, need to be studied further. It does not dissolve boric acid at all, but it dissolves borax. A formula is given for a four-per-cent. solution, made with the aid of gentle heat and filtered.

The Treatment of Chronic Neurotic Diarrhœa.—J. V. Solomon ("Brit. Med. Jour.") remarks that, in hospital and private practice, he is sometimes consulted by women of nervous temperament, on account of a chronic diarrhœa of several years' standing, which has resisted treatment. When he has failed to discover organic abdominal disease he has produced considerable mitigation, and sometimes perfect relief, with the following formula:

Dilute nitric acid	½ drachm;
Battley's *liquor opii sedativus*	1 "
Tincture of gentian	½ ounce;
Infusion of gentian	4½ ounces;
Strong peppermint water, enough to make	8 "

One ounce to be taken three times a day. He is inclined to consider the disorder a neurosis.

Original Communications.

IMMUNITY FROM CONTAGIOUS DISEASES.

BY D. E. SALMON, D. V. M.,
WASHINGTON, D. C.

ALTHOUGH the theory of immunity which I formulated several years ago has been given a prominent place in recent discussions, it was not my intention to take any part in this philosophizing so long as my views were treated with ordinary consideration and fairness. This theory was not developed as a mere piece of speculation to while away an idle hour, nor was its object to excite discussion or controversy. In the course of a long series of original investigations, in which very important facts were discovered, I was brought face to face with this question of immunity, and, in order to continue the investigations intelligently, it became necessary to have a working hypothesis which explained and connected the facts so far as known. The theory of immunity in question was the result of that necessity. It was a sincere endeavor to get at the truth with the facts at hand, and I only desire that it shall stand or fall on its merits. The tendency of working scientists has certainly been very favorable to it; no facts have been brought forward through more recent researches which oppose it, while many strongly confirm it. It does not appear to be so fortunate, however, when it comes in contact with the arguments of those who discard the facts bearing most directly on the subject, and reason from questionable premises and comparisons of doubtful application. A notable example of this may be seen in the article of Dr. J. Romaine Curtiss which appears in the issue of the Journal for July 18th.

Dr. Curtiss scores his first point by reversing the terms of my theory—a rather remarkable piece of carelessness when we find him stating it correctly in a quotation from Dr. Eccles, only a few sentences farther on. "The oxygen theory of Dr. Salmon," he says, "is too narrow a conception for the occasion, and there are no verifications to sustain it. Who can imagine that tubercle bacilli in the lungs can consume the oxygen inhaled so rapidly that there is not a sufficient supply for the lungs? The inhalation of oxygen is found to do harm in consumption as well as many other diseases. If Dr. Salmon's hypothesis is true, the inhalation of oxygen ought not only to cure, but prevent all diseases of zymotic origin." Skipping only one sentence, we come to Dr. Eccles's very clear statement of my theory in these words: "The poison of the microbes intoxicates the cells. Retarded function (of the cells) allows oxygen to increase in the circulation, thus facilitating their gaining a foothold. Recovery is due to the ability of the cells to resist the poison, use up their own oxygen, and so asphyxiate the microbes."

That is to say, of these two contending parties it is not the microbes but the cells which injure their antagonists by exhausting the oxygen supply. Consequently, an artificial increase of the oxygen supply in the tissues would simply give the microbes a better chance in their struggle for existence. The theory here is in accordance with the clinical fact stated by Dr. Curtiss, and is not opposed to it, as he would have us believe.

The next objection is that "Dr. Salmon has not made an estimate relating to the ventilation of the human body with oxygen and the relative amount consumed by the microbes and cells." Here again Dr. Curtiss reasons from a false premise. The most careful chemical investigations show that the liquids of the interior of the body contain either no free oxygen or only a trace of it. The cells of the body which obtain their oxygen from these liquids are, therefore, able to exist and perform their functions with this limited supply of oxygen. In other words, the living protoplasm seems to have such a chemical affinity for this gas that surrounding liquids are kept practically exhausted. The very recent investigations of Ehrlich ("Das Sauerstoff-Bedürfniss des Organismus"), made by a new method and apparently incontestable in their results, confirm this view and place this part of the theory upon a foundation which a wise man will not attack without mature deliberation. Equally careful studies of microbes show that their oxygen requirements are very different, and that some of them require relatively large quantities of free oxygen in order to multiply at all. So far, then, as investigations have gone in this direction, the facts discovered are in accord with my theory of immunity.

The comparison between a combat in which a dog attempts to kill and eat a man in a well-ventilated room and the contest of the microbe and the animal cell in the interior of the body, which Dr. Curtiss next introduces, is one of the most remarkable arguments which it has been my fortune to see introduced into the discussion of a scientific question. It reminds me of the arguments that, only a few years ago, were hurled by certain members of our medical profession against the whole germ theory of disease. Notwithstanding the very positive statement that "the cell and microbe and man and dog present problems of warfare the terms of which are parallel and alike," I can not restrain an equally positive assertion that the comparison is chiefly remarkable for being far-fetched and having no application to the question. There is nothing "parallel and alike" either in the means of attack and resistance or in the conditions under which the two contests are maintained.

Although Dr. Curtiss thinks that the part of my theory which admits recovery to be due to the ability of the cell to resist the poison excreted by the microbe is correct, he does not appear to be able to free his mind from the belief that the contest is, after all, a physical one, and that it consists in the attempt of each to "swallow" the other. That a free, wandering, or amœboid cell might easily "swallow" or take into its interior a microbe, as supposed by Metschnikoff, is freely granted; but that the terms of this proposition can be reversed, and that a microbe with a smooth, rounded body, without external organs of any kind, without an opening in its body to take in its food, without the power of locomotion in the most restricted sense, should make a physical attack upon and "swallow" a cell, certainly requires a free use of one's imagination.

But why does Dr. Curtiss insist that the combat between the man and the dog should be in a "well-ventilated" room in order to be parallel with a combat between a microbe and a cell in the interior of the body? Does not the most superficial knowledge of anatomy and physiology make it apparent that the interior of the body is not well ventilated, that a contest there, instead of being in the open air, is under liquid, and under a liquid which itself is not in contact with the air, and from which the cells of the body are continually drawing the oxygen necessary for their existence? Then, again, the oxygen requirements of the man and dog are substantially the same, and any exhaustion of this element would affect each alike. On the other hand, the oxygen requirements of microbes are very different among different species, some of them requiring an abundant supply, and, as a consequence, a large proportion of these species must have requirements different from the cells of the body.

To make the comparison at all parallel and applicable, it would be necessary to assume that the room in which the man is located is a close one, that he is able to live in an atmosphere that would immediately place the dog *hors de combat*. We must also assume that the dog, even in this partially asphyxiated condition, continues to live and exhales a poison which would gradually accumulate and overcome the man unless its production was so slow that the man would become inured to it before it had been produced in sufficient quantities to overpower him. In the former case we might suppose that the slight ventilation of the room and the smaller amount of oxygen used by the man would in time place the dog in a condition to make an attack. And here, after all our attempts to make the conditions parallel, we fail miserably, for the dog's attack must be essentially a physical one, while the microbe's attack partakes but slightly, if at all, of that character.

Of what use, then, is such a comparison for the elucidation of a question of this nature? Surely any conclusions drawn from it must be unsafe, misleading, or diametrically opposed to the truth.

"It is evident," says the learned doctor, "that we can substitute nitrogen or bile in place of the oxygen of this problem, and do no violence to the sense or the results." Here, again, the conclusion seems to be most hasty and without that consideration which we should expect in discussing a question of this importance. A moment's thought would have convinced our able critic that, if the multiplication of microbes is to be prevented by withdrawing an element from the liquid in which they exist, it is a necessary condition of the case that the element should be one *essential* to the growth and multiplication of the germs. As a matter of fact, neither free nitrogen nor bile is essential to such growth and multiplication. The germs of various contagious diseases can be and have been cultivated where neither nitrogen nor bile exists; but all microbes that have been carefully studied and which produce diseases that are followed by immunity, so far as I have been able to learn, require a certain amount of free oxygen.

Finally we are told: "Dr. Salmon admits the solution of the question by natural selection when he says the 'recovery is due to the ability of the cells to resist the poison.' Immunity is also due to the same fact. The oxygen theory is, therefore, only a rider to the true solution—very much such a rider, too, as Mazeppa was, in so far as ability to guide the horse is concerned." If Dr. Curtiss will consent to lay aside his dogmatic assertions for a moment and consider the, to him, apparently dry and uninteresting facts of the problem, I may once more be able to show how far astray even a philosopher may be led by trusting to a too superficial glance of a subject. Take the disease known as fowl cholera for example. The germs of this disease multiply so rapidly outside of the body that gallons of any nutritious liquid in which a few are placed would be swarming with them within thirty-six hours. Still, inoculate a susceptible chicken weighing not over a pound, and it will be four to six days before the first signs of the disease appear. In other words, although the germs have found their way into the nutritive liquids of a susceptible organism, their multiplication has been checked in a remarkable manner by the influence of the body protoplasm. If a sufficiently small quantity of the virus is used for the inoculation, the microbes are unable to multiply in the body at large even after the period of incubation has passed, but their multiplication is confined to the locality in which they are introduced. Again, if the number of microbes introduced into the tissues is sufficiently small, say twenty-five or fifty, there is apparently no multiplication at all; the bird does not contract the disease, nor are there any signs of local irritation, although the cells have never before been subjected to the influence of the poison, and consequently have not acquired in that way any ability to resist it. Take one more fact; the germs of a contagious disease are unable to multiply in the liquids of an animal that has acquired insusceptibility, although they are placed directly within the blood or lymph channels.

These phenomena are all of the same nature, and they demonstrate, each in its way, the same fact—viz., that the protoplasm of the living body has a means of combating microbes which is not physical, and that it exerts this influence over the fluid which surrounds it to a considerable distance beyond the layer that is in actual contact with it.

These facts are evidently very intimately connected with the question of immunity, and any theory which attempts to explain immunity must not only show how the cells acquire the power to endure and recover from the effects of the poison excreted by the microbes, but it must also explain why the multiplication of these micro-organisms ceases and becomes impossible even in the liquids of the body and where they are not in actual contact with the cells. The tissues are, as we know, penetrated by channels some of which contain blood and others lymph, and there are everywhere spaces between the cells filled with a nutritive liquid which sustains the life of these minute constituents of the body. These channels and spaces, compared with the size of the microbes, are simply enormous, and, without the part of my theory relating to the oxygen supply, we can no more understand how the cells (in their walls) can prevent the multiplication of the microbes in the liquids flowing between them than we can conceive of the

trees on a river's bank preventing the multiplication of the fish in its waters. There are only two conceivable explanations of the phenomenon; one is, that the cells excrete something injurious to the microbes, and the other is, that the cells withdraw something essential to the microbe's growth. The former is untenable, because the liquids which are unsuitable to the microbe's growth when within the body of the insusceptible animal become very favorable for its growth when removed from the influence of the living protoplasm. Evidently, then, they do not contain any injurious principle. Turning to the other explanation, we must admit for the same reason that whatever is abstracted by the cells must be something that can be supplied by contact with the atmosphere. Now, is there any other element than oxygen which can be supplied by the atmosphere and at the same time is so essential to the multiplication of the microbes?

From the facts I have mentioned, and from many others which I have neither the time nor the space to enumerate, it has seemed to me that when the cells are exercising their functions in a normal manner, they have such an affinity for oxygen that this gas is completely removed from the liquids in the interior of the body; and, consequently, microbes which require oxygen can multiply only when sufficient poison is introduced with them, or when they are present in sufficient number to produce enough poison to depress the activity of the cells and prevent them from so completely taking up the oxygen. This theory may be wrong, but it certainly explains facts which have not been explained in any other way; and, if it is to be overthrown, I presume this will be accomplished by bringing forward some facts with which it can not be reconciled and by developing a different theory which, while it explains the new facts, will not contradict the old ones.

It seems unnecessary for me to answer the charge that my theory is too narrow, for Dr. Curtiss no sooner makes it than he sets himself about whittling down even this narrow theory, and soon asserts that a part of it—the part which assumes the acquired ability of the cells to resist the poison—is all that there is to the whole question of immunity. The inconsistency of this part of his argument is too apparent to need any criticism.

Now a final word as to the utility of the studies of immunity, and I hope I shall be permitted to withdraw from the discussion. I shall not attempt to conceal my astonishment that a professor of hygiene can be found in this country who deliberately writes that "the study of physically acquired immunity from disease is interesting only as a means or end of scientific accomplishment, and is of no great practical value. . . . Why not destroy the microbe before it attacks the man, and gain the immunity by this means? . . . Immunity from disease gained by costly combat with poisonous microbes is the method of nature without intelligence. The method is not worth imitation except provisionally." That is to say, vaccination for the prevention of small-pox, the method of all others which is relied upon in every civilized country to hold this disease in check, "is of no great practical value, and is not worth imitation except provisionally." How is it, I would like to ask, that we still rely upon vaccination to prevent small-pox if it could be so easily combated by destroying the microbe before it attacked the man? Why is it that we at the present day, in the United States, are losing every year 20,000 human lives from scarlet fever, 45,000 from diphtheria, 14,000 from whooping-cough, 11,000 from measles, and 120,000 from tuberculosis, and all of these germ diseases? Is it not because the destruction of the germ before it attacks the man has been found impracticable and, in the present state of society, impossible?

The prevention of small-pox by vaccination has been a grand and wonderful success—it is the one solitary success to which the medical profession can point with pride in its long struggle with the indigenous, contagious diseases. And this we are told is not worth imitation, because it is the blind method of nature. What is there so terrible in gaining immunity through actual disease as is practiced on so large a scale in this same vaccination? And who dare predict at this time that we shall not, in a few years, have the virus of the greater part of the contagious diseases so mitigated that their effects will be as mild as those of vaccine lymph?

There is another possibility even more desirable than this. We have seen that immunity is acquired by the cells becoming accustomed to the action of a certain poison excreted by the disease germ. Suppose, as the result of such studies, the chemist of the future is able to separate this substance from the germs and supply it, as quinine is now supplied, in a condition of purity. And suppose, as is very likely, that the introduction of this substance into the tissues would confer as complete an immunity as occurs when it is produced there by the germs, would this not be a solution of the question worthy of many years' investigation?

Until we succeed better than we have in the past in destroying the germ before it attacks the man, let us not insist upon this method to the exclusion of all others, at least so long as over two hundred thousand of our population annually testify by the sacrifice of their lives to the inefficiency of this method.

DARWINISM AND IMMUNITY.

By R. G. ECCLES, M. D.,
BROOKLYN.

Broad generalizations are excellent. They co-ordinate a host of facts in a general way. To rest satisfied with such a mere outline is essentially unscientific. It is a deplorable fact that many intelligent people use them to juggle with. They seem to imagine that everything is settled when it is found that some magic formula does not disagree with the facts. They may dimly see, but fail to appreciate, the truth that within every general hypothesis many particular ones must be held. Waves of ether can in a general way explain the phenomena of light, but, when diffraction requires explanation, we must supplement it with curvings around a sharp edge and interference. The theory of natural selection has, by the consensus of the competent, been pronounced tenable. We need not on this account dazzle our mental vision with its luster until unable to de-

tect its minute interactions in particular cases. To say that natural selection is an essential factor in the acquisition of immunity from disease is only to utter a truism. Immunity, in its broad sense, is clearly due to the survival of such animals as have acquired some power of resistance against disease. In stating this we explain nothing more than is usually perceived by all medical men. Our entire period of life is only possible because of the accumulated gifts of heredity. The power to adjust every part in a manner favorable to the resistance of antagonistic forces constitutes the totality of physical life. In gaining a new readjustment against disease, our cells do nothing more than all cells appear to have been doing since the very beginning of life upon this planet. Variation has been going on incessantly and in all conceivable directions. The conserving force of heredity, with its strange and occasionally acting form of atavism, has preserved these wonderful powers of immunity we now possess. When, however, we wish to explain particular cases of the subtle interactions of variation and retention, new facts and new hypotheses are involved. The mere fact of immunity is no longer the only thing we require light upon.

In the "New York Medical Journal" for July 11th and 18th Prof. Curtiss advances as his the general theory of selection as applied to immunity. It is a true theory, but very incomplete, and entirely too elastic to suit particular cases. There can be little doubt of its having been entertained by Dr. Salmon before he supplemented it with his own. In fact, they are parts of one another. The most general part being inadequate required the particular addition to explain particular cases. While the general law covered the fact of immunity, it gave no hint as to why one disease was self-limited and another was not. Why do the pathogenic microbes of measles soon die out, while those of tuberculosis remain for many years to multiply, and finally destroy the patient? There must be some reason for the rapid adaptation in one instance and its slow appearance, or perhaps non-adaptation, in the other. To this question the general theory has no reply. The particular one explains it lucidly. Why does one attack of small-pox give greater immunity than ten attacks of intermittent fever? Why does cultivation of pathogenic microbes in limited supplies of free oxygen make them more virulent? Why do harmless bacteria become dangerous disease-breeders when so cultivated? Why does cultivation of anthrax in large supplies of air, as accomplished by Pasteur, render it so mild that it can be used for inoculation, and, when carried far enough, make it harmless? Salmon's theory has a rational explanation of all these and many more facts which the general theory can only ignore. The weakest link in the whole chain of Dr. Salmon's theory is the one commended by Prof. Curtiss. The strongest one he rejects. Every experiment so far tried has utterly failed to verify the assumption that the method of warfare of pathogenic microbes is by poison, and that immunity comes from resistance by the cells to this poison. If this point could be established the hypothesis would be demonstrated. It can only be verified by experiments upon the cells. Prof. Curtiss tells us that this is the only truth in Salmon's theory. Dr. Salmon would certainly be rejoiced if Prof. Curtiss would give him the proof of its truth. He has waited and worked nobly for years trying to get this proof, but, alas! it does not yet appear. The oxygen part of the theory for which the professor shows so much contempt is based upon the nature of the microbes, so that its substantiation is as perfect as it possibly can be until it is verified as a whole. Aërobic microbes become pathogenic when modified by submersion into amphibious. This is the full extent of modification to which they have been proved susceptible. Prof. Curtiss tells us that *Bacillus subtilis* has been transmuted into *Bacillus anthracis*. He therefore indorses Buchner's idea, which is rejected totally by all bacteriologists. It has been proved that when Buchner was at work trying to accomplish this miracle his room was full of *B. anthracis* spores, and that, his alkaline solutions being their natural medium, they necessarily had a sowing and growth. The *B. subtilis* which he planted, being only capable of development in acid solutions, perished. The common morphological appearance of the two species deceived him. No one has ever been able to do it in a non-infected room. Prof. Curtiss is unfortunate in indorsing unsubstantiated positions.

Given such micro-organisms as can barely live in the quantity of oxygen supplied by our blood, and without some toxic principle by which to damage the cells they would be harmless. Given now a deadening ptomaine to arrest cellular function, and the air-supply will at once increase. Experiment has shown that harmless bacteria become pathogenic when introduced with a heavy physiological dose of atropine. Experiment has also shown that such bacteria perish unless the solutions containing them are well aërated. With such organisms and their poisonous ptomaine, their rapid multiplication will soon overwhelm the cells. We shall have disease. Now given a modification to the cell by virtue of which it can resist the paralyzing action of the ptomaine, function will be re-established, oxygen consumed, and the already half-choked microbes perish rapidly. The life-history of such microbes, under the given conditions, runs exactly parallel with the invasion, incubation, and self-limitation of such diseases as measles, scarlet fever, and small-pox. Such microbes require more air than the cells, since the cells meet their exact adaptation to the work of the skin and lungs. But there is known to be another class of microbes which Pasteur calls anaërobic. They can live on even less free oxygen than cells. These, according to Dr. Salmon, cause an entirely different class of diseases. The general theory championed by Prof. Curtiss can make no such distinction. It explains all alike, and, according to it, there should be no such difference in diseases. In intermittent and remittent fevers, tuberculosis, etc., there is no such self-limitation nor following immunity. Why? In malaria the system is overcome by the poison and the microbes, but fails to gain immunity. Rally as it will, it can not expel its foes. Their power of absorbing oxygen is too great to ever be damaged by the restored function of the cells. Tubercle spreads in spite of any limitation of oxygen. It can steal from cell-tissue if not secured from the blood. The facts of the dis

ease and the facts of microbic nature agree precisely. Dr. Salmon points out this agreement. Immunity to anaërobic microbes can only come after generations of selection, if at all. Immunity to aërobic or amphibious results from personal experience. No other hypothesis tells wherein these broadly contrasted classes differ.

Prof. Curtiss says that, according to Dr. Salmon's theory, "the inhalation of oxygen ought to not only cure, but prevent all diseases of zymotic origin." The professor seems to be as unfortunate in the inferences he makes as in the proofs he cites. The very reverse of what he says must be true. To supply more oxygen is to save the microbes from asphyxiation and add to their ability for ill. How he drew a reverse conclusion from the words he quotes is certainly a mystery. Facts support the true implication as he has pointed out. To say that "it is evident that we can substitute nitrogen or bile in place of oxygen" is to talk nonsense. Do microbes perish for lack of free nitrogen or bile? Does cultivation of them in limited supplies of nitrogen or bile make them more virulent? Is free nitrogen or bile a life necessity for them and cells? Would their excreted poison arrest the absorption by all cells of nitrogen or bile?

The man and dog illustration is anything but apt. Almost every condition is subverted. Had he put man and dog into a diving-bell, with a pump supplying barely enough air for the man, the cases would have been nearer parallel. Let the man now use up all the oxygen from the dog. The gasping animal, by grasping for his trachea, will succeed in securing a supply for itself. As soon, however, as the man frees himself from the dog, the latter must die. With the case so stated, the oxygen theory becomes much more than a Mazeppa rider. If the professor thinks that the surplus of oxygen is as large in the blood for the number of cells it sustains as it would be in a well-ventilated room for only a man and dog, perhaps he will not object to close the ventilation of his body and see whether it will last as long as that of a room containing a man and so closed. The inhibition of cellular function is the inhibition of oxidation. Will the professor kindly inform us if it likewise is the inhibition of nitrification, or of the absorption of bile in the same extensive manner?

Innovations that oppose established custom are usually considered bad affairs. The promulgators are pronounced absurd and illogical. On the whole, this is right. The vast majority of proposed innovations are but the chatterings of cranks. The conservative instincts of men socially represent the biological law of heredity. Innovations are but variations. For every useful variation there are probably millions of useless or even mischievous ones. Conservatism does a good work in challenging all, and only surrendering when the last credential is presented and understood. He who proposes an innovation is unmanly if he dares not defend it when called to the task. It is not pleasant to stand amid an army of semi-lunatics and be classed with them. One's only consolation lies in the fact that extremes are all alike. The ultra-violet rays of the spectrum are as dark to our blind eyes as real darkness. A man with clear ideas beyond his fellows seems the same to them as the fool or lunatic, whose utterances he knows are folly. But even the brightest thinkers have erred, so that it is the part of wisdom to challenge everything new. To assert that inoculation or vaccination after exposure to small-pox is a dangerous proceeding is to fly in the face of established custom and wage war with conservatism. There are two theories now in the field regarding this point. The first asserts that, so far from being dangerous, it will mitigate or altogether prevent an attack. This theory, like the geocentric one in astronomy, has the sanction of age and customary belief. The fathers taught it, and the sons must believe it. Its genesis can be traced to the bastard generalization, *similia similibus curantur*. It offers no other rational explanation for its existence. Its anomalies are as mysterious as the sphynx. The little sound experimental knowledge we possess seems to negative it. Its defenders appear to be as utterly oblivious of what constitutes valid proof as religious zealots in an experience meeting. It offers no scientific proof of any kind. The same custom, to which it is indebted for its very being, forbids our attempting to either prove or disprove it in the only way it can ever be satisfactorily done. By human vivisection we must discover the power of resistance of those we propose to use for proof. By the same we must learn to measure our doses of virus. With a standardized virus and standardized patient we can prove or disprove the point. Without these we are totally at sea. Accidental inhibitions of virus can never give sound premises upon which to reason. If we could measure our doses of small-pox virus and discover just how much a patient could stand without taking the disease, the matter would soon be settled. If, after taking a given quantity of standard virus, a number of persons with a common resistance were divided into two parties, the one vaccinated and the other not, and while the former escaped the latter took the disease, the case would be clear. But where can we find such proof? Instead of it, a lot of ill assorted and little understood personal experiences is cited. Every so-called fact must be supplemented by an assumption fatal to even an approach to accuracy. They must assume that the person had never before been vaccinated. They must assume that he had no extra supply of resistance, and would have taken the disease or been worse with it, but for vaccination. They must assume that he imbibed just enough of the virus to produce certain results. In fact, every important point must be assumed to suit the fancy of the reasoner. What wonder that the conclusions are always just such as are wanted? Even if we had results from large bodies of men like soldiers to reason from, the law of general probabilities would avail but little. Our data would be so very insecure, scarcely anything could be made out. Proof, therefore, from human experience, of the truth of either theory is utterly valueless, and it is but a waste of effort to cite it. Our only available proof must be derived from general principles and from experience among animals with analogous diseases. The second theory is opposed to the one given, and declares that vaccination after exposure to small-pox assures to some of those so exposed and vaccinated an attack of the disease which they would have escaped but for the vaccination. It also asserts

that such as have imbibed a minimum amount of the virus before vaccination will suffer more than by being vaccinated at another time. So far as experimental proof on human beings is concerned, this theory is as baseless as the first. So far as any proof is concerned, they are both merely guesses of great or little probability. Experiments upon domestic animals have, in the hands of several investigators, shown the last theory to be true, at least for animals in their diseases. This proof is the same in kind as that upon which we accept the germ theory of disease. We are not allowed to prove either upon men. Even condemned criminals, who, by their death, might do that good to humanity they failed to do when alive, are wasted upon the gallows. If Salmon's theory of immunity is true, this vaccination theory is likewise true. The latter is implied by the former. Even the more general theory accepted by Prof. Curtiss appears to imply it. There can be no curative power in the virus of either kine-pox or small-pox. To believe otherwise is to believe homœopathy. The latter insures protection to the former, not because they antagonize one another, but for a reverse reason. Meeting the one teaches how to resist the other, because of likeness. They vary only in degree of strength, not in quality or mode. Such is positively known to be the case with all artificially prepared viruses of charbon, chicken cholera, hog cholera, and hydrophobia. Kine-pox is but a weak or sickly form of small-pox, as experiment has shown, and as the history of the former, so far as known, seems to confirm. A short period of incubation, in inoculation, appears, from Pasteur, Salmon, Detmar, and Law's experiments, to be due to its local character. A tenth of a milligramme of microbes or less will not take as long to develop and fill a local sore as ten or more milligrammes to infect the whole body. Vaccination produces a local sore in which the microbes are confined. The ptomaines osmose through into the blood, producing the constitutional symptoms and weakening the vital resistance of the cells. With weakened vital resistance, even according to Prof. Curtiss's natural-selection theory, the microbes should have more favorable conditions for rapid multiplication. The period of incubation is only the period of microbic multiplication by fission. How, then, can immediate vaccination mitigate or destroy a threatened attack of small-pox? Wherein does a shorter period of incubation of the former make it give protection to the latter? Its short period can only shorten the period of the latter and hurry up the attack. They are not bane and antidote, as Prof. Curtiss assumes. They are either identical or synergistic poisons, and in no respect comparable to atropine and morphine. They have no antagonisms. At least, none have ever been proved. They aid each other, not because of antagonisms, but because of identities. The cells learn to antagonize both from one, because of their features of identity. When Prof. Curtiss asserts such antagonisms between them, he gives up his natural-selection theory of immunity. He says: "Their antagonisms may depend upon the priority of their invasion of tissues." We have not one particle of proof that they have any antagonism. He merely assumes such. He forgets, too, when trying to give a reason for this imaginary antagonism, that the small-pox virus enters first and the vaccine virus last. The long period overlaps the short one so that their terminations may coincide, and they fortify one another with all their might. If such antagonism was a fact, the period could not possibly have anything to do with it, as is here seen. It must be radically lodged in the viruses. But how will he explain Pasteur's virus, Salmon's virus, and the many other artificially prepared viruses where we positively know there can be no antagonism? If the viruses are radically antagonistic, we can have no immunity from them by any acquired antagonism of the cells. The tobacco habit gives no immunity in the use of arsenic or strychnine. Either Prof. Curtiss must give up his theory of immunity by natural selection or his theory of antagonism between the viruses of kine-pox and small-pox. They are thoroughly incompatible and mutually destructive. His Socratic and Durham arguments are funny but not to the point. Does he not take a little too much license in using atavism (L. *avus*, a grandfather) as synonymous with heredity (L. *heres*, heir)?

REFLECTIONS ON THE ÆTIOLOGY OF THE SIMPLE INFLAMMATORY AFFECTIONS OF THE UPPER AIR-PASSAGES.

By JOHN N. MACKENZIE, M. D.,
BALTIMORE.

(*Concluded from page 290.*)

Besides being predisposed to or conditioned by pathological states of the system as a whole, *catarrhal affections of the nose and larynx are not infrequently the result of reflected irritation from its individual parts*, as, for example, disease, over-stimulation, or suppression of the functions of the cutaneous (eruptions, suppression of perspiration, etc.), gastro-intestinal (habitual constipation, hæmorrhoids, parasites, etc.), or genito-urinary apparatus (Bright's disease, utero-ovarian irritation, etc.), teeth and gums (caries, dentition, etc.), external auditory meatus or middle ear (inflammation, impacted cerumen, parasites, etc.). Let us examine this subject more closely: As the respiratory passages and skin are the sole avenues through which oxygen reaches the blood, and as they are held in close consent by virtue of their community of function, it naturally follows that the abrogated activity of the one will necessitate vicarious action on the part of the other. This supplementary or compensative action, if prolonged, sooner or later transcends its physiological limits and eventuates in morbid conditions of the organs whose machinery has been thereby overtaxed. Familiar examples of this vicarious action are the congestion or inflammatory disorders of the respiratory apparatus which follow sudden or prolonged interference with the cutaneous functions, as in sudden chilling of the external surfaces or in the exanthemata, the sudden suppression of tinea capitis and eczema, and, on the other hand, the night-sweats of consumption. One word in regard to the eruptive fevers. The catarrhal naso-laryngeal disease may usher in the attack (especially is this the case in measles), may occur coincidently with the exanthem, or may follow the disappearance of the latter, or, finally, it may not develop until convalescence has begun. The catarrhal affections complicating the essential fevers may dis-

appear completely during the latter period, but in many cases go on to the chronic state. This is especially true, in my experience, in regard to affections of the naso-pharyngeal space. *There seems to be a special tendency to the localization of the disease in this region, and a large majority of the cases of hyperplastic conditions of the adenoid tissue coming under my observation, are directly traceable to some acute blood-poisoning in infancy, as scarlet fever, measles, diphtheria, etc.* This is doubtless due, to a great extent, to the fact that the naso-pharyngeal affection is overlooked by the attendant; but it may be that the *tendency of the eruptive fevers to leave traces of their existence in the glandular structures of the throat (notably the tonsils) may determine diseased conditions of the adenoid elements of the nasal pharynx.*

It now and then happens that during convalescence from acute infectious processes *irregular fluctuations in the temperature* occur, and even a veritable septicæmic condition, inexplicable by the ordinary examination of the functions of the patient, and which depend upon the persistence of the inflammatory process in the retro-nasal space. I have observed this after scarlet fever and diphtheria, but there is no reason why it should not occur in other and allied affections. This is an important practical point, for by simply cleansing the naso-pharynx of decomposing secretion (I find bichloride of mercury to be the best agent for this purpose) the temperature becomes normal and the disagreeable symptoms dissipated. In this connection let me observe that in all infectious processes characterized by inflammatory manifestations in the pharynx the greatest relief to the child may be secured through careful cleansing of the retro-nasal cavities. In diphtheria, for example, the greatest comfort is experienced by attention to this expedient. To digress still further: In the ordinary acute catarrhal throat affections of infancy much comfort may be given, and the tendency to spasm diminished, by careful attention to the nasal and retro-nasal cavities.* There is an old woman's saying in this part of the country that "if a croupy child sneezes, it is well." But no one ever thinks of the nasal passages in connection with a croupy infant. Yet there is, nevertheless, always more or less inflammation of the post-nasal passages, and the tendency to spasm may be diminished by cleansing the passages of mucus, especially before the child retires for the night.†

There is an affection of the skin which is observed in connection with certain forms of coryza, and notably that of sympathetic origin, or rhinitis sympathetica. I refer to urticaria. It appears and subsides with the coryza, and seemingly depends upon the imperfectly defined neurosis or vaso-motor influence which is probably the connecting link between the two affections (possibly some functional derangement of the cervical sympathetic).

Passing now to the *reciprocal relationship existing between the turbinated nasal tissue and the auditory meatus and middle ear*, it is not an uncommon matter in my experience to find that the subjects of chronic nasal inflammation suffer from a more or less constant dryness and itching of the former or a tendency to the inspissation of cerumen, and this, apart from existing disease of the middle ear. I have on several occasions adverted to the rôle of congestive conditions of the erectile tissue in the production of middle-ear affections (doubtless through reflex influence). It remains for me to call your attention to the fact that unilateral coryza, either acute or chronic, sometimes depends upon irritation of the external auditory passage. Two years ago I was consulted concerning a case in which a severe unilateral discharge, with stoppage of the nostril, hemicrania, and other phenomena referable to the same side, of a number of weeks' duration, was completely dissipated by the removal of a mass of impacted cerumen from the ear of the affected side; and recently a similar case has come under my professional care in which the swelling of the erectile tissue disappeared upon removal of the ceruminous plug. In the presence of these facts the conclusion is irresistible that an intimate physiological relationship exists between the nasal cavities and the auditory meatus.*

It has thus been shown *that nasal and laryngeal inflammation may proceed from the direct or indirect (reflex) irritation of a host of substances derived from the external world, from an almost indefinite number of pathological conditions of the system as a whole, or from irritation or disease of organs distant from the seat of local inflammation.* The predisposing influence of *certain structural peculiarities of the nasal chambers* remains to be briefly adverted to. These consist most commonly in deflection (or malposition) and perforation of the septum, anomalous conditions of the turbinated bones (hypertrophy, abnormal position, atrophy?), and disturbance of the anatomical relations of the nasal fossæ either through accident or disease. There are certain anomalies of structure of the throat and nasal passages that are seen in several members of the same family which are undoubtedly inherited and which are of such a nature as to give rise to no inconvenience, or, on the other hand, encourage the development of inflammatory processes; in the latter cases their influence is purely mechanical. There also exists in some families a *peculiar vulnerability of the mucous membrane* of the nose and throat which is sometimes conspicuous for several generations. Such persons are said to "inherit" catarrhal inflammation or to be the subjects of the "catarrhal diathesis"—a view which has descended to us chiefly from the earlier French physicians. It is un-

* In this disease, too, the paralytic condition of the palatal muscles interferes materially with the voluntary removal of secretion from the retro-nasal space.

† *The influence of the febrile state is also occasionally exerted in the direction of cure of existing catarrhal disease of the nasal passages and throat.* This is especially true of those affections with special tendency to local manifestation in the throat, and the cure may be permanent or temporary. I have also observed complete disappearance of a naso-pharyngeal catarrh during the course of malarial fever. (See paper read before this association at its last session.)

* In certain persons, notably those of highly developed nervous organization, or in the hysterical or hypochondriacal, coryza is occasionally produced by direct impression upon the olfactory nerve, or, from simple association of ideas, by physical or mental over-exertion or emotional excitement. Here there is usually some co-existing local nasal disease or vaso-motor neurosis, and such cases are closely allied to, if not a part and parcel of, the sympathetic form of rhinitis (rhinitis sympathetica). (See abstract, in "Maryland Medical Journal," April 11, 1885, of paper read before the Clinical Society.)

doubtedly true that the children of parents debilitated by disease, excesses, or other causes, or who inherit, for example, the enfeebled constitution of the syphilitic or tubercular, diatheses well known as predisponents to catarrh, may, by virtue of the inheritance of a vice of constitution, yield more easily than those of healthy parentage when exposed to the exciting causes of the disease; but there is no evidence yet adduced that puts beyond a reasonable doubt the descent of a simple inflammation from father to son. These remarks apply with equal force to the so-called catarrhal diathesis, which latter may be looked upon simply as a generic term for a multitude of varied physical peculiarities, each susceptible, upon close analysis, of reference to a definite and tangible cause, or to a combination of injurious influences.

*Catarrhal inflammations of the nose and throat in the newly born, when not due to gonorrhœal inoculation, probably owe their origin to causes operating during intra-uterine life.** It occasionally happens that inflammatory affections of these cavities are *ushered in at some physiological epoch, as puberty, or existing disease dissipated by the nutritive changes which occur at that period.* The subacute laryngitis which occurs at puberty occasionally develops into a chronic inflammation, especially in the subjects of inherited constitutional vices—a fact which it is well to bear in mind both in a prophylactic and prognostic point of view. Inflammatory conditions of the throat and nasal passages occasionally make their appearance at the menstrual period, appearing either coincidently with the uterine hæmorrhage or as the vicarious representative of that process, and I have seen one case where a catarrhal affection of these passages ushered in the menopause and subsided with the termination of menstrual life.†

Ætiology of Pharyngeal and Laryngeal Inflammation.—The chief predisposing causes of acute pharyngo-laryngeal inflammation are the existence of chronic hyperæmia or inflammation of the naso-bronchial tract, abnormal state of vitality from inherited or acquired disease, excesses, subjection to imperfect sanitary conditions, and constant confinement to a vitiated atmosphere. While in the vast majority of instances acute inflammation of the pharynx or larynx occurs as a complication of acute or chronic naso-pharyngeal (or bronchial) catarrh, it may nevertheless be met with as a primary affection. I do not share the extreme view of my friend Dr. Bosworth, who has written so well upon this subject, that acute laryngitis only occurs as a symptom of the chronic form. While I regard the existence of the latter as its most prominent predisposing cause, it is nevertheless true that the disease may appear as a primary affection limited to the laryngeal or pharyngeal structures.

Apart, then, from the inflammation resulting from local pathological processes, mechanical or chemical injury, abuse of the forces of expiration and inspiration, the isolation of this disease in the larynx (acute primary laryngitis) is one of the rarest of pathological events. In adult and infant it most commonly occurs as a complication of acute nasal catarrh or as a part of a general inflammatory condition of the naso-bronchial tract. I am inclined to believe that in the irritable state of the nasal tissues, and notably the cavernous bodies, resides an important ætiological factor in the adductor spasm which characterizes the disease in the infant; the engorgement of the sensitive area when the recumbent posture is assumed, and the gravitation of the nasal secretions into the laryngeal vestibule, being the most important agents in awakening the reflex laryngeal spasm. In the adult, acute catarrh of the larynx is a relatively rare disease, a fact which is remarkable, as Flint* has pointed out, in view of the frequency of acute pharyngeal inflammation, and illustrates the conservatism of the natural law in regard to the extension of inflammation.

The reflex or collateral hyperæmia of the larynx which is present in inflammatory conditions of the nasal and pharyngeal cavities is too often mistaken for acute inflammation, and confusion too often arises, especially when the laryngoscope is not available, from failure to remember the simple truth that hoarseness is not laryngitis.

Chronic catarrhal laryngitis as an isolated affection is rarely met with; it is almost invariably secondary and associated with inflammatory disease of the nose or nasal pharynx, upon which it, in the large majority of cases, depends. Indeed, setting aside the inflammation which results from purely local irritation, it may be laid down as a law that the vast majority of cases of catarrhal, pharyngea , and laryngeal disease originate primarily in inflammation of the nasal cavities. Catarrhal rhinitis leads to inflammation of the pharynx and larynx in one or all of the following ways:

1. By mouth breathing, which I may say acts not only through the irritation of the cold, dry, and impure air inspired through the mouth, as in nasal obstruction, or through the nasal passages, as in atrophy of the turbinated structures, but also by crippling the respiratory and vocal forces, shortening both inspiration and expiration, compelling rapid respiration and resulting vocal and respiratory fatigue.

2. By the constant endeavor to overcome the loss of nasal power and resonance, and the consequent pharyngeal and laryngeal fatigue.

3. In certain cases, by interference with the normal motility of the palatal structures.

4. Through reflected irritation.

5. By the irritation of the atmosphere, vitiated in some instances, not by virtue of its passage through the mouth, *but through the nasal chambers themselves.*

6. By so-called extension of inflammation.

7. Possibly by irritation of secretion.

In studying the pathological conditions of the naso-pharyngeal space and middle ear, we may, for practical purposes, regard these cavities as accessory to the nasal chambers, so intimately interwoven is their pathology with a diseased condition of the nasal fossæ. As stated else-

* See article by the author in "Phila. Medical News," October 4, 1884.

† See on this subject a paper by the author on "Irritation of the Sexual Apparatus as an Ætiological Factor in the Production of Nasal Disease," "Am. Jour. of the Med. Sci.," April, 1884. (Prize essay, Maryland Academy of Medicine.)

* "Principles and Practice of Medicine," Philadelphia, 1873, p. 263.

where,* in a large proportion of cases of so-called middle-ear inflammation the latter "is merely a symptom of nasal catarrh, and gradually disappears without special treatment upon the removal of its primary cause." When the middle-ear affection is thus symptomatic, it is generally traceable to mechanical causes or to reflected irritation.

Inflammatory conditions of the naso-pharyngeal cavities are encouraged and existing disease of these structures perpetuated by paralytic conditions or defective muscular power (*e. g.*, from existing chronic inflammation, enlarged tonsils, defective innervation, etc.), or from abnormal approximations of their walls (from adhesions). As a consequence of the impaired functional exercise of the structures thereby induced, congestive and catarrhal processes develop in the laryngeal cavity, which result from the constant endeavor by abuse of the expiratory forces to overcome the loss of power in the pharynx. Both loss of power and adhesions, which latter act by crippling the muscular action and disturbing normal anatomical relations, tend also to prevent voluntary cleansing of the retro-nasal space, and thus form another factor in the persistence of the chronic inflammatory process.

Finally, I wish to observe that in a large proportion of cases it will be found, upon careful examination, that the existence of the nasal, pharyngeal, or laryngeal affection is not due to any one particular cause, but to a combination of injurious influences—the resultant of a number of internal and external forces.

DISCUSSION.

Dr. J. Solis-Cohen: We gather from the essay the fact, not fully appreciated, that many catarrhal affections are due to climatic and constitutional conditions, and that this indicates a feature in the treatment which is too frequently ignored. Climatic conditions can not be altered, but the susceptible individual can be protected by suitable hygienic and dietetic supervision. The function of digestion and the secretions of the intestines and kidneys must be attended to, the skin be kept in good order, and thus revulsive measures be adopted to withdraw morbid influences from the upper respiratory tract. Too great an attention to local measures without due consideration to constitutional conditions does not fulfill the requirements.

Acute laryngitis, in my experience, occurs frequently in individuals who are not at all suffering with chronic catarrhal disease, and subsides without such a sequel. On the other hand, subacute inflammations occur most frequently, in my experience, in the subjects of chronic disease as exacerbations due to some special exposure.

The spasmodic affections of infants alluded to in the paper as occurring in the subjects of chronic naso-pharyngeal catarrh are similar in origin to the night-cough of infants, being due to trickling of mucus into the larynx. The indication, then, is to place the sleeping infant in a position which will not favor the entrance of secretions into the larynx, and, of course, to treat the catarrhal disease.

Dr. H. A. Jonnson: Naso-pharyngeal catarrh is common around our lakes, and is frequently benefited by a change of climate to the Western plains, up to an altitude of five thousand or six thousand feet. In the high mountains the disease is aggravated. In the treatment of this trouble tonics are usually of great value, and we are tempted to overlook the general conditions in the presence of the local lesion.

Dr. Glasgow: I can not strictly agree with the speaker in the relative importance of atmospheric change and dust in producing catarrhal diseases. Although rapid changes of atmosphere lead to catarrhal disease, I fully believe that dust or atmospheric dirt holds the most important place in their production. We find evidence of this in the fact that people living in atmospheres laden with dust are particularly liable to catarrh. For instance, persons living in my own city—St. Louis—are especially prone to these troubles. Removal into the purer air of the country invariably lessens the difficulty, and it is again aggravated by a return to the city. I believe this is the general experience in all dust-laden cities.

We also see evidence of the importance of dust in the experience of people in the alkali regions of the West, and this without special regard to the elevation. Catarrhal disease is the rule in this section. If previously existing, it is aggravated; if the naso-pharyngeal membrane was previously healthy, a commencing catarrhal inflammation is soon noticed.

Dr. Ingals: I agree with the other speakers as to the necessity for attending to the constitutional condition of the patient, but we must not lose sight of the constitutional manifestations due to the nasal disease. In many cases great impairment of the general health, which may have existed for years, is dependent upon nasal obstruction, and remarkable improvement will immediately succeed removal of the nasal affection.

Dr. Allen: The study of catarrh should be considered in great part as a phase of morphology. The careful study of each separate case is important. It is always well to treat individuals rather than diseases. The identification of the local structural cause of the catarrh is, in the majority of instances, alone possible after unremitting scrutiny.

Dr. Mackenzie: I fully agree with Dr. Allen as to the importance of local treatment; at the same time it should not be forgotten that in many instances the balance between cure and failure may be easily turned by neglect of constitutional measures. Cases occur in which local measures must be carried out before relief can be obtained, while, on the other hand, constitutional measures must be employed in order to secure the maximum of good in treatment. Dr. Glasgow misunderstands the position which I took in regard to dust as a factor in the production of catarrh. My proposition is simply this: That the localization of catarrhal processes in the retro-nasal space or the geographical limits of the disease have little to do with the presence of dust in the atmosphere. While it is true that dust accidentally lodged in the naso-pharynx may give rise to inflammation, I believe that few cases originate in this way, for reasons which I have explained in my paper.

* "Trans. of the Med.-Chir. Fac. of Maryland," 1883.

ON THE PROLONGATION OF THE ANÆSTHETIC EFFECTS OF THE HYDROCHLORATE OF COCAINE WHEN SUBCUTANEOUSLY INJECTED.

AN EXPERIMENTAL STUDY.

By J. LEONARD CORNING, M. D.

The uses to which the various preparations of cocaine have been put since Koller first discovered the local anæsthetic properties of the alkaloid are legion. To recapitulate these manifold applications of the drug would be manifestly a work of supererogation. Enough that they are such as would naturally suggest themselves to an imagination of

average capacity familiar with the fundamental experiment of the talented young physician of Vienna. So far as I am aware, there has been no departure in principle involved in the various uses to which this truly remarkable substance has been put. And yet I believe that improvements in this direction are not only desirable, but readily attainable. For instance, it would be a matter of practical moment if, by some device, we could prolong the local anæsthetic effects of the alkaloid when used hypodermically for surgical and other purposes. How can this object be attained? To answer this question we must for a moment consider the manner in which cocaine, when subcutaneously injected, is capable of acting upon the filaments of the sensory nerves.

In the first place, it is reasonable to infer that, after the introduction of cocaine beneath the skin, a certain period of time elapses during which the anæsthetic agent is diffused throughout the surrounding tissue. That the blood-stream in the capillaries renders efficient service in this process of distribution may be accepted as proved, since, when the amount of cocaine injected is considerable, characteristic constitutional symptoms are developed.

Secondly, when the terminal filaments of the sensory nerves which ramify in the saturated tissue are exposed for a sufficient length of time to the influence of the cocaine, changes are set up in the nerve-substance of sufficient magnitude to cause interference with conduction, and we have all the symptoms of local anæsthesia. The more extended and important the nerve-stems affected, the wider will be, of necessity, the expanse of the anæsthetic zone.

But, if this is the true logic of local anæsthesia, if we are to look upon the capillary blood-stream as the means by which the anæsthetic substance is distributed, how does it happen that the effects of cocaine, when subcutaneously injected, are evanescent, except where large doses, frequently repeated, are employed? To this question I would reply that we are to look upon the capillary circulation in a two-fold manner: first as a distributor, it is true, but afterward as a *diluter* and *remover* of the anæsthetic substance. The rapid decline in the local anæsthetic effects of the hydrochlorate of cocaine, then, is, according to this theory, owing to the subsequent diluting or *removing* attributes of the blood-stream. The constitutional symptoms developed when cocaine has been extensively injected for local anæsthetic purposes constitute evidence in favor of this view.

Is it possible to adduce inductive evidence in favor of this *a priori* reasoning? I believe so; but not only do I believe that such evidence may be had for the seeking, but I feel assured that the data thus gained may be turned to practical account in the exigencies arising in practice.

Guided by a train of reflections in keeping with those detailed above, I have had recourse to a series of experiments which I will first summarize as briefly as possible, and then offer a word or two of comment, trusting that by so doing I may not incur the criticism of being too prolix.

Experiment I.—This and the following were performed upon Mr. A. M. Guerin, who kindly placed himself at my disposal.

I injected five minims of a four-per-cent. solution of the hydrochlorate of cocaine in the neighborhood of the external cutaneous nerve of the forearm, a short distance below and to the right of the biceps tendon. In a short time the effects of the agent became apparent. The skin for some distance around, and particularly below the puncture, was anæsthetic. After the lapse of a few minutes, judging that the anæsthesia had reached its maximum extent and intensity, I applied an Esmarch's tourniquet around the arm a short distance above the elbow. On examining the radial artery, I found that the pulse was entirely obliterated.

From time to time I examined the condition of sensibility in the forearm, and particularly about the region of the puncture. After the lapse of fifteen minutes the anæsthesia had extended, contrary to my expectations, down the right anterior aspect of the forearm several inches, and was of sufficient intensity to admit of pinching and pricking *ad libitum*. One of the amusements of the gentleman experimented upon, at this and subsequent stages of the investigation, was to thrust needles into the anæsthetic portions of the skin, which was all the more remarkable in him inasmuch as he is a person of rather susceptible and nervous temperament. When I attempted to do the like on other portions of the integument, energetic reflex contractions were evoked, and lively sensations of pain. After the tourniquet had remained in place for over half an hour the anæsthesia was decidedly more profound than during the first twelve or fifteen minutes of the experiment, this profundity of insensibility being without doubt attributable to the long saturation of the nervous filaments in the anæsthetic. Such saturation was evidently only rendered possible by the use of the tourniquet, which, arresting the circulation, prevented the elimination and dissipation of the anæsthetic by the blood. After the lapse of nearly forty minutes I removed the tourniquet, not, however, because the anæsthesia showed the slightest diminution, for the latter, on investigation, proved to be as profound as ever, but on account of the unnecessary tightness of the tourniquet, which caused the gentleman experimented upon considerable inconvenience. In a few minutes after the access of the blood to the forearm the anæsthesia began to decline, and was soon entirely lost.

Experiment II.—I exsanguinated the left forearm by means of the elastic bandage of Esmarch. I then applied the tourniquet above the condyles as before. Ten minims of a four-per-cent. solution of cocaine were then injected at short intervals, the injections forming a line which extended from the radial to the ulnar side of the upper portion of the arm. After the lapse of ten minutes I noticed that the inflated, blister-like elevations which marked the points of injection were quite prominent, and showed no tendency to diminish. I also ascertained, by examinations with a needle from time to time, that the zone of anæsthesia was exceedingly circumscribed, being mostly restricted to the immediate neighborhood of the elevations at the points of injection. Five minutes later, as there was no appreciable diminution in the size of the elevations, and as there was no sign pointing to the slightest diffusion of the anæsthetic, I massaged the parts immediately above the line of injections, and, having thus succeeded in causing some diffusion of the cocaine, I was not surprised to find

that shortly afterward the zone of anæsthesia had increased in width and extended in a band about an inch and a half broad across the entire breadth of the forearm. Into this region needles could be thrust without causing the slightest pain or reflex action of any kind. The extension of the anæsthesia along the districts supplied by the cutaneous nerves of the forearm was, however, not sufficiently pronounced to merit notice. This was perhaps owing to the extremely superficial nature of the injections.

The tourniquet remained in place for over forty minutes, during which time the zone above described was quite insensible to the prick of a sharp needle.

Experiment III.—I first injected five minims in the neighborhood of the external cutaneous nerve of the forearm, as in the first experiment. Five or six minutes afterward, however, instead of applying the tourniquet immediately, as in the first experiment, I first exsanguinated the forearm by means of Esmarch's bandage, taking care *not to compress the tissue immediately above the point of injection.* I then applied the tourniquet. The anæsthetic zone in this case was proportionately much larger than in the previous experiment, following the general direction of the external cutaneous nerve, so far as I was able to judge, in a downward direction, for some three inches or more. The maximum breadth of the anæsthetic zone was perhaps a little less than an inch.

The tourniquet was allowed to remain in place for about an hour, during which time I was unable to note the slightest diminution in the anæsthesia.

Summary.—Experiment I goes to show that simple arrest of the circulation in the part, shortly after injection of the anæsthetic, is sufficient to prolong and intensify the anæsthesia.

Experiment II shows that, if the injection is made *after* exsanguination and compression, there is little diffusion of the anæsthetic, and, consequently, a commensurate diminution in the number of nerve-filaments exposed to the influence of the solution. It is true, however, as we have seen, that by the aid of massage some purely mechanical diffusion may be produced.

Experiment III seems to prove that, if the injection is made a few moments before exsanguination and the application of the tourniquet, a sufficient amount of saturation of the tissue is obtained to expose a large number of nerve-filaments to the influence of the anæsthetic; and yet, unless we wait too long, there is no danger of diluting or dissipating the solution (by the access of too much blood) to such a degree as to weaken or nullify the anæsthetic influence.

The essential advantages of this method of local anæsthetization consist in our ability to expose the nerve-filaments for any length of time to the influence of the anæsthetic. We are thus practically able to prolong the anæsthesia to an indefinite degree. We are furthermore enabled to do this by the use of comparatively small quantities of cocaine, repeated injections being unnecessary to prolong the anæsthesia, as is necessary when the circulation is not arrested. There is, consequently, no danger of constitutional disturbances from overdosing.

It is clear that this method may be applied in the surgery of all the extremities; and in the treatment of neuralgias and other disorders of the peripheral nervous system it is, I believe, destined to render good service.

26 West Forty-seventh Street, *September 14, 1885.*

CONGENITAL ANKYLOSIS OF THE RADIO-ULNAR ARTICULATIONS.

By B. FARQUHAR CURTIS, M. D.

Omitting the cases of congenital dislocation of the radius and those of entire or partial absence of the bones of the forearm, we find congenital radio-ulnar ankylosis to be a not very common deformity, even if we include those cases in which there is also an ankylosis of the elbow or wrist joint proper. For this reason I think the following case worthy to be placed on record. For the opportunity to report it I am indebted to Dr. William T. Bull, of this city.

Alexander McG., three years old, is the fourth child of healthy parents. The other children are all well formed and healthy, and so is this boy with the exception of a malformation of the forearms. He has had one severe accident, causing the fracture of his right clavicle, six months ago, but the recovery has been perfect. Several months ago his parents noticed for the first time that he did not have the full use of his arms.

Examination.—The arms, forearms, and hands of both sides are of normal strength and of normal outward appearance, the forearms being in a position of semi-pronation. The hands and wrists are normal in form and motion. In both elbow-joints flexion and extension are complete, and the bony points are in their normal relations. But both forearms are firmly fixed in a position midway between pronation and supination. Examination under ether gave in addition only the negative information that the ankylosis remained as complete as before, and that no malformation could be detected in the shape of the bones. It was impossible to discover any abnormal deposit of bone in the interosseous ligament or elsewhere, nor could it be decided whether the obstruction to motion was in the superior or in the inferior articulation, or in both.

The bilateral occurrence of the deformity, and the absence of a history and of any marks of injury or of disease, point to a congenital malformation. The rigidity of the ankylosis indicates a synostosis of the radius and ulna, and, although it is impossible to say at what point this synostosis has taken place, cases already on record make it probable that it is situated at the superior end of the bones.

As to treatment, it does not seem wise to attempt any. The forearms are ankylosed in the most favorable position, so that the only object of treatment would be to gain the rotary motion of the forearm. Robert* maintains that in cases of congenital synostosis the muscles which produce the motions rendered impossible by that synostosis are undeveloped, and consequently an operation is never justifiable; but dissections in such cases have indicated that the failure of development in the muscles is not always so complete as he appears to believe. Still, it is very doubtful whether any improvement could be made or not, and at this early age an operation would be not unlikely to cause failure of growth in the bones by interference with the

* "Des vices congénitaux de conformation des articulations." Thèse de concours, Paris, 1851, p. 219.

epiphyses. Probably time will develop a compensatory action of the other joints, particularly of the shoulder, which will make operative measures unnecessary.

A careful search through the available literature shows such a rarity of similar cases that a short account of them may be of interest.

A. Mitscherlich (Langenbeck's "Arch. f. klin. Chir.," Bd. vi, p. 218) reports the following unique case:

A poorly developed girl, six years old, of healthy family, had been relieved of double congenital club-foot by operation. Both elbows were found partially ankylosed, flexion of the right being possible only to 70°, and of the left to 100°. Extension was normal. Both forearms were in almost complete supination, only a slight degree of pronation being possible. The left elbow was resected; the child died of pyæmia. Anatomical examination showed that in both joints the head of the radius was fixed in front of the external half of the coronoid process of the ulna, where it had been felt during life as a protuberance in the bend of the elbow.* The lesser sigmoid cavity of the ulna was absent. The trochlear surface of the humerus was encroached upon by a circular articular facet for the head of the radius. A projecting crest divided the two articular surfaces, and it was the contact of the coronoid process of the ulna with this crest which limited flexion of the elbow, the head of the radius not coming against the shaft of the humerus. The head of the radius was fixed in its abnormal position by a strong ligament, which, arising from the external condyle of the humerus and the coronoid process of the ulna, surrounded the neck of the radius like the normal annular ligament. The anterior ligament of the elbow-joint was also attached to the head of the radius.

M. Josso ("Bull. de la soc. anat. de Nantes," 12 Nov., 1879) reports on the deformed forearm of a dissecting-room subject whose antecedents were unknown. The superior ends of the radius and ulna were fused together into a single bony mass, the remainder of the bones being in extreme pronation, so that the posterior surface of the radius presented anteriorly. The ulno-humeral articulation was normal, but the external condyle of the humerus was absent, as was also the head of the radius. On the anterior surface of the common bony mass was a protuberance which represented the bicipital tuberosity.

Dubois ("Bull. de la soc. anat. de Paris," 1852, xxvii, p. 67) reports a specimen of an old (congenital?) dislocation of the radius and ulna, the radius being elongated superiorly and fused with the ulna from the superior limi of the interosseous space upward. The bones were in extreme pronation.

Dr. v. Becker (Schmidt's "Jahrb.," Bd. 179, p. 13) showed to the Vienna section of the "Ver. der Aertzte Nied. Oest." a boy of a family among the members of which many malformations were present. He had both upper extremities deformed, the left forearm and elbow being absent, while on the right side the humerus was too short, and the radius and ulna were fused into one bone one third of the normal length.

T. Jones ("Brit. Med. Jour.," 1878, i, p. 709), in describing a case of multiple exostoses in a boy of nine years, mentions that the patient also had a deformity of the left forearm, the lower part of the ulna being quite rudimentary and united to the radius, movements of rotation being impossible, but he does not describe the position of the forearm.

Girandeau ("Bull. de la soc. anat. de Paris," 1881, lvi, p. 271) reports a malformation of the left forearm in a woman twenty-six years old, the arm being small, the elbow ankylosed, the forearm in extreme pronation, the hand deformed, the carpal bones fused together and to the radius and ulna, and the metacarpal and phalangeal bones absent.

Pye-Smith ("Med. Press and Circ.," Lond., 1883, Dec., p. 504) describes a family having various deformities. Among others, we find that in the father the right hand can not be fully supinated; one son has the same defect in both forearms; in a daughter neither elbow can be fully extended; and in two other children there exists a congenital dislocation of the radius in one elbow.

J. H. Pooley ("Illustr. Med. and Surg.," July, 1883, p. 163) describes a girl, ten years old, with absence of the left radius, who had on the right side a very short curved (concave radially) forearm in which all the motions are "circumscribed and imperfect, from what cause, however, does not clearly appear." The right thumb was also absent.

Lenoir presented to the Soc. anat. de Paris ("Bull.," 1827, ii, p. 95) the left forearm of a young girl who had suffered from rhachitis, in which the bones were crossed as in pronation and fused together for a considerable space at their upper extremities.

Congenital ankylosis of any joint, excepting those deformities which occur with club-foot and club-hand and in monstrous fœtuses, is so rare a condition that a few more references will exhaust the list of recorded cases which I have been able to find.

In the fœtus at full term ankylosis has been observed by Busch (all the joints in one case,* those of the lower extremities in another†), Jänecke (one case,‡ both elbows and right shoulder), Hohl (several cases #), and Bécourt (one case, ‖ one knee) △.

In the adult and child we find only the following additional cases:

Gurlt gives a case of congenital synostosis of the second and third cervical vertebræ, and several cases of synostosis of the pelvic bones in deformed pelves.

Bordet ("Bull. de la soc. anat. de Paris," 1836, xi, p. 82) reports a case of fusion of the radius and humerus, with partial absence of the ulna, in a man of twenty-seven years.

In the same society's records ("Bull.," 1854, xxix, p. 72) is described a specimen of bones showing fusion of the humerus and ulna, the radius preserving "free movement"; the history of the subject from whom it was taken is unknown.

Finally, Velpeau saw a case‡ in which the medullary structure of the humerus was continuous with that of the radius and ulna, with no trace of a joint.

Volkmann‡ teaches that, while congenital synostosis of the bones of the hand and foot may occur in well-developed

* This is the early fœtal position of the head of the radius, from which it passes outward and backward with the growth of the parts to the position in the fully developed joint. See Henke and Reyher, "Ueber die Entwickelung der Extremitäten des Menschen," review in Schmidt's "Jahrb.," 1875, Bd. 165, p. 225.

* "Neue Zeitschr. f. Geburtskunde," v, p. 190.

† *Ibid.*, xxviii, p. 233.

‡ See Joulin, "Des cas de dystocie appartenant au fœtus," Paris, 1863, pp. 107 *seqq.*

"Die Geburten," etc., pp. 1–230. Halle, 1850. Quoted by Joulin.

‖ "Gaz. méd. de Strasbourg," 1846, p. 25. Quoted by Joulin.

△ Joulin refers also to Braun ("Neue Zeitschr. f. Geburtsk.," xviii, p. 302) and Bird ("Boston Journal," xi, No. 16), but there was no ankylosis in their cases.

◊ "Beiträge zur vergleich. path. Anat. der Gelenkkrankh.," Berlin, 1853, pp. 159, 214.

‡ V. Pitha and Billroth, "Handb. der Chirurgie," Bd. II, ii, 1, p. 586.

‡ *Ibid.*, p. 592.

subjects, when it is in the larger joints the whole extremity is rudimentary. The truth of this statement is shown by the fact that I have been able to find only the few exceptions mentioned above. I would also draw attention to the fact that the great majority of these cases concern the upper extremity, and to the frequency of pronation of the forearm in them.

A CASE OF DISEASE OF THE SUPRA-RENAL CAPSULES.*

By EDWIN W. MOORE, M. D.,
FRANKLIN, PA.

Dr. Thomas Addison in 1855, by autopsical and general evidences and by crucial analysis, associated a geometrically increasing anæmia, with or without pigmentary deposit, with a diseased condition of the supra-renal capsules. He furnished the profession with the pathological conditions which lead up to and make the pernicious anæmia a possibility; he also associated the general history that this condition is found in subjects beyond the middle period of life and with a predisposition to the deposit of fat. As far as my reading goes, there is but one exceptional authority—*vide* article by Samuel Wilkes, page 562, Reynolds's "System of Medicine," published in 1880. This gentleman takes the position that the disease is of more frequent occurrence before the middle period of life.

My case falls under this exceptional authority, for the subject was of slender build, twenty-two years of age, six feet high, and weighed about one hundred and forty-five pounds. He was of good family history, free from inherited disease, and of good habits of life.

For a period of two years, and possibly more, he suffered a physical depression unaccountable to himself, his family, or his physician; but the inroads were gradual, and sapped his energy until he was compelled to take his bed.

My attention was first called to C. G. C. in October, 1884. At this time I found my patient yellow, with a disposition to bronzing, with a pearly sclerotic, with a weak, compressible pulse, with nausea and vomiting, with furred tongue and red margins, with pain referable to the stomach, with a history of constipation, and, after a meal of indigestible matter, with a degree of depression incompatible with general evidences. At this time I ordered castor-oil and turpentine to unload the primæ viæ, gave a hypodermic injection of morphine and atropine to control the inordinate nervousness, and suggested hot fomentations, sinapisms, etc.

This appeared sufficient, and with a tonic regimen he rallied, got up, and went to his usual work. I suggested a further general treatment, but it was not followed out.

My attention was again called to him May 1, 1885. At this time the general evidences were increased pigmentary deposit; skin of face and hands as dark as any mulatto; nausea; vomiting; furred tongue; constipation; pearly white sclerotic; great feebleness and loss of vitality; restlessness; weak and easily compressible pulse, rate 85; pain over region of capsules; no chill; no fever. I directed small doses of mild chloride of mercury, guarded by morphine, to be followed by a saline; adjuvants, foot-bath, sinapisms, perfect rest, and artificial heat to extremities.

May 2d.—Bowels and kidneys acted, but did not see excreta, because patient went to bath-room; pulse 86, temperature 97°; vomiting less, and yet persistent nausea; restlessness decreased. Directed quinine, bismuth, and morphine.

3d.—Quite comfortable; less nausea; tongue furred in center and red at margins; pulse 90, feeble. Directed small doses of calomel, pepsin, and morphine. Have directed foods and alcoholic stimulants from the beginning, but have found a perfect abhorrence for anything of the kind.

4th.—Tongue cleaner, moist; pulse feeble, better sustained, rate 90. Treatment continued.

5th.—Tongue fairly clean, moist; pulse feeble, rate 84; bowel action *nil;* nausea less; urine fair in quantity and quality. Directed carbonate of ammonium and quinine, with continued frictions, baths, etc.

6th.—Pulse better sustained, rate 86; retains nourishment fairly well; urinary excretion one pint and a half in the past twenty-four hours; specific gravity 1·022, acid in reaction, dark red in color; no sediment. Continued treatment with addition of Apollinaris water.

7th.—Pulse more feeble, rate 84; very sick at stomach during night; vomited largely; excreta green, flaky, with mucus. Directed rectal injection to unload lower bowel; unsatisfactory; little fæcal discharge. Added tincture of iron to treatment. His grand-uncle, Dr. Byles, in consultation at 4 P. M. Result, gave saline cathartic. At 9 P. M. had a thorough dejection; discharge dark brown, with some scybala.

8th.—Pulse 86, feeble; skin moist; kidneys acted freely; no bowel action; tongue moist and clean; nauseated during the night, and very restless. Dr. Byles, who was in the house, gave Dover's power to allay the restlessness and with a hope that the ipecac might allay the nausea. Passed a very restless night.

9th.—More comfortable than in past twenty-four hours; bowels moved three times; stools bilious; rest fairly quiet. Treatment continued.

10th.—Pulse more feeble, rate 96. Directed morphine.

11th.—Condition unchanged.

12th.—Resting fairly; thinks he has had a good day. Treatment continued.

13th.—Quiet; slept peacefully six hours; less nausea; urine normal; pulse 86, temperature 98°.

14th.—Nauseated all day; pulse feeble, rate 90; urine normal in quantity, amber in color; singultus. Added asafœtida to treatment.

15th.—Comfortable; facies indicates extreme exhaustion; circulation very feeble, rate 90; bowels moved three times; excreta green, flakish, offensive; urine normal; tongue moist. Directed quinine, iron, and nux vomica, with friction, and sponging with whisky, etc.

16th.—Passed restless night; less nausea; skin dry; kidney action fair; urine amber; pulse feeble, rate 90, difficult to get at the wrist; temperature normal; foods and stimulants abhorred. Dr. Byles in consultation. On account of extreme restlessness, gave hydrate of chloral.

17th.—Pulse very feeble, and at times imperceptible; tongue furred in body and red at margin; no bowel action; skin dry and harsh; urine abundant; fed by force. Directed digitalis and arsenic, and suggested rectal injections of brandy, milk, and beef-tea, but the patient took the same by mouth in preference. Were retained.

18th.—No bowel action; pulse 90, with better force but easily compressible; very restless. Mother gave hydrate of

* Read before the Venango County, Pa., Medical Society, July 21, 1885.

chloral to allay restlessness. Patient pleasantly affected, but, when asleep, the eyes were turned up, the lower jaw dropped; is nervous and jerking; haggard. Takes food and stimulants by mouth, but with great reluctance.

19th.—Stupid; when aroused, rational; urine scanty; no bowel action; yawning, sighing, singultus; pulse feeble; nausea; restless. Directed carbonate of ammonium, niter, and carbolic acid to allay nausea.

20th.—8.30 A. M.—Passed restless night; pulse rate 90; respirations hurried, lips red as usual, extremities colder, skin dry and harsh; vomited largely; excreta bilious in character. 8 P. M.—Called hurriedly; found patient pulseless, haggard, restless, etc. Gave carbonate of ammonium, brandy, and beef-tea *per rectum*. Continued to sink; heart failure great; anxiety and restlessness indescribable; remained conscious until 12.30 A. M.

21st.—Gradually became quiet, comatose, and died at 1.20, May 21, 1885.

A *résumé* of this history is epitomized thus: Discoloration, exhaustion, pain referable to the capsular region, pearly sclerotic, nausea and vomiting, restlessness and anxiety.

The discoloration through its gradations was sallow, bronzed, smoky black, the last being the tint when last under observation. The discoloration was general, but was most marked on the parts exposed to the air. The exhaustion was very great, the nausea and vomiting were persistent, and the restlessness and anxiety in harmony with the heart failure.

The important feature which attracts attention is the progressive anæmia. And it may be said that this is largely unaccounted for.

The conditions from which it must be differentiated are pityriasis nigra, silver poisoning, Bright's disease, septic poisons in general, and icterus.

The diagnostic points of the four first are known and readily ascertained, but from icterus there is more difficulty to disassociate. I will tabulate the stronger evidences:

Icterus.	Addison's Disease.
1. Slow pulse.	1. Normal to excited pulse.
2. Color sallow.	2. Color anæmic primarily, secondarily sallow, bronzed, smoky black.
3. Sclerotic yellow.	3. Sclerotic pearly.
4. Nausea and vomiting.	4. Persistent nausea and vomiting.
5. Urine impregnated.	5. Urine normal.
6. Bowel action torpid.	6. Bowel action torpid to natural.
7. Appetite fair to good.	7. Appetite seriously impaired.
8. Debility commensurate with poisoning.	8. Debility greater than evidences would indicate.
9. Nervous depression approaching hypochondria.	9. Depression progressive, with a clear mind.

In the general management of my case I found a perfect abhorrence for alcoholic stimulants, for all stimulants, for all foods save such as fountain water and ices.

I made no autopsy, therefore I can not describe the supra-renal capsules, can not add anything to the sum of pathological investigations.

ON A RARE CASE OF CAFFEINE POISONING; RECOVERY.

By EDWARD N. LIELL, M.D.

Cases of poisoning by caffeine are of such rare occurrence that a record of the following case, which came under my observation but a short time ago, I deem may be of interest:

On the morning of July 16th I was hastily summoned to see Miss W., thirty years of age. Found her greatly prostrated and completely exhausted, and in a state of semi-unconsciousness, with cold extremities, clammy perspiration, and anæsthesia and slight paresis of the muscles of the hands and feet. Temperature normal; pulse 55, and somewhat irregular; respirations diminished in number to 16 a minute, slightly irregular. Pupils but slightly contracted, responding readily to light. One thing remarkable was a persistent contraction of the flexor muscles of the fingers and toes, with paresis of the extensors, especially of thumbs and great toes. There was a certain spasmodic action of the muscles of the calves of both legs, which, when conscious, she termed cramp-like pains. She vomited occasionally.

I immediately applied warmth, with revulsive measures to the extremities, and gave atropin. sulph., $\frac{1}{50}$ gr. (tablet triturates), hypodermically; also whisky, ʒj every five minutes, administered cautiously in order to avoid exciting the vomiting. These measures of treatment were continued, repeating the atropin. sulph., $\frac{1}{50}$ gr., hypodermically, as before, in twenty minutes.

A change for the better was apparent almost immediately after the second injection of atropine. She gradually regained consciousness, when she informed me as to the cause of her illness, saying she had taken some eighteen grains of citrate of caffeine inside of one hour and a half during the night. Her mind was still somewhat confused, and she was exceedingly restless and anxious.

She complained of severe paroxysmal pains in the abdomen, simulating very much those of intestinal colic, also of a dimness of vision, with a blur before the eyes. At one time, becoming quite delirious, partly due to the pains in abdomen, she got out of bed and endeavored to walk across the room, but, being unable to stand on her feet, reeled like one intoxicated, complaining of a sudden vertigo with a feeling of numbness in the soles of her feet, and would have fallen but for an attendant close at hand. A certain tremulousness of the fingers of both hands, with tremors of the tongue, was present.

Thirst was excessive, with dryness of the mouth and tongue, relieved by small pieces of ice. There was no headache whatever, except a fullness in the supra-orbital region. Speech was somewhat indistinct, her utterance being at times thick, and there was also some difficulty in deglutition. The heart's action was diminished in rapidity, and its rhythm was irregular. The bowels were constipated. The kidneys were excited to increased action; urination was frequent.

To relieve the intestinal pains, warm turpentine fomentations were applied over the hypogastrium, the nausea and vomiting being relieved by the following: ℞ Sodii bromid., ʒss.; bismuth. subnit., gr. x; acid. hydrocyanic. dil., gtt. j. M. This dose was repeated in fifteen minutes.

About three quarters of an hour after my arrival she complained rather suddenly of a severe cramp in the muscles of the calves of both legs, extending upward, gradually implicating the muscles of the abdomen, chest, and neck, when a sudden and severe convulsive seizure followed, of a marked tetanic character, the abdominal and chest muscles becoming retracted and

rigid; the eyes were suffused, and the facial expression was that of great pain, the respirations being entirely checked and cyanosis very prominent, with the jaws quite rigid, and the fingers firmly contracted. This was followed by a second convulsive seizure of the same character some three minutes later.

℞ Chloral. hydrat., gr. xv, potass. bromid., ʒij, was then given at one dose, and repeated within half an hour. This had the effect of checking the convulsions and rendering the patient quiet. When she recovered sufficiently to collect her thoughts the following *history* was obtained:

After a somewhat immoderate use of stimulants the previous day, and having been up the greater part of the night before she complained of a severe headache and of being very nervous, when a friend advised her to take a two-grain powder of citrate of caffeine; misunderstanding the quantity directed, she had prepared and took a three-grain powder instead. Not getting instant relief, she repeated the dose, and had taken six powders (eighteen grains in all) within one hour and a half, when she began to feel the effects of the combined doses. In the mean time she had sent out for some quarter-grain morphine pills, but had only taken one, being prevented from taking more by a high state of mental excitement. (It may be mentioned here that, according to her statement, she had never been subject to hysteria, but was naturally of a very nervous and excitable temperament.)

During the night she was exceedingly restless and wakeful, tossing about the bed one moment and the next moment walking the floor, the insomnia being persistent, which, combined with her excited condition, bordered on delirium. Respiration was at the time disturbed, her breathing becoming hurried and irregular, with excited and irregular heart action. Reflex excitability was quite marked for a time, when general muscular weakness supervened. In this condition she passed the night, conscious of what was going on and recognizing things about her.

Toward morning the delirium gave way to a condition of stupor or semi-unconsciousness, in which state I found her. After the second dose of chloral and potassium bromide was given her she fell into a quiet slumber, lasting about an hour, when she awoke without manifesting any untoward symptoms or signs of her late trouble, except that a certain stiffness of the muscles, especially of the lower extremities, remained.

From this time on, with rest and quiet in bed, under the treatment described and light stimulating diet, she improved rapidly, the vomiting having entirely ceased, and the ill effects of the caffeine disappeared. The anæsthesia, with paresis of the muscles of the hands and feet, began to gradually diminish, disappearing entirely on the fifth day.

Sodium bromide, in thirty-grain doses every four hours, was kept up for some two days thereafter.

In conclusion, a brief *résumé* of the peculiar effects of caffeine upon the system may not be amiss. They may be divided into *two stages*—that of *excitement or delirium*, and that of *depression or stupor* with unconsciousness.

During the first (*stage of excitement*) the heart action is accelerated; the pulse is increased in frequency; the respirations are more or less rapid and irregular; there are restlessness, persistent insomnia, with confusion of mind, and increased activity of the kidneys. Delirium may or may not be present, the person retaining full consciousness of what is going on and recognizing everything about him. Colicky pains with occasional vomiting are also present. Following on this comes the second (*stage of depression*): the heart action and pulse are diminished in frequency; the respirations are below normal; the pupils are slightly contracted; there are persistent contractions of the flexor muscles of the fingers and toes, with anæsthesia of the same, and paresis of the extensors; there are cramp-like pains, with weakness and stiffness of the muscles of the calves of the legs; there is no cephalalgia, but, later on, stupor or unconsciousness. In this special case almost twelve hours had elapsed from the time of her taking the powders until I was summoned.

As to the controversy in various medical works whether *true convulsions* are ever produced by caffeine in *human beings*, it is a settled fact in my mind that they do occur, as proved in this case.

268 West Thirty-eighth Street.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Vol. VI. Heastie–Insfeldt. Washington: Government Printing-Office, 1885. Pp. 11–1051.

A Treatise on Nervous Diseases; their Symptoms and Treatment. A Text-Book for Students and Practitioners. By Samuel G. Webber, M. D., Clinical Instructor in Nervous Diseases, Harvard Medical School, etc. New York: D. Appleton & Co., 1885. Pp. ix–415.

The Use of the Microscope in Clinical and Pathological Examinations. By Dr. Carl Friedlaender, Privat-Docent in Pathological Anatomy at Berlin. Second Edition, Enlarged and Improved, with a Chromo-lithograph. Translated, with the Permission of the Author, by Henry C. Coe, M. D., M. R. C. S., L. R. C. P. (London), Pathologist to the Woman's Hospital in the State of New York. New York: D. Appleton & Co., 1885. Pp. x–195.

A Complete Pronouncing Medical Dictionary: embracing the Terminology of Medicine and the Kindred Sciences, with their Signification, Etymology, and Pronunciation. With an Appendix, comprising an Explanation of the Latin Terms and Phrases occurring in Medicine, Anatomy, Pharmacy, etc.; together with the Necessary Directions for Writing Latin Prescriptions, etc. By Joseph Thomas, M. D., LL. D., Author of the System of Pronunciation in Lippincott's "Pronouncing Gazetteer of the World," etc. On the Basis of Thomas's "Comprehensive Pronouncing Medical Dictionary." Philadelphia: J. B. Lippincott Company, 1886. Pp. 844.

Acne: its Ætiology, Pathology, and Treatment. A Practical Treatise based on the Study of One Thousand Five Hundred Cases of Sebaceous Disease. By L. Duncan Bulkley, A. M., M. D., Physician to the New York Skin and Cancer Hospital, etc. New York and London: G. P. Putnam's Sons, 1885. Pp. x–280. [Price, $2.]

Moisture and Dryness; or the Analysis of Atmospheric Humidities in the United States, etc. By Charles Denison, A. M., M. D., Professor of Diseases of the Chest and of Climatology, University of Denver, etc. Chicago: Rand, McNally & Co., 1885. Pp. 30 and charts. [Price, $1.]

Health Statistics of Women College Graduates. Report of a Special Committee of the Association of Collegiate Alumnæ, Annie G. Howes, Chairman, etc. Boston: Wright & Potter, State Printers, 1885. Pp. 78.

First Annual Report of the New York Cancer Hospital.

Oleate of Manganese. By Franklin H. Martin, M. D. Read before the Chicago Medical Society, August 3, 1885.

A New Bandage for Fixation of the Humerus and Shoulder-Girdle. By Charles W. Dulles, M. D., etc. [Reprinted from the "Medical News."]

Complete Laceration of the Perinæum, etc. By A. B. Cook, A. M., M. D., etc., Louisville. [Reprinted from "Gaillard's Medical Journal."]

Correspondence.

LETTER FROM BOSTON.

The Boston Water-Supply.

Boston, *September 14, 1885.*

In my last letter I gave a general outline of the way in which our water-supply is contaminated. I will now go more into detail as to one source. One of the acts of the recently displaced Water Board, and one upon which they prided themselves, was the purification of the various water-basins, but especially that known as "Ashland, No. 4." This is situated in the town bearing its name, and is on a tributary of the Sudbury River known as Cold Spring Brook. This basin is the largest of the Sudbury system. It covers an area of 270 acres, and, when full, will hold 1,100,000,000 gallons of water. It runs through a deep, narrow valley, with high hills rising abruptly on either side. It arises from various springs. The valley consists largely of bogs, and the black mud is very deep in places, with a hard, clean, sandy bottom beneath it, from which hundreds of springs bubble up. During the construction of the basin work was going on in making new parks in Boston, and, as the loam was needed, it was removed and taken to the city. But, as the excavation progressed, it was found that deep pockets of muck or peat existed, extending in some cases over acres and to the depth of seven or eight feet. Beneath them there was a layer of hard, green sand, which was perfectly pure. With the experience of Farm Pond (where the same state of things existed) still fresh in the minds of the people, one would think that the Water Board would have acted in accordance, but, instead of the muck and decaying vegetable matter being hauled out, the surface was simply skimmed, and a thin layer of gravel put over it.

The estimated expense of the work at this basin is a little short of $1,000,000, and yet, after this outlay, the water, which comes from the springs pure and sparkling, is so contaminated that it is not fit for use, and, in order that the money already spent may not be lost, this whole area will have to be dredged till the hard subsoil is reached, after which we may expect the water from the springs to reach us in something like purity. The brook that connects Basin No. 2 with No. 4 not only has its water defiled by the same kind of decomposing material, but also receives the drainage from the houses on its course. This brook also will have to be thoroughly dredged, and the outhouses and other sources of contamination removed, other outlets being provided for the sewage.

Many of our people do not believe that the condition of things is so bad as it is reported, saying that they have no trouble in their houses. If such people will inspect their water-tanks they will soon be convinced. In many instances that I know of, two or three inches of muck and detritus have been found on making such an examination. In places where water is drawn from the street-main direct, without the intervention of a tank, and the water is allowed to settle, the presence of foreign matter is easily detected.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, SEPTEMBER 19, 1885.

THE SURGEON-GENERALSHIP OF THE MARINE-HOSPITAL SERVICE.

In far greater measure than commonly falls to the lot of public officials, even medical officers, has Surgeon-General Hamilton had to contend with envy, hatred, and malice, and all uncharitableness. Thus far he has manfully and successfully striven against these malign influences, while he has not deviated from the decorousness and fairness that should always characterize officers of the Government. At the same time, by his careful, prompt, and unostentatious use of the Congressional epidemic fund, he has shown the utter groundlessness of whatever genuine distrust may at one time have been felt of the committal of such grave and comprehensive responsibilities to a single individual. Add to this the efficient and satisfactory conduct of the Marine-Hospital Service that has marked his incumbency of the chief office of that bureau, and we certainly have the picture of a faithful performance of duties that entitles him to the highest consideration.

And yet there are rumors—but too well founded, we fear—of serious and determined efforts to displace him. There is no pretense, as we understand matters, that any fault is found either with his capabilities or with his official acts, except, indeed, in so far as they may have been distasteful to some *soi-disant* sanitarian; but the honors and the emoluments of his position are coveted as the means of paying off a debt of gratitude to some one of a number of political "workers."

If there were any serious danger of the success of these plots against Dr. Hamilton—and we shall decline until compelled to the contrary to believe that there is—the situation would be grave enough, in these times of civil-service reform, even supposing that his office was one that made him subject to the vicissitudes of the spoils system as heretofore interpreted by politicians. But the post of surgeon-general of the Marine-Hospital Service is one to which Dr. Hamilton rose in quite the same way as a surgeon-general of the army usually arrives at his position, in accordance with considerations partly of seniority and partly of the good of the service. Such appointments are commonly made in complete disregard of partisan motives, and the tenure of office is regarded as secure, in the absence of special cause. Even the machine politicians pass the office over as beyond their grasp.

It is said that a high official of the Government is one of those who have set their covetous eyes on the surgeon-generalship of the Marine-Hospital Service. If this is true, it is reassuring to observe that he is not the only one, for non-interference may prove to have its firmest ground in the antagonisms of rival schemers. Fortunately, however, it is not in

this reflection alone that Dr. Hamilton's undisturbed possession of the office he has adorned finds its chief guarantee; if all indications are to be interpreted in accordance with their plain drift, neither the President nor the Secretary of the Treasury is the sort of man to remove the present surgeon-general with no other motive than to make way for some aspirant whose pretensions may be urged on personal or partisan grounds.

SMALL-POX.

The country has been measurably free from small-pox for a considerable period. Limited outbreaks have occurred here and there at various times, but there have been none of sufficient magnitude to arrest public attention. In particular, the metropolis, where epidemics might naturally be expected to take their start, has, thanks to the vigilance and energy of the boards of health of New York and Brooklyn, been exceptionally free from the disease for a long term of years. Even in the "pandemic" of 1871 to 1873, when Boston, Philadelphia, and Chicago suffered severely, New York was but lightly attacked; and since that time it has been quite the exception for small-pox to figure in our reports of infectious diseases. All this should not lull us into a false feeling of security, however. Thus far—and it is well on toward cold weather—we have escaped the cholera, of which the community has stood somewhat in dread, but for several weeks past there have been warnings which we can not afford to disregard of one of those epidemic waves that have always marked the history of small-pox.

During the greater part of the summer the disease has been rife in Montreal, a city which is in close communication with the United States, and which seems to constitute, so to speak, an ever-active nursery of the infection, in consequence, it appears, of the peculiar obstinacy displayed by a large proportion of its population in opposing vaccination. For a number of weeks, too, it has not been an uncommon occurrence for victims of the disease to effect a lodgment in New York from immigrant ships, especially those coming from Germany. A notable instance of this sort came to light week before last, when a lad was found in a house in Pitt Street who is said to have arrived recently by a German steamship, and to have had small-pox for a week before the nature of his illness was made known. Ordinarily such an event would have little significance, even although, as in this instance, the sufferer was lodged under the same roof that covered a daily assemblage of school-children. Taken, however, in connection with the undiminished and apparently increasing prevalence of variola in Montreal, and its isolated outbreaks in various localities in our own country—at Fall River, for example—it can scarcely be viewed with the equanimity that might otherwise be felt.

Not the least significant of the circumstances that should put us on our guard is the fact that the occurrences alluded to have taken place in summer. It is usually in cold weather by preference that small-pox proves epidemic, but it may not be amiss to recall that the great epidemic of the last decade, which swept the greater part of our country, made its first decided outbreak in Lowell, Massachusetts, during the summer. It would perhaps be going too far to argue from that that an epidemic arising in summer was particularly likely to prove unusually destructive, but it is difficult to avoid the thought.

It is with no desire to play the alarmist that we have thrown out these suggestions, but simply to put our readers on their guard. In the case of small-pox, however, there need be less hesitation in sounding the alarm than with regard to most other pestilential diseases, for popular anxiety may readily be exchanged for security; prevention is within every man's reach.

MINOR PARAGRAPHS.

NEWSPAPER NOTORIETY.

We quite agree with our correspondent who signs himself "Practitioner." On several occasions we have expressed ourselves in regard to the rage for newspaper notoriety which seems to have blinded some of our brethren to the decency and modesty of a truly scientific life. If we have restricted our remarks to those outcroppings of this spirit which have appeared in New York, it is because we have preferred to try to set things right at home before criticising our colleagues elsewhere, and by no means because we have been willing to confess that the offenses referred to have been in any way peculiar to our immediate neighborhood. The metropolis, as being presumably the most advanced in civilization of all places on the continent, should certainly be freest from the foibles of a callow community. If our own sense of propriety did not urge this upon us, we should at least be spurred on to it by the comments which reach us from other parts of the country, and our excellent contemporary the "Medical News," of Philadelphia, has lately made pointed and most amply justified allusion to the breach of taste in question. Moreover, New York is in a certain sense on trial before the country; it is here that the formal restrictions of the code of ethics have in a measure been cast off, and that very fact makes it all the more incumbent on us to show that there are other incentives to a decorous course of life. Our readers will have no difficulty in imagining what the occurrences are to which our correspondent alludes, and we will therefore only add an expression of the hope that no more specific reference to them may be necessary to recall our erring brethren to a proper sense of what is due their own dignity as well as that of our common profession.

THE CURIOSITIES OF LOCAL ANÆSTHESIA.

In this issue of the Journal we publish two communications which set forth remarkable facts connected with the subject of local anæsthesia. We refer to Dr. Corning's article and to Dr. Halsted's brief letter. The explanation given by Dr. Corning of the decided prolongation of the effects of cocaine which he has been able to obtain by annulling the local circulation for the time being is apparently correct and very creditable to his ingenuity. Indeed, it is hardly fair to speak of it as an explanation; it was rather the conception which led to the experiments. If further trial shows that the practice is free from drawbacks which can not now be foreseen, an immense addition will undoubtedly be found to have been made to our resources in local anæsthetization.

Quite as striking and no less interesting, even if its practical utility should prove to be more restricted, is the curious fact set forth by Dr. Halsted, that the intra-cutaneous injection of simple water, properly managed, is capable of giving rise to a temporary and circumscribed anæsthesia. In the light of these two contributions to our knowledge, we may well indulge in the

fond anticipation that general anæsthetization, with all its attendant inconveniences, may soon be found necessary only in exceptional cases.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 15, 1885:

DISEASES.	Week ending Sept. 8.		Week ending Sept. 15.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	36	10	48	9
Scarlet fever	15	1	24	1
Cerebro-spinal meningitis	1	1	5	5
Measles	3	1	1	0
Diphtheria	35	15	38	18
Small-pox	2	0	2	0

The International Medical Congress.—We learn that Dr. R. B. Maury, of Memphis, Tenn., declined the honor of serving as one of the vice-presidents of the Section in Obstetrics and Gynæcology as soon as he received the notice of his appointment.

The New York Post-Graduate Medical School and Hospital.—We have received the first issue of the "Quarterly Bulletin," published by the Clinical Society connected with this institution, and we find it a very creditable production. It contains a well-executed chromo-lithograph showing a syphilitic affection of the lung. The Faculty announce the following courses for the winter of 1885–'86: Diseases of the eye and ear, nineteen hours a week, and a course in the operative surgery of the eye as frequently as classes are formed; diseases of women, obstetrics, and the anatomical basis of gynæcology, sixteen hours a week; general, minor, operative, and orthopædic surgery, nineteen hours; diseases and the anatomy and physiology of the nervous system, twenty-one hours; diseases of the throat and nose, six hours; clinical medicine and therapeutics, urinary analysis, and work in the histological and pathological laboratory, twenty-one hours; venereal diseases, ten hours; diseases of the skin, six hours; diseases of children, twenty-seven hours. Opportunities will be afforded the class to witness autopsies at the Presbyterian Hospital, as well as those that occur in the practice of the instructors in the children's department. The laboratories will be open all day, and every possible means will be employed to facilitate instruction. It will be seen that the institution offers its pupils one hundred and forty-four hours of clinical and practical instruction every week.

A Testimonial to Professor Koch.—The "Medical Times and Gazette," of London, says: "A testimonial has been recently presented to Geh. Med.-Rath Professor Dr. Koch by the practitioners who last winter attended his course of lectures on cholera at the Reichsgesundheitsamt, Berlin. It consisted of an ebony casket richly ornamented in silver, having a silver shield in front bearing the inscription 'Dedicated to Herrn Geh. Med.-Rath Professor Dr. Robert Koch with thankfulness by his first pupils, Berlin, 1884–'85.' A silver plate is let into the lid, on which, in raised work, is a bust of Dr. Koch, on a pedestal, against which the goddess Hygeia leans holding in the one hand the staff entwined by the serpent, the symbol of the medical art, and in the other a laurel crown. A nude child seeks to conceal itself amidst her flowing drapery in fear of a haggard woman at the foot of the pedestal, who with a scythe in her hand symbolizes the devastating disease which Dr. Koch has chosen for the special object of his study. On either side of the pedestal are groups of palms. Prof. Echtermeyer is the author of the design for this relief. The casket is lined inside with dark blue satin plush."

The University of Vienna.—The "Medical Times and Gazette" learns that Prof. Fuchs, of Liège, is likely to be given Prof. Jäger's chair of ophthalmic surgery.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 6 to September 12, 1885:*

McKee, J. C., Major and Surgeon. Sick leave still further extended three months on surgeon's certificate of disability. S. O. 204, A. G. O., September 7, 1885.

Patzki, J. H., Captain and Assistant Surgeon. Assigned to duty as post surgeon, Jackson Barracks, New Orleans, La. S. O. 192, Department of the East, September 8, 1885.

Polhemus, A. S., First Lieutenant and Assistant Surgeon. When relieved at Fort McDermit, Nev., assigned to temporary duty at Presidio of San Francisco, Cal. S. O. 87, C. S., Department of California.

Kendall, William P., First Lieutenant and Assistant Surgeon. Relieved from duty at Presidio of San Francisco, Cal., and assigned to duty as post surgeon at Fort McDermit, Nev., relieving Assistant Surgeon Polhemus. S. O. 87, Department of California, August 31, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the week ending September 5, 1885.*

Stewart, Henry, Surgeon. Leave of absence extended one year from October 15th, with permission to remain abroad.

Steele, John M., Passed Assistant Surgeon. Detached September 1st from Constellation, and to report for duty at Naval Academy, Annapolis, Md.

Bright, George A., Surgeon. Detached September 1st from Constellation, and to wait orders.

Dickson, S. H., Passed Assistant Surgeon. Ordered to Naval Academy, Annapolis, Md., as relief of Passed Assistant Surgeon A. A. Austin.

Fitts, Henry B., Assistant Surgeon. Detached from Coast-Survey steamer Gedney, and to wait orders.

Austin, A. A., Passed Assistant Surgeon. Detached from Naval Academy, Annapolis, Md., and ordered to Coast-Survey steamer Gedney, to relieve Assistant Surgeon H. B. Fitts.

Society Meetings for the Coming Week:

Monday, *September 21st:* Medico-Chirurgical Society of German Physicians (New York); Hartford City, Conn., Medical Association; Chicago Medical Society.

Tuesday, *September 22d:* New York Dermatological Society; Buffalo Obstetrical Society (private); American Gynæcological Society (first day—Washington); Medical Society of the County of Lewis (quarterly), N. Y.

Wednesday, *September 23d:* New York Pathological Society; American Microscopical Society of the City of New York; Philadelphia County Medical Society (conversational); American Gynæcological Society (second day).

Thursday, *September 24th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; New York Orthopædic Society; Roxbury, Mass., Society for Medical Improvement (private); Pathological Society of Philadelphia (conversational); Cumberland County, Me., Medical Society (Portland); American Gynæcological Society (third day); New London County, Conn., Medical Society (extra—New London).

Friday, *September 25th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Letters to the Editor.

WATER AS A LOCAL ANÆSTHETIC.

SEPTEMBER 16, 1885.

To the Editor of the New York Medical Journal:

SIR: My communication on the use and misuse of cocaine, as published in the latest number of this Journal, appeared, through an oversight of mine, minus a foot-note which, referring to the passage introduced by the word "*into*" (italicized, and occurring eight lines before the last one in the printed article), had been appended to the original manuscript.

Apropos of *cutaneous* as distinguished from *subcutaneous* injections, I would like to present now the statements which were to have been embodied, more briefly, in the foot-note.

1. The skin can be completely anæsthetized to any extent by cutaneous injections of water.

2. I have at times, of late, used water instead of cocaine in minor operations requiring skin incisions.

3. The anæsthesia seldom oversteps the boundary of the originally bloodless wheal, but does not always vanish just as soon as hyperæmia supervenes.

W. S. HALSTED.

NEWSPAPER NOTORIETY.

To the Editor of the New York Medical Journal:

SIR: Will you not give expression in the Journal to the sentiment of contempt so generally excited by the vulgar newspaper notoriety that appears to have been sought by several of the profession in the city during the last few months? Recent items, with which you must be familiar, have been so peculiarly offensive and numerous that the time for a public rebuke appears to have come. I hope your judgment will confirm this opinion, and that you will remind the offenders of the impropriety of their action, and warn them that notoriety is not reputation, or rather that it is reputation of a kind that can only do them harm.

If the matter concerned only the offending individuals, we might look on in silence at their vulgar vanity and their exploitation of "wonderful cases" or fortuitous connection with prominent personages; but, unfortunately, the profession is held to a measure of responsibility for the acts of its members, and upon each of us falls some portion of the contempt so freely expressed for them.

PRACTITIONER.

Proceedings of Societies.

NEW YORK OBSTETRICAL SOCIETY.

Meeting of March 17, 1885.

The Vice-President, Dr. B. McE. EMMET, in the Chair.

A Dilating Forceps.—Dr. W. T. LUSK showed a forceps, with narrow blades, which he had found very useful in several cases for the purpose of dilating the cervix.

Dr. E. L. PARTRIDGE thought it undesirable to employ blades which had so much spring, since there was danger of compressing the child's head unduly.

Dr. LUSK explained that he only aimed at dilating the cervix with this forceps, the delivery being subsequently effected with a different one.

Pyo-salpinx.—Dr. J. B. HUNTER resumed the discussion begun at the preceding meeting, presenting three additional specimens of pyo-salpinx. He gave the following *résumé* of the most important symptoms which he had noted: "In reviewing the cases of pyo-salpinx of which I have presented specimens to this society, and others which I have had opportunities of observing, I am inclined to think that there are certain symptoms and physical signs by which these cases may be distinguished, not only from those significant of ovarian disease, but also from other and less serious diseases of the tubes themselves. The symptoms common to suppurative disease of the Fallopian tubes I believe to be: Severe pain two or three days before menstruation, located in the affected side and running down the corresponding limb; constant pain during the menstrual period; comparative freedom from pain for a week or ten days after its cessation; profuse menstruation, and sometimes constant, though slight, metrorrhagia; a discharge of pus (having frequently an offensive odor) after the flow has ceased. The physical signs are: A mass is found posterior to the uterus, often so hard that it is mistaken for a fibroid tumor; the uterus is enlarged, globular in shape, and generally movable. When palpated after a period, the organ appears to be smaller than before, and the tumor behind it feels softer. There is often so much general tenderness around the uterus that an accurate examination is only possible during anæsthesia. In cases of hydro-salpinx (which it is important to differentiate from those of pyo-salpinx) the tubes are often much larger, and are, as a rule, freely movable, not being adherent to the uterus. Another point of difference between the two is that, while there may be a considerable amount of local pain in hydro-salpinx, there is not so much general disturbance as in suppurative inflammation of the tubes; in the latter case there is a marked deterioration of the patient's health from month to month. Doran, in his recent work on the ovaries and tubes, says: 'There can be no doubt that some of the most intractable cases of pain in the pelvic and iliac regions, often attributable to other causes, are really due to disease of the tubes.' The pain due to ovarian disease uncomplicated with tubal disease is of a more intermittent character, and is generally referred not only to the affected region, but also to the breast on the same side, and is very commonly accompanied by nausea—a symptom which is not noticed when the tube alone is affected.

"It is important to distinguish between catarrhal and purulent affections of the tube, because the treatment is radically different; cases of pyo-salpinx go on rapidly from bad to worse, and probably never recover without surgical interference, while simple hydro-salpinx, not complicated by serious ovarian disease, is not dangerous to life, and may remain stationary for years."

In conclusion, Dr. Hunter quoted recent statistics of Hegar's operations, which seemed to prove that the *ovaries* and not the *tubes* (as maintained by Tait) were actively concerned in the function of menstruation. Out of 134 patients (from a total of 149) who recovered from the operation there was a marked diminution of the size of the tumor, together with a cessation of the menses in 76 cases. It was certain that the premature menopause could not be effected by removal of the tubes alone.

Dr. WARREN asked if the speaker had not generally noticed a displacement of the uterus in his cases.

Dr. HUNTER replied that this was frequently, but not invariably, the case.

Dr. H. C. COE protested against the commonly received opinion that nearly all cases of pyo-salpinx could be traced di-

rectly to gonorrhœal infection. He thought that it was extremely difficult to trace this sequence, and was inclined to believe that many authors had simply copied their statements from others without taking the trouble to verify them. He had examined specimens of pyo-salpinx removed from unmarried females and from other patients in whose cases it was impossible to establish any previous specific affection; moreover, tubal disease was occasionally seen in animals, as had been shown by Mr. Sutton in his report of autopsies made at the London Zoölogical Gardens. As a rule, however, hydro-salpinx was the condition generally found in animals.

Dr. W. G. Wylie thought that a history of previous gonorrhœa could be obtained in many cases, but that post-puerperal septic endometritis was the most common cause of pyo-salpinx. He said that he had purposely kept cases of gonorrhœa under observation in order to see how they would terminate. In two instances undoubted peritonitis developed from a direct extension of the specific inflammation. A third cause was undoubtedly simple catarrhal inflammation of the uterine mucous membrane.

Dr. E. Noeggerath stated that there were, in all, five varieties of salpingitis, viz.: tubercular, syphilitic, actinomycotic, gonorrhœal, and septic. As regarded the most common cause of salpingitis, he did not propose to discuss its gonorrhœal origin, because those of the profession who formerly opposed his views most strongly had now accepted them, among others Hegar, Martin, Haeser, and many of the most prominent German gynæcologists. As regarded the variety to which Dr. Wylie had referred, and which he had designated as "septic salpingitis," Dr. Noeggerath said that many cases of salpingitis which followed premature delivery and were apparently of septic origin could be traced to a latent gonorrhœa, which had been the direct cause of the abortion. He cited a case in which a specific endometritis that had existed before pregnancy reappeared after delivery. He acknowledged that it was difficult to prove the causative relation in which gonorrhœa stood to pyo-salpinx, because the former disease, as communicated by the man, was always of a chronic nature, and therefore it was not easy to trace its beginning; in order to establish positive facts, a large number of observations must be made. "Suppose," said he, "we admit that septic salpingitis *does* arise from a purely septic endometritis; we do not know the true nature of the infection, because we are only just beginning to understand what puerperal septicæmia is." In order to prove the entity of a puerperal salpingitis, it would be necessary to trace the disease from the endometrium directly into the tubes; but this had not yet been done. A great change would be occasioned in the current views upon salpingitis if the characteristic gonococcus could be found in the morbid contents of the tubes. He had searched for it in the fluid from dilated tubes, but hitherto without success. He thought that, undoubtedly, other varieties of salpingitis would be discovered, due to the presence of other characteristic microbes. He had examined very carefully a drop of pus from one of Dr. Hunter's specimens, and had cultivated two varieties of micrococcus found in it, both of which resembled the gonococcus, but could not be considered as identical with that microbe. It was possible that the coccus of gonorrhœa might change its characteristic form after entering the tube, since it was then in a new soil and subject to new influences; but this intricate matter could not be settled without a large number of observations.

In reference to the matter of diagnosis, Dr. Noeggerath referred to a remark made by Dr. Wylie at the preceding meeting, that it was not necessary to make out the actual presence of enlarged tubes in order to justify an operation, provided the local symptoms were sufficiently urgent.

He showed an instrument which he had found useful in cases in which it was desirable to make an exact diagnosis. It consisted of a double hook opening outward, one arm of which terminated in a long extremity resembling a uterine sound. The sound was introduced so far into the uterine cavity that the hooks were half an inch within the cervix; the uterus was then pulled downward by an assistant, while the surgeon, with one finger in the rectum and the other hand upon the abdomen, could thoroughly explore the pelvis. The uterus could be moved toward or away from the examining finger, and the appendages could be more perfectly examined than in any other way. If necessary, the urethra could be gradually dilated (the process being repeated two or three times a day for two or three weeks) until the forefinger could be passed into the bladder, when the ovaries and tubes could be plainly felt. It was sometimes very important to be able to make an exact diagnosis, because it made a great deal of difference in the prognosis of an operation whether the tubes were much diseased or were unaltered themselves, but were surrounded by inflammatory adhesions. In the former case the prognosis was good, but where the symptoms were due to other causes than diseased tubes or ovaries it was unfavorable. If, however, there was a history of a subacute peritonitis which had become chronic, one could infer, in nearly every instance, that the tubes were diseased and that an operation was necessary. Disease of the tubes was the *cause*, and not the *result*, of the perimetritis. There were peculiar conditions in individual patients which it was important to recognize; as an example, he cited the case of a lady who had an attack of acute perimetritis six years ago, and had been under treatment ever since. He examined her six months ago by the method before described, and found both ovaries atrophied, the tubes being only slightly enlarged, but buried in a mass of adhesions, whereupon he refused to operate. It was in such a case as this that the instrument devised by him had proved most useful.

Dr. Wylie had not wished to give the impression that he did not try to make an exact diagnosis in cases of enlarged tubes; on the contrary, he always made a practice of keeping his patients under observation for weeks, or even months, before operating, so that he was frequently enabled to clear up the inflammatory deposits sufficiently to ascertain the precise condition of the appendages. He disapproved of the practice of pulling down the uterus for diagnostic purposes in these cases, or even of passing a sound into the cavity, since there was great danger of lighting up peritonitis. By anæsthetizing the patient and passing the left forefinger into the rectum, he could ordinarily map out the pelvic contents and detect any enlargements in the broad ligaments. In some instances he could not decide whether the tumor was an enlarged ovary or a tube. (Specimens were shown illustrative of this difficulty.)

Dr. Hunter agreed with Dr. Wylie in his disapproval of forcibly depressing the uterus. To illustrate the difficulty which was sometimes experienced in diagnosticating pyo-salpinx he mentioned a case in which several experienced gynæcologists had pronounced as a fibroid a pelvic enlargement which proved, on operation, to be a dilated tube filled with pus. He asked Dr. Wylie if he had ever seen a case of pyo-salpinx in which the tube was not adherent.

Dr. Wylie had seen only one such case; as a rule, the tubes were prolapsed and adherent posteriorly to the uterus or to the pelvic floor. When the tubes were not prolapsed, their fimbriated extremities were generally adherent to the uterus.

Dr. Lusk asked if it was necessary to remove both ovaries and tubes in Tait's operation. He had left a tube and ovary in two cases with subsequent bad results.

Dr. Wylie and Dr. Hunter had each had a similar experience, the disease being confined to one side.

The Chairman asked Dr. Noeggerath whether it was common for only one tube to be involved in gonorrhœal salpingitis.

Dr. Noeggerath replied that unilateral pyo-salpinx was very rare, so that he could not say how often this condition prevailed in specific cases. Reasoning from analogy, he could see no reason why the disease should not be limited to one side, since one epididymis frequently became involved as a result of gonorrhœa in the male, the other being spared. If there was any doubt as to the existence of pyo-salpinx at the time of operation, he believed that the surgeon was justified in squeezing out a drop of the secretion of the tube from the fimbriated end. He mentioned a case in which a woman had died of acute peritonitis in twenty hours after receiving a severe mental shock. On autopsy, both tubes appeared to be healthy, but a small amount of sanguineous fluid could be pressed from them, which, on microscopical examination, proved to be identical with similar fluid found in the pelvis. The contents of one tube escaping into the peritoneal cavity had undoubtedly led to the fatal result.

Dr. Wylie questioned whether the chronic peritonitis which was present in cases of pyo-salpinx was due to the condition of the tubes or *vice versa;* he thought that the diseased tubes probably acted as inflammatory foci.

Dr. Lusk recalled a case of peritonitis developing on the second day after a normal labor, and terminating fatally in forty-eight hours. At the autopsy nothing abnormal was found except an inflammatory condition of the tubes, the precise nature of which he could not recall; there was a possible element of latent gonorrhœa in the case, as the husband was treated for a stricture and gleet before marriage.

Dr. B. F. Dawson also remembered a case of acute peritonitis in a young woman which terminated fatally, the tubes being found at the post-mortem to be full of pus.

Puerperal Septicæmia.—Dr. Wylie reported a case of fever, which developed on the fifth day after delivery, which he attributed to a diphtheritic process in the uterus, because regular pseudo-membranous masses came away during the injections. He found that by using intra-uterine injections of sublimate solution every hour the temperature could be brought down to normal, but when the treatment was discontinued for two or three hours it speedily rose to 104° F. He did not see why a diphtheritic inflammation could not extend to the tubes.

Dr. Noeggerath believed that puerperal endometritis was frequently diphtheritic in character. The elder Martin had gone so far as to say that all these cases were diphtheritic, but this was too sweeping an assertion. Dr. Noeggerath had observed three cases in which pseudo-membranous casts of the uterine cavity were discharged.

Dr. Wylie, in reply to a question from Dr. Hunter, said that a solution of carbolic acid (1 to 60) brought away sloughs and controlled the temperature much better than the sublimate solution (1 to 5,000). Quinine had been used absolutely without effect. He remarked in conclusion, with reference to the objections to Tait's operation, that there were undoubtedly many patients whose local condition improved so much under treatment that an operation became unnecessary; he agreed with Dr. T. A. Emmet that this experience was a very common one in practice. It seemed to him, too, that it was often possible to remove the results of a previous peritonitis by appropriate treatment without operations.

Dr. Noeggerath insisted on a line being drawn between perimetritis and parametritis, the presence of the latter condition being a distinct contra-indication to laparotomy. He thought that the term "cellulitis" should be abandoned as a relic of the old speculative pathology. Parametritis, as a rule, was only present as a result of some lesion of the uterus (puerperal or otherwise), but not in disease of the tubes, the latter being accompanied by perimetritis.

B. McE. Emmet, M. D.,
B. F. Dawson, M. D.,
H. C. Coe, M. D., *ex officio*,
Committee on Publication.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of September 9, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Vesicular Mole.—Dr. H. J. Boldt presented the specimen, which was principally interesting as illustrating the extremes to which a patient might be reduced by a remediable condition. The woman, who had been flowing profusely for several days, had become very anæmic, and the pulse was almost imperceptible. A physician had employed a tampon, but without benefit. Dr. Boldt found the os dilatable but not dilated. He at once introduced a sponge-tent, dilated the canal, and found a vesicular mole slightly adherent to the fundus and sides of the uterus. The patient probably would have died within twenty-four hours had the growth not been removed.

Coincidence between Vaccine Inoculation and the Development of Bone Abscess.—Dr. W. P. Watson presented a girl five years of age who had always been well until two years of age; the family history was also good. When two years old the child was vaccinated, not by a physician, but by a man who had vaccinated many other persons, so far as known without injurious effects. In the case of the girl presented two incisions were made below the deltoid, which bled profusely; it was not known whether the matter used was animal or human. A few days after vaccination the mother noticed a swelling on the outer aspect of the left forearm, which was very much inflamed by the sixth day. A week later a swelling appeared on the right arm in a similar position; two weeks later there was one over the left scapula, and two months later one on the outer aspect of the right leg. Unhealthy pus discharged from some of the abscesses for two years, and several spiculæ of bone came from the sinus on the left forearm. The sinuses were now entirely closed, but there was ankylosis at the left elbow-joint. The axillary glands enlarged but did not suppurate. The question arose, Was there any causative relation between vaccination and the development of the abscesses? The mother very naturally attributed the trouble to vaccination.

Dr. Boldt asked whether the child might not have sustained an injury after it had been vaccinated. [The mother replied in the negative. There were an erysipelatous eruption and swelling at the point of vaccination, which, however, were simultaneous in appearance with the swelling on the left forearm.] Dr. Boldt then related the case of a child whom he had vaccinated, and in whose case multiple abscess developed. The mother denied that any traumatism had occurred, but it was learned that one day during her absence from the house the child sustained a slight injury, which was followed by an erysipelatous eruption and bone abscesses.

Idiopathic Nephritis in Infants.—Dr. J. Lewis Smith presented some specimens from the body of a child which had died, aged seven months. It had been fed by a wet-nurse, and was seen by Dr. Smith only a few times during the course of its illness. It had done well until nearly six months of age, when the mother called attention to the fact that it had not passed urine for some hours. Some sweet spirits of niter restored the secretion. As bearing upon the ætiology, he said there had not been any case of scarlet fever or diphtheria in the institution recently. Five days later the urine was again suppressed, but was restored by the same medicine. The child

then did well for about eleven days, when diarrhœa occurred. After the second day the passages did not exceed four in number during the twenty-four hours, but the child did poorly, and died September 1st. August 2d it had general convulsions lasting five minutes. Following the convulsions there were marked nervous symptoms lasting three days, and a constant rolling of the head on the pillow afterward. During the last two weeks of life the child had occasional cough. During August the morning temperature was usually about 100° F., the evening temperature two or more degrees higher, the highest temperature reached being 106° F. The lesions of special interest were in the kidneys. The organs were much enlarged; the cortex of the right kidney was thickened; the pyramids were congested; the mucous membrane lining the calices and pelvis was deeply congested. The left kidney was intensely congested, the pyramids and cortex being of one color. The capsules were not adherent. The bladder showed catarrhal inflammation. The urine found in the bladder contained mucus, a large amount of albumin, and hyaline, granular, and epithelial casts in abundance; mucous corpuscles and red blood-corpuscles were present. Dr. Dana, who made the autopsy, attributed death to acute nephritis. The case was interesting as going to show that idiopathic nephritis might occur in the young infant, a fact almost universally overlooked. [The specimens were referred to the Microscopical Committee.]

Dr. Boldt had that day made an autopsy in the case of a child which had had diarrhœa for three months. There was suppression of urine the day before death. The temperature reached 108·3°. Acute nephritis was found to exist. The child was thirteen months old at the time of death.

Perforating Ulcer of the Duodenum.—Dr. Frank Ferguson presented two specimens, the first consisting of the duodenum perforated by an ulcer, the base of which was circular and nearly an inch in diameter; the upper surface was triangular in form. The patient was a tailor, forty-five years of age, who was unable to speak English or to give a full account of his symptoms. It was learned, however, that he had been sick for a month, complaining of pain in the stomach and constipation. On admission, he was emaciated, and the abdomen was tender and retracted. He vomited several times. The temperature remained between 100° and 105°; the pulse was 82; the urine was negative. Death took place two days after admission. Dr. Ferguson remarked that he had seen three cases of perforation of the duodenum, and in all of them the peritonitis had been of a type not easily diagnosticated. He thought the peritonitis had probably existed a month and a half or two months. Aspiration, perhaps, might throw some light on the diagnosis. The danger of perforating the intestine with the needle he thought was not great.

Cardiac Dilatation and Hypertrophy; Perforation of the Inter-ventricular Septum; and Vegetations on the Aortic, Tricuspid, and Pulmonary Valves.—The second specimen presented by Dr. Ferguson was the heart of a boy, thirteen years of age, who had probably had rheumatism. He also suffered from difficult breathing and slight general anasarca. The sternum and the jugular veins were prominent; the cardiac area was increased; the apex beat could not be felt; there was a distinct epigastric impulse. There was a loud blowing thrill in the seventh intercostal space, on a line with the nipple, transmitted to the left; in the second intercostal space, just to the right of the sternum, was a double systolic murmur, transmitted upward. Before death the respiration and the pulse became very rapid. At the autopsy the lesions of chief interest were found in the heart. It was dilated and slightly hypertrophied, and there were vegetations on the aortic, the tricuspid, and the pulmonary valves. There was an opening through the inter-ventricular wall, and it was not improbable that vegetations from the left side of the heart had found their way through this opening into the right side. At any rate, vegetations in the right heart were seldom seen. There was no history of embolism.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of September 3, 1885.

The President, Dr. B. F. Baer, in the Chair;
Dr. W. H. H. Githens, Secretary.

Ovarian Cystoma complicated with Peritonitis and Phlegmasia Alba Dolens; Double Ovariotomy.—The President read the following report of a case:

"Mrs. M., aged thirty-one, has been a widow nine years. She had one child ten years ago, and had enjoyed good health until about three years before I saw her. At that time she observed that her abdomen was increasing in size. This gradually progressed for eighteen months, when she was large enough to attract the attention of her neighbors. After this the growth remained almost stationary, and did not affect her general health until the latter part of March of the present year, when she was suddenly seized with pain in the left iliac region. The pain was acute and radiating in character, extending principally down the anterior portion of the left thigh. She attributed the attack to an unusual exertion. Although she made an effort to continue her avocation —that of a seamstress—she was compelled to give up and send for her physician, my friend, Dr. John R. Haney, of Camden, N. J. When Dr. Haney first saw her, her abdomen was very tender over its entire surface, purple from congestion, greatly distended, and tympanitic in its upper, but dull in its lower, portion. She was suffering great pain, and had constant nausea and vomiting; her skin was hot, pulse 120, and temperature 130° F. From the history, symptoms, and physical signs elicited, the doctor diagnosticated ovarian cystoma, with supervening peritonitis. He administered quinine *per rectum* and morphine hypodermically, and employed counter-irritation over the abdomen. Within a week the patient appeared to be better, when, through the kindness of Dr. Haney, I first saw her. The tympanites had disappeared, and the pain was not so severe, but the abdomen was still very tender on pressure, especially in the left iliac and right umbilical regions; her features were drawn and flushed, and presented an anxious expression; her tongue was dry and heavily coated, her pulse quick, and her temperature 102° F. She lay quietly in the dorsal position, with her thighs flexed. The abdomen was as large as at full term of gestation, and was projecting. It was dull on percussion everywhere, except along the line of the colon and in the epigastrium, and there was evident fluctuation. The uterus was retroverted, not freely mobile, and very tender on pressure on the left side. Above and upon it could be felt the lower border of the circumscribed growth which occupied the abdominal cavity. I fully agreed with Dr. Haney's diagnosis of ovarian cyst, complicated by peritonitis. As she seemed to be somewhat better, I advised a continuance of the treatment as previously pursued, with the hope of obviating the necessity of ovariotomy during the unfavorable condition in which she then was. The peritonitis continued to improve slowly, but a new trouble presented itself in a very painful swelling of the left lower extremity. This continued until the limb was greatly increased in size. Its temperature was much higher than that of its fellow, which seemed to be in a normal condition. She now required large doses of morphine to relieve her pain, and she was losing flesh and strength. She still had nausea, and took scarcely any nourishment. Her temperature and pulse had again risen to the highest point noted. Both she and her friends were willing and anxious that we should do something more radical than simply wait for a more favorable condition for operating if we deemed it proper. I believed, from the symptoms and physical signs, that the inflammatory action was external to the cyst and not within it, and for that reason decided to wait for a subsidence of the acute symptoms, which I rather confidently expected. At the same time I held myself in readiness to operate at once should the patient not improve or become worse. The next

day she showed signs of slight improvement. The treatment, both local and general, was continued. The acute symptoms gradually subsided to those of a subacute condition. The temperature had decreased to 101° F., the pulse was 100, but weak. She was still unable to retain food, and was extremely weak. I advised further delay. But she did not improve much after this, her temperature and pulse remaining about the same as that noted above. Her stomach had regained its power to a slight degree to retain and digest liquid food. She had now been confined to her bed more than two months. Her left leg was powerless. There had not been the slightest improvement during the two previous weeks. We therefore decided to remove the tumor.

"*Operation.*—June 19, 1885, assisted by Dr. J. R. Haney, Dr. W. A. Davis, and Dr. H. M. Christian, and in the presence of a section of the class from the Polyclinic, I made an incision three inches in length down to the peritonæum, and then checked the hæmorrhage, which was free, with clamp forceps. I next very carefully incised the peritonæum and found, as I had expected, that it was closely united to the cyst-wall. These adhesions of the cyst to the peritonæum were universal, and it required careful and patient manipulation to separate them. The parts were exceedingly vascular and the hæmorrhage was profuse. After separating it as far as possible, I tapped the cyst and allowed the contents, which were semi-liquid and chocolate-colored, to drain away. I next closed the puncture made by the trocar, and then completed the separation of the cyst from its adhesions and removed it. As there was a very general and free oozing of blood from the broken vessels, I introduced a number of large, flat sponges, and spread them over the bleeding surface. An assistant now made firm pressure upon the external surface of the abdominal walls, while I ligated the pedicle and removed the tumor. The cyst had developed in the left ovary, and the pedicle was slender, not unusually vascular, and of good length. The right ovary was diseased, containing a number of small cysts, and was of double the normal size. I removed it also. Examination now showed that the hæmorrhage had almost ceased, but there were still a number of points from which blood flowed. The peritonæum was intensely injected, and I disliked very much to pick up bleeding points for fear of making the hæmorrhage worse. I therefore reapplied a large flat sponge, and had firm pressure again made from without, while I proceeded to place the sutures for the closure of the incision. I then removed the sponge and found very little blood upon it. I replaced it by a long narrow strip of sponge, which I allowed to project from the lower angle of the wound, and then again cleansed Douglas's *cul-de-sac* and other dependant portions of the peritoneal cavity, after which I quickly tied the sutures from above downward, removing the long sponge through the lower angle of the wound before I had encroached so closely upon it as to compress it in its removal. It was only slightly stained. I quickly applied the external dressing, making an unusual amount of pressure by cotton and bandage. The operation was finished, but the patient bore it badly. Her extremities were cold and purple, her face livid, and her pulse very weak. Stimulants hypodermically, and the application of external heat, which were begun during the operation, were continued after she was returned to bed. She remained in an almost collapsed state for many hours, but gradually reacted, and the next morning was in a fair condition. Her temperature was lower than it had been for weeks; pulse 112, but weak; stomach quiet, no pain, no tympany. She had taken an occasional small piece of ice, but nothing else except the morphine since the operation.

"*21st.*—Temperature 102°, pulse 120. Slight pain and tenderness in the left iliac region. She had been very weak and faint during the night, for which brandy had been administered in repeated small doses. The swelling and pain in the limb had diminished; she had not vomited since the operation, and felt hungry. Ordered a teaspoonful of milk every second hour.

"*22d.*—Comfortable and doing well. Temperature 99·4°; pulse 90 and strong; slight metrostaxis; passed flatus *per rectum*. Milk increased to a tablespoonful and retained.

"*24th.*—Temperature 99°, pulse 85. General condition greatly improved; no pain, no tympany. Examined the wound and found it united throughout; removed the sutures.

"*25th.*—Doing well, and is bright and cheerful. She has taken nearly a quart of milk during the last twenty-four hours, and digested it.

"*30th.*—She has been gradually improving. Temperature normal, pulse 95; bowels moved to-day. She is taking solid food and expresses herself as feeling quite well. Limb improving. She can now move it.

"*July 12th.*—Sat up to-day for the first time, the twenty-second after the operation.

"*August 30th.*—A note received from Dr. Haney to-day informs me that Mrs. M. is going about attending to some of her duties, but that she has not yet regained her strength fully, and that her limb is still weak.

"The recovery of this woman under the forlorn circumstances just narrated is certainly a great triumph for our art; but the case serves a better purpose in forcibly illustrating the danger of deferring operative interference in ovarian cystoma simply because the patient is comfortable and suffering no inconvenience from the presence of the tumor. The subject of an ovarian tumor is in constant danger of injury from slight causes which may produce such changes in the tumor as to render what might have been a simple and safe operation one of extreme hazard. This had been a simple, slow-growing cyst, and had not markedly affected the health during its three years of existence; yet it suddenly became inflamed and the patient narrowly escaped death as a result. The case furnishes a strong argument in favor of operation as soon as the disease is diagnosticated. Of course there are qualifications, and each case must be decided on its own merits; but the rule that an ovarian tumor should be removed as soon as it is known to exist is the only safe one to follow."

Polycystic Ovarian Tumor; Double Ovariotomy.—"As a striking contrast to the case just related, and to show the value of the principle enunciated," continued the PRESIDENT, "I will report the following case:

"A. R. was sent to me August 5, 1885. She was nineteen years of age; single. Puberty was established at sixteen, and she had menstruated regularly until six months previously. She then without cause, so far as she knew, began to flow more freely at her periods and they continued longer. About the same time she noticed a small lump in the right iliac region. This increased in size so that soon the entire hypogastrium was distended, and when I first saw her she was as large as a woman at the eighth month of gestation. Her face showed marked signs of emaciation and pallor, and the drawn, anxious expression of ovarian cystic disease. She was then having a profuse metrorrhagia every two weeks. She had not suffered any pain, and up to within a few weeks very little inconvenience, except from the frequent metrorrhagia. During the last month, however, her health had been failing, she had lost flesh, had a weak, languid feeling, and suffered much from the weight of the growth. Physical examination in the dorsal position revealed a projecting, slightly irregular abdomen, larger on the right side, dull on percussion over the entire anterior surface, but resonant along the line of the colon. Palpation showed imperfect fluctuation and several firm, irregular masses within the abdominal cavity. The vagina was virginal, the cervix uteri was pointing forward, the body of the uterus retroverted, the whole organ enlarged and soft. It was only slightly movable independently of the tumor. The sound gave a measurement of three inches.

"I diagnosticated polycystic disease of the right ovary, and advised immediate operation. Six days afterward, on August 11th, she entered my private hospital, and on the 13th I operated, with the assistance of Dr. H. M. Christian and Dr. J. N. Richards. I made an incision two inches and a half in length and came upon the surface of the tumor, which presented the white, glistening, nacreous appearance especially common to thick-walled polycysts. I tapped it with Hodge's trocar. The contents were so thick that they flowed very slowly, and it was necessary to puncture several smaller cysts, which was done without removing the instrument. Even then the mass did not collapse much, because of a large number of young or child-cysts. After closing the puncture I enlarged the incision to three inches, but I had considerable

difficulty in removing the tumor. It was necessary to make firm traction with rotatory movements while Dr. Christian exerted a counter-force and pressure through the abdominal walls. Fully ten minutes were occupied in extracting the tumor after it was tapped, but I was rewarded with an incision that looked so small that it seemed almost incredible that this large mass had passed through it. There had not been a single adhesion, but the pedicle was short, thick, and vascular. I tied it with Tait's Staffordshire knot, cut the tumor away, and dropped the stump. The tissues of the left ovary were found to be entirely disorganized and degenerated into a cyst as large as a walnut. This I also removed. The uterus presented a very vascular appearance and was somewhat enlarged. After assuring myself that the peritoneal cavity was entirely free from any foreign matter, I closed the incision, dressed the wound, and returned the patient to bed. Her temperature was normal, and her pulse 96. There was no pain, but, as she felt a little sore and restless, a quarter of a grain of morphine was given hypodermically, and she took small pieces of ice for thirst.

"*14th.*—8 A. M. Temperature 99°, pulse 84. Had passed a good night. At 1 P. M., twenty-six hours after the operation, milk in teaspoonful doses was allowed, and water when she desired it.

"*15th.*—Metrostaxis began this morning.

"*18th.*—Union complete; removed the sutures. Her recovery was uninterrupted. She sat up for a few minutes on the eleventh day and went home, eight miles, in a carriage on the eighteenth day after the operation. To-day she sent a request to be permitted to go out, because she was feeling so well.

"Certainly nothing could have been gained by procrastination in this case."

Dr. Goodell congratulated the president on the good result obtained in such a serious case as that first reported. Great care as to asepsis should be observed in these cases. In one of his cases of septicæmia before the operation, after complete union had been secured, after the stitches had been removed, and after the patient was up, an abscess was observed forming in the line of union and was very persistent. Finally, after careful search, a ligature which had been tied around the pedicle of one of the ovarian cysts was found and removed. Subsequently the other appeared, and, after its removal, the abscess healed. He did not like to remove the stitches so early as the president removed them; and he reminded him of a case in which he had assisted him (Dr. Goodell). The operation was performed on December 5th. Convalescence was rapid, and the patient was so impatient to be home on Christmas that she could not be restrained, and on the nineteenth day after the operation she took the cars for home. The train was derailed and the jolting caused the cicatrix to open. The physician who was called in closed it immediately and the patient recovered In another case a cough caused the wound to burst open and reveal the bowels after the stitches had been removed. This patient also recovered. For these reasons he never removed the stitches before the eighth day and not until the bowels had been opened. The speaker inquired of the president what his method was of closing the opening in the cyst after it had been tapped preparatory to its removal from the abdominal cavity. Did he employ pressure forceps? What method did he use of dressing the abdominal wound?

The President closed the cyst puncture with Wells's clamp-forceps when the cyst-wall was strong enough. In some cases he stitched up the opening, or tied a string below it when the cyst-walls were loose and soft. He closed the external wound, as he had been taught by Dr. Goodell, with silk sutures, and dressed it with salicylated or absorbent cotton, adhesive strips to hold the cotton in place and take the strain off from the stitches, and over all a bandage. He removed the sutures on the fourth or fifth day in order to avoid the danger of pus forming in the suture-tracks, as had sometimes occurred when he had allowed them to remain as long as eight days.

A Uterine Dilator.—Dr. Goodell exhibited his improved uterine dilator. He said that the main difficulty in the operation for the rapid dilatation of the cervical canal lay in the liability of the blades of the instrument to slip out. This he had in a great measure overcome by having shallow grooves cut into them. Into these grooves the tissues sank, and the resulting friction kept the instrument in place. Since he had called the attention of the society to his instrument, not quite a year ago, he had performed the operation forty-one times for dysmenorrhœa and sterility, making in all two hundred and nine such cases. In not a single instance had dangerous symptoms followed, and the average of success was a very large one. He had become firmly convinced that for dysmenorrhœa and sterility the operation of rapid dilatation of the cervical canal would, except in some very rare cases of stenosis of the os externum, wholly supersede the cutting operation, the use of tents, and slow dilatation by any means whatever; for by the former not only was the measure of success far greater, but the danger from inflammation was very much less. He dilated the parts from three quarters of an inch to one inch and a quarter as measured off by the register in the handles, watching the cervix carefully to see what strain it could bear. His instrument could be opened to the width of an inch and a half, but he resorted to that extreme divergence only when wishing to introduce his finger for diagnostic purposes. This he could not ordinarily do unless the parts were relaxed from hæmorrhage. Usually, however, when suspecting the existence of a polypus, he did not find it needful to pass in his finger, for after a moderate dilatation he introduced a fenestrated forceps and opened it at hap hazard. In this manner he had repeatedly caught and twisted off a polypus without knowing it was present, the subsequent removal of the growth through the os uteri being the most difficult part of the operation.

The President had been strongly impressed, by the case of a lady whom he had delivered to-day, as to the advisability of entirely giving up division of the cervix. A year and a half ago he had slit up the cervix posteriorly, and to-day he had felt very anxious during the first stage of labor as to the probability of laceration of the uterus starting from the seat of the former operation. The anterior lip was very long, coming down under the bubes, and the posterior lip could not be felt. The case would be reported in full.

When the uterus contained a polypus the continued hæmorrhages reduced the contractility and a single dilatation would sometimes enlarge the os sufficiently to admit the finger or forceps; but, if the uterus was healthy, it contracted immediately after the withdrawal of the dilator. He could not recall an instance of inflammation following rapid dilatation. Sterility of long standing was seldom cured by dilatation or any other means.

Dr. C. M. Wilson had seen recently, in the practice of Dr. Ellwood Wilson, a uterus the cervix of which had been divided bilaterally some years ago. The operation had resulted in the development of the symptoms peculiar to a bad laceration of the cervix, with ectropion. Trachelorrhaphy was performed by Dr. Agnew, with complete relief to the patient. Dr. Wilson mentioned this case to call attention to the change in opinion and practice since Emmet proposed his operation.

Dr. Longaker inquired as to the prevention of slipping of the dilator, and called attention to the original method of pressure over the fundus of the uterus.

Dr. J. G. Allen had performed rapid dilatation over seventy-five times, and had never seen any bad results from the operation. The blades of his instrument diverged as they separated, and there was then no disposition to slip out. The blades were more curved than in Dr. Goodell's instrument. He thought

that an advantage in holding the instrument in place; the handles were turned up so as not to touch the bed or table.

Dr. Goodell preferred the slight curve, so that in flexion of the uterus he could introduce the dilator with its curve reversed to the bend in the womb, and, by opening the dilator in that position, rectify the flexion of the organ. He preferred parallelism of the blades because the stenosis of the cervix was greatest at the external os, and there was no need of dilatation above the internal os. He considered it dangerous to press the fundus of the uterus down while using the dilator, for fear of wounding or even penetrating the tissues, and he used a strong tenaculum to hold the organ; but, since he had got Mr. Gemrig to roughen the blades by grooves, he had not been annoyed by the slipping of the instrument. He rarely found it necessary to separate the blades more than one inch, but he sometimes did so to the extent of one inch and a half, especially when he wished to introduce his finger into the uterine cavity.

Parovarian Cysts.—Dr. Goodell exhibited two specimens. In each case the cyst was so detached from the ovary that the former could have been taken away without injury to the ovary. He was greatly tempted to practice conservative surgery in these cases, and leave the ovaries untouched; but, on account of apparently incipient cystic degeneration, they also were included in the ligature and removed. Both these patients were operated on in his private hospital, and both had recovered. In his experience the removal of parovarian, or of broad-ligament, cysts was one of the most successful of operations. Out of a large number which he had performed he could recall but a single fatal case, and in that the result seemed hardly due to the operation. The lady lived in a distant city, and he did not see her after the operation, which was a very easy one. At the end of a week the bowels were moved, the stitches removed, and everything gave promise of an unusually prompt convalescence. On the twelfth day, however, she was seized with uncontrollable vomiting, and she died on the seventeenth day. Six months previously she had had an analogous attack of vomiting, from which she barely escaped with her life. Thus far this year he had had eighteen ovariotomies, and this was the only fatal case among them.

Dr. Montgomery wished to ascertain the opinion of the society as to the advisability of removing the second ovary when in an operation for the removal of an ovarian cyst the other ovary was found to be slightly diseased. In his first ovariotomy, performed in 1879, the second ovary was found to contain numerous small cysts; it was not removed, and the patient had since been twice pregnant and there had been no appearance of another tumor, nor any symptoms referable to the remaining ovary. If the climacteric had been passed there would be no question about it.

The President inquired if tapping ever cured parovarian cysts. It was formerly reported as a means of cure. Did they always return after tapping? Would Dr. Goodell recommend tapping in undoubted parovarian cyst? He himself felt strongly inclined toward abdominal section in all cases. He thought the second ovary should be removed when it was not healthy, as the idea of a second operation was very depressing to a patient.

Dr. Montgomery knew of one instance of parovarian cyst which had been tapped and had refilled seven times. It was finally removed by him by pulling out the cyst, as, on opening the abdomen, he found the tumor universally adherent. Only one ligature was required—viz., on the stump of an enlarged ovary which bulged prominently into the cyst cavity.

Dr. J. G. Allen considered that, as an ovary somewhat diseased might give rise to a pregnancy, it should be left. We knew too little about the probability of the development of such small cysts into large ones. Until we had certain data on the subject it must be considered a case of want of information and knowledge.

Dr. Parish was in accord with Dr. Allen as to the want of knowledge. He had seen diseased ovaries containing numerous small cysts in many autopsies, and there had been no symptoms during life to excite a suspicion of their existence. The existence of minute cysts could not be considered as proving any liability to the production of large ones. If the second ovary contained a cyst as large as a partridge's egg he would remove it, but if numerous cysts as small as split peas were present he would not. The possibility of conception should be considered as well as that of a cyst.

Dr. Goodell acknowledged the truth of the points made by Dr. Allen and Dr. Parish, and he believed that he had repeatedly removed the second ovary unnecessarily. Yet the history of his own ovariotomies showed a return of the disease in the remaining ovary in about two per cent., and he thought he erred on the safe and right side. The social conditions of the patient would always have a great weight with him. If an heir was wanted or the patient was young, he would leave a suspicious-looking ovary, or try to remove the diseased portion of it. But in the majority of his cases where there was any doubt he removed the ovary. Of course, under such a rule, he must remove ovaries which might never give any trouble in the future. But the mental agony of women when informed that the operation must be performed a second time upon them, and, on the other hand, the great joy and satisfaction of patients when assured, after the close of an operation, that both ovaries had been removed, had convinced him that, other things being equal, it was better to remove the second ovary.

As to the cure of parovarian cysts by tapping, his own experience was not sufficient yet to decide absolutely. He would advise the radical operation, but if the patient, after understanding the liability of return, wished it, he would tap, as there was but little danger from tapping such cysts. A patient was tapped by Dr. Atlee some twenty years ago; five years afterward the cyst filled and was tapped by the speaker. It then partly refilled and so remained for a long while; the fluid then was gradually absorbed and never returned. He had had besides this one two cases in which he tapped, one five years ago and the other three years ago, and there had been no return whatever of the fluid. On the other hand, he had had two or three cases in which the cyst burst spontaneously several times and yet refilled invariably. The rupture was followed immediately by some collapse and pain, and subsequently by an excessive secretion of urine, with complete subsidence of the tumor. He had also heard of several cases of rupture, but, so far as he had learned the history of such cases, the cyst had always returned. The reports of the cure of ovarian cysts by tapping and injection of tincture of iodine must be true only of parovarian cysts.

Dr. Harris knew of a case of parovarian cyst in which fourteen years had elapsed between the tapping and the subsequent refilling.

Bromide of Ethyl.—Dr. E. E. Montgomery read the following *supplement* to his paper: "I read a paper on bromide of ethyl as an anæsthetic in labor before the April meeting of this society. Although I did not attempt a history of the early administration of the drug, subsequent investigation has shown me that I did Dr. L. Turnbull injustice in not mentioning that to him we are indebted for the revival of this agent and its first use in this country. In following the German literature, by which I was led to use this drug in labor, I ascribed its first obstetrical use to Lebert, of Paris. The first case in which he used it was for the application of the forceps, and occurred in March, 1881; but a paper published by Dr. Turnbull ('Med. Bull.,' June, 1880) shows that he had then used it in a second

case of labor, and spoke in high terms of its peculiar advantages. Dr. H. Augustus Wilson had used it in labor prior to August 7, 1880, when he published an article upon this drug ('Med. and Surg. Rep.,' August 7, 1880). It becomes quite evident that the first obstetrical trial of this agent was made in this city, and the priority lies between the gentlemen named. Various mixtures of the ethyl have been advocated in labor and minor surgical operations. Booth, of Ohio ('Therap. Gaz.,' 1884–'85, p. 159), recommends alcohol two parts, chloroform and bromide of ethyl, each one part. W. A. Byrd, of Quincy, Ill. (*Ibid.*, March, 1884), has used bromide of ethyl one part, chloroform three parts, alcohol four parts, in some ninety-eight cases without a single unpleasant symptom. It has not everywhere received the same condemnation that is shown by the hesitancy to use it in this city. In spite of the bad name given it by two deaths under its use and the apparently dangerous symptoms induced by experiments upon the lower animals, its use has been revived by Chisolm ('Maryland Med. Jour.,' 1882–'83, ix, 388) and Prince ('St. Louis Med. and Surg. Jour.,' 1883, xiv, 297), who strongly urge its use in minor operations, and preliminary to the administration of ether. The last named has reported five hundred cases in which it was used without a single unpleasant symptom. A leading article in the 'Therapeutic Gazette,' June, 1885, advocates a redistillation of a mixture of bromide of ethyl and olive-oil as a valuable and safe anæsthetic in labor. These facts are referred to simply to induce the profession to give this anæsthetic a fair trial in ameliorating the terrible suffering of natural labor."

Fibroid Polypus of the Uterus.—Dr. Montgomery exhibited a uterine fibroid polypus. Miss R., aged thirty-eight years, began to menstruate at seventeen years. The flow was regular, quite free, lasting a week, and was attended with pain the first three days. Ten years ago she had a hæmorrhage, and subsequently several such attacks. Two years later she had a severe hæmorrhage followed by a bloody discharge continuing several months, since which time she had never been regular. The flow would occur too frequently, be very profuse, and be attended with pain and loss of flesh. The symptoms had been more marked during the last year. At one of the hospital clinics, some years ago, the difficulty was ascribed to anteversion of the womb. Dr. Bournonville examined her three weeks ago, diagnosticated the condition fibroid polypus, and referred the case to the speaker for treatment. She was quite pale, her lips were bloodless, and she complained of pelvic pain and of a constant bloody discharge, which amounted to hæmorrhage upon the slightest exertion. The vagina was dilated by a tumor of the size of an orange, about the pedicle of which could be felt the neck of the uterus. The finger passed into the os and about the tumor without difficulty. Every examination was followed by severe hæmorrhage. The pedicle was cut through by means of the wire écraseur, and the tumor removed by means of a polypus forceps. Considerable hæmorrhage followed its removal. As this was not controlled by applications of hot water, a tampon saturated with a solution of subsulphate of iron was introduced. This was renewed on the second day. On the fourth her temperature ran up to 103°, she had a chill, and pains in various parts of her body. These symptoms vanished under the use of quinine, digitalis, and opium. Five weeks after the operation she appeared much improved, had had no bleeding, her appetite and strength were greatly increased, the uterus was normal in size, the cervix was still dilatable and would admit the finger with pressure, and the cervical membrane was in good condition. The tumor was of the size of an orange. The mucous membrane of the lower surface was ulcerated, so that vessels were ruptured, allowing hæmorrhage on any exertion. The case was of interest from the long continuance of the hæmorrhage, and illustrated the importance of early and careful examination of the cavity of the uterus in cases of protracted hæmorrhage.

Dr. Goodell seldom used the wire now for the removal of uterine polypi. He preferred traction with twisting or enucleation by the finger. There was less bleeding, and he was afraid of "cupping" of the fundus uteri and its injury by being included in the wire loop. He had made traction with the obstetric forceps, and enucleated tumors so large as to rupture the perinæum even after lateral incisions had been made in the labia. He had partially inverted the womb, enucleated the tumor, and then restored the organ to its proper form. The tumor sometimes occluded the os, and fœtid pus from necrosis of the growth was imprisoned above it, giving rise to a suspicion of cancer.

The President thought Monsel's solution might have caused the high temperature. Vinegar would have been a better hæmostatic, and it was also an antiseptic. From the appearance of the specimen a portion of the adventitious growth seemed to have been left behind, and it would be interesting to know the history of the stump.

Dr. Parish had removed many fibroids of various sizes, and sometimes with degenerated tissues and noisome odors. The rapid recovery of Dr. Montgomery's patient was remarkable. It was much to be regretted when any portion of the tumor was left, as necrotic change was rapid and decided in such tissue, and there was danger of blood-poisoning. The pedicle, however, generally shrank and disappeared.

Dr. Goodell remarked that this tumor appeared to be sessile, and had been wholly removed. The pedicle proper was usually simply mucous membrane, without adventitious tissue, and it made very little difference if some of it was left behind, as it shriveled away and was absorbed.

Dr. Allen had sometimes regretted that he was compelled to leave a portion of pedicle or tumor in the uterus, but he had never seen any bad consequences follow it. He preferred vinegar to iron as a hæmostatic, and considered it as good an antiseptic as carbolic acid.

Dr. Montgomery remarked that the wire had evidently brought away all the tumor. There was no evidence of any remnant on examination to-day. In one case a portion of tumor or pedicle had been unavoidably left, and he had removed it some time afterward by means of a tenaculum. He wounded his finger in doing so, and suffered from septicæmia. The woman had an attack of cellulitis.

Miscellany.

The International Medical Congress.—In its September issue, published before the recent meeting of the committee in New York, the "American Practitioner," of Louisville, says:

"When the handful of agitators who made all the commotion and din at New Orleans in May meets in New York, on the third of this month, they will assume a very different tone from that they used at Chicago in June. Much of their zeal will have been quenched. The wet blanket which public opinion has wrapped about them will have cooled their enthusiasm, while the almost universal condemnation of their movements, both at home and abroad, has demoralized the leaders of the ill-timed and ill-starred revolution and reduced their followers to a mere corporal's guard.

"To speak without mincing words, failure was written all over the new committee from the very start, and it already totters to its fall. Even though it were vouchsafed the wisdom to undo all it did at Chi-

cago, the public mind has been so exasperated by its behavior that nothing short of an unconditional surrender would now be entertained. The feeling of the profession demands this, nor will it accept less. Let the agitators make no mistake on this point. They must lay down their arms and submit, with what grace they can, to be marched to the rear. Nothing short of this will be received as a settlement. This, and this alone, will open the only road that will lead to an International Congress in 1887.

"The National Association made an egregious blunder when it appointed at New Orleans a new committee. It blundered again in the selection of the men who composed the committee. And the committee, true to its origin and its instincts, has blundered from that day to this. Conceived in error, all its steps have been marked by unwisdom and stained by selfishness. Fortunately for the best interests of the profession, not only in this country but throughout the world, its mischievous career is fast drawing to a humiliating close. Before these lines are read the committee will have realized that 'consequences are unpitying.'

"The leaders were bold enough when precipitating this deplorable imbroglio, and remained deaf to all reason. Their ears have been made to hear since that time. The voice of the profession has reached them, and not one of them all is so daft but he realizes that an overwhelming majority of the forty thousand physicians in the United States declines to lend countenance or support to the new committee or its schemes. The more thoroughly the committee digests this fact the better will it be all round. For what manner of congress would a congress be without representatives?"

Commenting upon what is known of the action taken in the committee meeting lately held in New York, the "Medical News," of Philadelphia, says:

"Without wishing to prejudge the work of the committee, we can not refrain from giving voice to the regret that will be universally felt that no effort was made at the meeting to harmonize the grave differences which exist in the profession, and that the expressed views of the European members of the Congress were not deemed of sufficient importance to be accorded consideration."

The "Journal of the American Medical Association" publishes an official report, signed by Dr. Shoemaker, of the doings of the enlarged committee at its sessions in Chicago and in New York. The report includes the rules adopted, the first of which reads as follows: "The Congress shall consist of members of the regular profession of medicine, and of such other scieutific men as the Executive Committee of the Congress may see fit to admit, who shall have inscribed their names on the register and shall have taken out their tickets of admission."

The report contains the following statement: "Lists of vice-presidents, secretaries, and councilmen for each section were named by the Committee of Arrangements, but, as it was not practicable to ascertain at once who would accept the places assigned them, or who of those who had been announced in the medical press as declining to accept positions before the present rules and organization had been adopted, as given heretofore, might wish to withdraw such declination, the final adjustment of these offices was referred to the Executive Committee of the Congress, and all correspondence in relation thereto was transferred to the Secretary-General of the Congress."

Editorially, the same journal, after referring to the action taken at the New York session, asks: "May we not hope, therefore, that a spirit of harmony will be fostered, and that all who hold the honor and interests of the profession above all personal considerations will cease to discuss the past, and cordially co-operate in making the International Congress of 1887 an honor to our country and a benefit to the profession of the world?"

The American Gynæcological Society will hold its tenth annual meeting at the Columbian University, in Washington, on Tuesday, Wednesday, and Thursday, September 22, 23, and 24, 1885. Among the papers announced to be read are the following: "The Natural Hygiene of Child-bearing Life," by Dr. S. C. Busey, of Washington; "Remarks on the Use of Tarnier's Forceps," by Dr. Ellwood Wilson, of Philadelphia; "Facial Paralysis in the Infant from the Use of the Obstetric Forceps," by Dr. T. Parvin, of Philadelphia; "The Genu-pectoral Posture in the Prolonged Nausea and Vomiting of Pregnancy, with Cases," by Dr. H. F. Campbell, of Augusta, Ga.; "On Two Rare Cases in Abdominal Surgery" (the President's Address), by Dr. W. T. Howard, of Baltimore; "The Care of the Perinæum during Labor," by Dr. T. A. Reamy, of Cincinnati; "Report of a Case of Cæsarean Operation," by Dr. E. W. Jenks, of Detroit; "Puerperal Diphtheria," by Dr. H. J. Garrigues, of New York; "A Modification of Emmet's Cervix Operation in Certain Cases, with a Case," by Dr. R. S. Sutton, of Pittsburgh; "Inflammation of the Parotid Glands after Ovariotomy," by Dr. William Goodell, of Philadelphia: "A Study of an Unusual Type of Puerperal Fever," by Dr. Fordyce Barker, of New York; "Peristalsis of the Genital Tract," by Dr. J. R. Chadwick, of Boston; "Four Cases of Oöphorectomy, with Remarks," by Dr. Joseph Taber Johnson, of Washington. Members of the profession are cordially invited to attend the meeting.

An Important Discovery concerning the Venous Circulation in the Fingers.—Until now the injection of minute venous radicles in a manner calculated to be of practical service has been impossible, chiefly on account of the resistance of the valves. It is true that injections could be make to reach the veins through the arteries, but in that case both arterial and venous vessels were filled with a material of the same color, so that the two were with great difficulty, if at all, to be distinguished from each other. M. Bourceret has recently overcome the difficulty of injecting the veins in a direction contrary to that of the blood-current, and has thus already been able to demonstrate some striking facts. As described by M. Poirier, in a recent issue of the "Progrès médical," M. Bourceret's process is as follows: The part to be injected is kept in a warm bath (from 104° to 113° F.) for five or six hours. A colorless injection is then slowly and steadily thrown into the main artery. It passes into the subcutaneous veins, and the injection is stopped as soon as those veius appear well defined under the skin, and before they are distended. The largest of the superficial veins is then punctured with a trocar, and the cannula is left in place. Through this, and the cannula which has been left in the artery, both vessels are now at the same time very gently iujected, in a direction away from the heart, the artery with a red and the vein with a blue liquid. The result is that each injection penetrates to the capillaries, and the part assumes the hue proper to it in life. The reason why this procedure enables the venous injectiou to pass the valves is supposed to be, that the liquid previously injected has either distended the veins sufficiently to make the valves incompetent, or has actually forced them against the sides of the vessels. At all events, there is no doubt that the device is successful, but its practice is said to demand a great deal of skill and patience.

By means of this method of injection the following facts have been learned in regard to the circulation in the fingers: There is a special collateral (functional) circulation in the fingers, quite distinct from that which simply nourishes the tissues. The branches given off by the collateral arteries are so few and so thin that the trunks reach the last phalanx but little reduced in size, and terminate in an arch at about the middle of the palmar aspect of the phalanx. Numerous arterial "bouquets" are given off from the arch, and divide in the pulp of the finger. They have no *venæ comites*. The capillaries show a special disposition in the pulp of the finger which is quite characteristic; an arteriole of comparatively large size is seen to divide suddenly into a "bouquet" of large capillaries (from 0·04 to 0·08 mm. in diameter). These capillaries form glomeruli, and then come together again to form a venule. The glomeruli are found in great abundance at the middle of the palmar aspect of the last phalanx, uuder the upper two thirds of the nail, and at the thenar and hypothenar emineuces. At all these points the ordinary type of nutritive vascularization is found side by side with this special circulation.

The veins of the fingers arise for the most part from the last phalanx; their radicles unite almost at once to form trunks of comparatively large size, which proceed toward the root of the finger, forming a subcutaneous layer which almost covers the dorsal aspect. These veins do not form irregular plexuses, but follow a longitudinal course to the first phalanx, anastomosing freely.

The chief characteristic of this special circulation lies in the great caliber of the vessels in proportion to the nutritive demands of the

first phalanx. M. Bourceret thinks that the object of the arrangement is to supplement the nutritive circulation and to warm the parts, but M. Poirier suggests that it may have something to do with the exquisite sensibility of the localities concerned.

"**The Micrococcus Limbergeri,**" says the "American Practitioner," "has recently been the subject of numerous investigations. In fact, every stranger, soon after his arrival in Germany, attempts to investigate it, and with very various results. Unlike those mentioned above, it is very difficult to isolate. One plan, lately suggested by Prof. O'D. Rossa ('United Ireland,' 1885), seems to be feasible. It consists in isolating the micrococcus, together with its pabulum and a large portion of the adjoining sidewalk, by the judicious application of a few pounds of dynamite. This species is *not* good to eat. Your readers will now be relieved to learn that for the present they will be spared any further remarks upon bacteriology, as the *spiro-gyra barrel-organi* is breeding so freely upon some pieces of Lohengrin, just outside the window, that all other matters must be suspended till the disease has been isolated with a boot-jack and destroyed by a moist heat of 212° F."

Even-handed Justice in Paris.—The "Progrès médical" announces that the pharmaceutical interne Reinchard, the involuntary author of the mistake which lately caused the death of two patients at the *hôpital Saint-Louis*, was arraigned before the correctional tribunal on the 26th of August, charged with homicide by imprudence. He was condemned to three months' imprisonment and fined fifty francs. The Sister who purged one of the patients without authorization, and thus caused his death, has not yet been prosecuted. "It will be remembered," says our contemporary, "that things went differently when it was a question of lay nurses. Singular justice; singular administration!"

The Disposal of Anatomical Material in Paris.—According to the "Progrès médical," the prefect of police has ordered that henceforth the *débris* of cadavers from the dissecting-rooms shall be incinerated in the special apparatus lately established in the *cimetière de l'Est*, or buried in some other Paris cemetery.

A Munificent Bequest.—The same journal says that the Countess of Bose, who died in 1883, bequeathed to the Marburg faculty of Medicine 800,000 marks (about $200,000) for prizes, for defraying the traveling expenses of young physicians, etc.

The Cartwright Lectures.—The "Medical News," of Philadelphia, learns that the next course is to be given by Dr. Osler, of that city.

Papine.—Concerning this preparation, Dr. H. T. Bruce, of Waverly, Ala., says: "I have tested papine; it acts charmingly as an anodyne. One of the patients could not tolerate morphine, owing to the nausea and vomiting it occasioned. In this patient pain was allayed and tranquil sleep produced, and no evil effects followed. I noticed that its effects were quicker than was usual from opium. So far I am much pleased, and deem it an indispensable remedy."

THERAPEUTICAL NOTES.

Nitro-glycerin in the Treatment of Hiccough.—Dr. O. T. Schultz, of Mount Vernon, Indiana ("American Practitioner,"), relates the case of a phthisical patient, fifty-eight years old, who had suffered for nine days with persistent hiccough, which had brought him to a very low condition, and had been only slightly ameliorated at times by various remedies, including galvanization of the phrenic nerves and of the epigastric region, and faradization along the attachment of the diaphragm. As the patient had formerly suffered from angina pectoris, the author reasoned that the hiccough might be due to a similar cause. Accordingly, on the tenth day, he gave one drop of a one-per-cent. solution of nitro-glycerin at 8 o'clock in the morning, and repeated it at 9 o'clock. A moderate degree of bursting headache set in at once, the hiccough became easier and less frequent, and by 9.30 o'clock it had ceased altogether. The use of the drug was continued every two hours. At 2 P. M., after the patient had drank a glass of iced milk, the spasms appeared again, but yielded quickly to a fresh dose. During the afternoon and night there was only an occasional hiccough, but the next day there were two short attacks in the afternoon. The medicine was continued, and an occasional dose was given on the twelfth day, when the hiccough had entirely ceased.

Ficus Doliaria in the Treatment of Miners' Anæmia.—Bouchut ("Paris méd."; "Nouveaux remèdes") describes doliarina as a powder prepared with the juice of the *Ficus doliaria*, a plant indigenous to Brazil, where the *Ankylostoma duodenale* (the parasite which causes miners' anæmia) prevails endemically. The powder contains also aromatics and iron. The dose for an adult is a drachm three times a day. In the case of a patient treated by Bäumler the ingestion of the first few doses was followed by borborygmi with pains in the upper part of the abdomen. The next day there were several loose stools, and the evacuations contained great numbers of the ankylostoma. On account of the patient's general condition, due to phthisis, the treatment soon had to be suspended, but it was afterward resumed with success. Bäumler remarks that doliarina, although slower in its action than male fern, and doubtless less energetic in dislodging the parasite, involves no danger, while the use of male fern demands great care. The juice of the *Ficus doliaria* contains vegetable pepsin, which digests the worms, so that, like papain, it is a worm-consumer (*vermivore*).

Sulphide of Carbon as a Revulsive.—"Nouveaux remèdes" says: Take a piece of cotton of the proper size, sprinkle it lightly with sulphide of carbon, apply it to the skin, and cover it with oiled silk. In fifteen seconds the revulsive action will be observed, as shown by brisk burning. If the application is continued for more than thirty seconds the pain becomes intolerable.

Hydrofluoric Acid as an Antiseptic.—According to the same journal, hydrofluoric acid is one of the most powerful antiseptics, and has been used in tuberculosis, both pulmonary and surgical (wounds and glandular inflammations in tuberculous subjects). As a surgical antiseptic it has yielded interesting results. Commercial hydrofluoric acid should be diluted in the proportion of 1 to 2,000, 1 to 1,000, or 1 to 500. Internally, it may be used by inhalation. The patient is to be placed in a cabinet in which two drachms and a half of the commercial acid, diluted with its own weight of water, in a leaden vessel, are evaporated over a water-bath. The inhalation, which should last at least an hour, is to be repeated every day.

Sulphate of Iron in the Gastric Catarrh of Infants.—When absorbents and tonics fail to correct the acidity, Roth ("Pest. med.-chir. Presse"; "Conseiller méd."; "Rev. des mal. de l'enfance") resorts to sulphate of iron, which acts favorably in a variety of ways. In the first place, it is a disinfectant; under its use, the evacuations are changed in color and lose their offensive odor. Being an astringent, it contracts the turgid mucous membrane and coagulates albuminous matters. In order that these effects may be decided, its use should be continued for several days. The author employs the following formula:

Sulphate of iron		1½ grain;
Mucilage of acacia, Syrup,	each	5 drachms.

A teaspoonful to be given every two hours.

Mercury in the Abortive Treatment of Typhoid Fever.—According to Kalb ("Berl. klin. Woch."; "Gaz. hebd. de méd. et de chir."), mercurial frictions, practiced before the ninth day, produce complete defervescence in a few days. The inner aspect of the thigh is to be chosen, and the frictions should last half an hour. At the same time Kalb gives large quantities of alcohol to counteract the damage to nutrition.

Injections for Fœtid Leucorrhœa.—A contributor to the "Union médicale" gives the following formulæ:

Chlorate of potassium	12 parts;
Wine of opium	10 "
Tar-water	300 "

Add three tablespoonfuls to half a pint of warm water.

Salicylate of sodium	20 parts;
Salicylic acid	1 part;
Tincture of eucalyptus	45 parts;
Wine, or white vinegar	300 "

Add two tablespoonfuls to half a pint of warm water.

Lectures and Addresses.

A CLINICAL LECTURE ON DISEASE OF THE HEART AND LUNGS, WITH SPECIAL REFERENCE TO PHYSICAL DIAGNOSIS.

By STEPHEN S. BURT, M. D.,

PROFESSOR OF PHYSICAL DIAGNOSIS IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

While directing our attention more especially to the physical diagnosis of disease of the heart and lungs, we are constantly reminded of the intimate relations that exist between them and the remaining organs of the body. A study of these relations forces upon us the conviction that only by thorough knowledge of disease in general may we hope to arrive at anything like precision in the diagnosis of special subjects.

He is indeed a poor practitioner who allows himself to be so carried away by some absorbing specialty as to lose his interest in the general health of the body. But what shall we say, on the other hand, of the physician who believes physical exploration unnecessary, and goes his way, having prescribed for symptoms only?

To the general practitioner an understanding of the methods of physical diagnosis has now become a necessity, and one that is well recognized. It is expected by his patient and demanded by the profession, so universally, indeed, that some are forced to go through a sort of mummery for its moral effect upon the patient, when in reality there is little if any true perception of what the examination reveals. Fortunately, however, this class is in the minority. There is a desire prevalent in the profession, as shown by the increasing numbers at our clinical schools, to grasp the subject of physical diagnosis, and ere long no doctor will think of prescribing for a cough until he has discovered the cause thereof. No practitioner will mistake a functional for an organic disease of the heart; nor will he make life miserable to a patient just because an organic murmur *has* been found. He will be capable of explaining that life may continue in comparative comfort so long as compensatory hypertrophy lasts. Furthermore, he will be able not only to recognize failing compensation, but also to ward off its fatal effects, perhaps for years, by judicious treatment, and finally he will be less likely to interfere when nature does not call for aid—an achievement perhaps one of the greatest in medicine.

Now, let us turn to the study of diseases of the chest as they are presented, not in books, but at the clinic. It is one thing to learn the symptoms and physical signs of disease, and quite another to recognize them in the patient. Here lies the difference in medical men. Book knowledge is important, but some never get beyond it.

The first patient that it is our privilege to examine gives a good family history. She is thirty years of age, has not had rheumatism, nor any severe illness. She complains chiefly of loss of appetite, headache, and flatulence. Upon exertion and on exposure to cold she has a slight cough. You observe that it is not until the leading question has been asked that she tells of any shortness of breath on exertion. Her symptoms are mainly those of dyspepsia. But those disorders of the digestive tract that receive the name of dyspepsia are not always so innocent as they might seem. Not infrequently a grave kidney lesion may be found lurking in the background, and then again the heart may be at fault. A careful examination has excluded the probability of a kidney complication in this case. We will now investigate the heart. Upon inspection, it is seen that the apical impulse is somewhat to the left and below its normal position. The impulse, on palpation, is found to be slightly increased in force. Percussion does not give a marked increase in the cardiac area. Auscultation, however, reveals a soft, blowing systolic murmur, extending to the left, with the point of maximum intensity in the mitral area. Mitral insufficiency is the lesion, and for this the heart muscles fairly compensate. There is neither œdema nor cyanosis.

This is a very instructive case, illustrating as it does one of the secondary symptoms of heart disease—namely, flatulent dyspepsia. Long before serious engorgement becomes apparent there is this slight alteration in the circulation which results in defective digestion. And, too, a little unusual exertion or some slight exposure of the neck and shoulders produces a dry cough. Besides, if you closely watch these patients you will see that there is dyspnœa, not upon ordinary exertion, so long as it is confined to a plain surface, but during an ascent of a very slight elevation, or on any unusual exercise. As a result also of this, the bright-red color of the lips is seen to change to a much darker hue. I have had just such an instance under observation for the past four years. The patient was treated for simple dyspepsia, with very indifferent results, her heart lesion being unrecognized. But when the real cause of her trouble became known she made rapid improvement. A pill containing a grain each of digitalis, iron, and quinine, in addition to the stomach mixture, with, now and then, medicine for the intestines, comprised most of the treatment. The slight cough, which is provoked by a similar condition in the pulmonary circulation, is prevented by taking only moderate exercise and by keeping the superficial circulation active with sufficient clothing.

There is still another very interesting example of venous congestion resulting from heart disease that occurs to me. A patient who was completely prostrated each month by menorrhagia came for treatment, but her errand was as fruitless as it had been elsewhere until I discovered that she had a stenosis of the mitral orifice. No lesion could be found as a local cause. Concluding, therefore, that the excessive hæmorrhage was due to venous stasis, I put her upon large doses of the infusion of digitalis during that period, and the treatment proved most efficacious.

On the other hand, it is a matter of frequent remark, the number of patients that come firmly convinced they are suffering from an organic disease of the heart, because of the pain and palpitation that often attends dyspepsia. A physi-

cal examination enables the physician to dispel all these fears, while properly directed remedies will remove the cause, quiet the heart, and quell the pain.

Here we have exemplified the interdependence of viscera, and, at the same time, the importance of not attending to one to the neglect of another part of the body.

We now have a patient on whom the ravages of time and disease have set their stamp. It is seen, by pitting on pressure, that his ankles are both œdematous. His face, marked with fine red streaks, is pale, and his lips are slightly cyanotic. The pulse is irregular and small. He tells us that exertion produces shortness of breath, and that upon two occasions he has had hæmoptysis. Thus we have evidence of an increased venous and a diminished arterial pressure. By palpation we find the apex of the heart a little to the left of its normal position, with its impulse fairly strong, while epigastric pulsation is forcible. Upon auscultation there is accentuation of the pulmonary second sound, and just over the apex can be heard a systolic murmur. This murmur is not heard in the back; neither is it carried to the left nor to the right. It is the indication of mitral regurgitation, but there is probably very little regurgitation as compared with the amount of obstruction at this orifice.

Delafield says: "The same lesion frequently produces both stenosis and insufficiency of a valve." And here we have the physical signs that most commonly proclaim this condition.

Such a murmur is much oftener present than the auricular systolic, or so-called mitral presystolic, murmur with this lesion. A feeble mitral systolic murmur, due to a weak ventricle, is also confined to the area of the apex, but that is not the case in hand. Exceptionally, a systolic murmur of the kind we have here gives place temporarily to a presystolic murmur. Obstruction of the mitral orifice produces an accentuation of the pulmonary second sound. This is brought about in two ways—first, by pulmonary engorgement and consequent hypertrophy of the right ventricle, and, second, by the diminution of the aortic second sound from decreased arterial pressure in the general circulation.

When hypertrophy of the left auricle is sufficiently in excess of dilatation to follow up the at first passive flow of blood by a firm contraction, in the completion of auricular systole, we may observe the so-called mitral presystolic murmur. But under other conditions of stenosis, unless the valve is closed during ventricular systole, such a systolic murmur will be produced as we find here. The case is of further interest in that we are able to restore the arterial circulation, sufficiently at least to do away with the dropsy. In order to accomplish this we must increase the quality of his blood by food, rest, and tonic medicines. By the addition of digitalis, compensation will be re-established, and thus nature assisted by a timely and not unintelligent interference.

The history and symptoms of patient number three are of a cough, attended at one time by white frothy sputa, at another by muco-purulent expectoration. This began with an hæmoptysis early in the spring. She has night sweats, and believes she is losing flesh and strength. A brother and a sister died of consumption. We are led naturally to suspect incipient phthisis; but the diagnosis of the early part of the first stage, by physical signs, is not always an easy matter; and it is quite beyond the reach of one who has not given some special attention to the subject. We know that fremitus is more marked at the right apex in health than at the left, that the pitch is higher on percussion, that expiration is higher in pitch and longer in duration upon auscultation, and also that vocal resonance is exaggerated. With these signs at the left apex we should be almost certain of phthisis. How, then, are we to determine whether there is phthisis upon the right side? In the first place, the disparity seems to be greater than is found ordinarily in health; and, secondly, there is evidence of a circumscribed bronchitis, shown by the localized subcrepitant râles. Besides, there are a few crackling and crepitant râles, indicating some slight co-existing pleurisy and pneumonia.

These adventitious signs are confirmatory evidence, and, taken in connection with an elevation of temperature, complete the diagnosis.

The advantage of detecting the presence of phthisis at an early stage is very great, for that is the time in which judicious treatment is productive of the best results. While, unfortunately, the greater number do not, still it is a well-established fact that patients do recover from phthisis. We find this demonstrated in autopsies, when death has taken place from other causes, by the presence of cicatrices or encapsulated cretaceous remains of old phthisis. It is also within the experience of many of us to have watched the progress toward recovery. Localized pneumonia undergoes resolution, circumscribed bronchitis disappears, and with them all decisive evidence of pulmonary phthisis.

The next patient comes with a history of a cough which has lasted nearly two years, associated with night sweats, loss of flesh and strength, but no hæmoptysis. His father and a brother died of what he thinks was consumption. Upon inspection, we see that he is much emaciated, especially about the chest. Under both clavicles there is depression, the retraction being more marked upon the right side. On palpation, we find fremitus exaggerated upon the right side, and his respirations are twenty-four a minute. Light percussion shows dullness in the upper part of the right infra-clavicular region and over the upper half of the left side of the chest, while forcible percussion brings out cracked-pot resonance from the left infra-clavicular region. Auscultation reveals bronchial breathing and bronchophony over the right, with amphoric respiration and whispering pectoriloquy in front upon the left side, while behind on the left side are large and small bubbling râles. Thus we have an example of the beginning of pulmonary phthisis at the same time with one approaching its end. It is but ill-conceived advice that sends a patient with lungs in this advanced stage of destruction from home and friends, to find discomfort and finally death among strangers in a strange land; and it would seem that a knowledge of the physical signs of disease should enable physicians to avoid doing this thing.

There are a few cases, to be sure, where phthisis advances to the stage of excavation and remains stationary, the patient practically recovering, but this is rather exceptional. If the physician can decide that the phthisis is non-progressive, and finds the pulse good and the general condition of his patient fair, he may give a guarded favorable prognosis, and possibly allow him to try a change of scene and climate.

To return, then, to our opening proposition, we see in all these cases that a comprehensive knowledge of disease is quite indispensable to a specific understanding of the malady under which each patient labors. And without physical exploration there is no certainty, for different diseases have so many symptoms in common that dependence upon symptoms alone is often misleading. By a thorough examination of each case the physician exhausts all possible causes of any given complaint. He begins to know definitely the matter in hand. He knows what is not as well as what is before him. He can direct his remedies to the true seat of the disorder, and he is not under the necessity of trying what may prove an ill-judged experiment, while without this examination his diagnosis is more or less guess-work. He may be right, for a guess has always one chance of being right; but he will often be wrong, and wrong, too, from avoidable causes.

I can not, therefore, urge upon the student too forcibly the importance of a thorough familiarity with physical diagnosis. He will not fail to be convinced of its supreme value in all cases of thoracic disease.

Original Communications.

PHYSIOLOGICAL, PATHOLOGICAL, AND CLINICAL NOTES ON HYDROCHLORATE OF COCAINE, WITH SPECIAL REFERENCE TO ITS USE IN MELANCHOLIA. A PRELIMINARY STUDY.*

By JEROME K. BAUDUY, M. D., LL. D.,
PROFESSOR OF PSYCHOLOGICAL MEDICINE AND DISEASES OF THE NERVOUS SYSTEM, MISSOURI MEDICAL COLLEGE; SENIOR ATTENDING PHYSICIAN TO ST. VINCENT'S INSTITUTION FOR THE INSANE, ST. LOUIS.

This remedy is one of the great discoveries of the present century. Notwithstanding its recent triumphs in ophthalmological fields, I believe it will have its greatest future in the treatment of many forms of obstinate nervous disease. Anæmia, depression, prostration, neurasthenia, and particularly many disturbances of the vaso-motor system, will be the domain of its most brilliant therapeutical achievements. Having experimented extensively and perseveringly with this wonderful drug, I feel it incumbent upon me to lay before the profession the conclusions I have reached, although many of them are still not sufficiently matured by time and experience.

My attention to the internal use of the drug was first awakened early in January of the present year by reading an able article by a German physician, Dr. Fleischl, of Vienna, detailing the results he had obtained in the treatment of alcoholism and morphinism, in which he enthusiastically maintained that inebriate asylums were a thing of the past.

I shall consider the drug in relation to its effects on all the more important organs.

The Stomach.—After the exhibition of a dose of cocaine to one unaccustomed to it, intense and persistent nausea generally manifests itself. So certainly is this a fact that it is necessary to administer it several hours before a meal is taken; otherwise the anorexia which follows, along with the nausea, will prevent the taking of nourishment. This fact is to be especially remembered in the treatment of melancholia, in which (so far as can be learned) I was the first to suggest its use. If this is not remembered, it will, of course, greatly militate against the result to be attained, since systematic feeding holds an important place in the treatment of this condition.

One of the most striking and, at the same time, interesting effects of cocaine upon this organ, from a therapeutic standpoint, is that *vomiting is not possible*, however intense the nausea may be. This is due either to a paralysis of the gastric motor-nerve supply, which seems to be almost *sui generis*, or to a selective anæsthetic effect. Although the appetite is abolished, there is no interference with the digestion of food taken, in spite of the anorexia. The following incident led to this discovery:

A patient, to whom cocaine was administered some hours after the ingestion of an excessively large meal, was suddenly seized with violent symptoms of indigestion. As he was in great distress, an ordinary domestic emetic was given; this failing to act, one or two more strong doses of a similar character were administered with no result—such as large doses of salt, mustard, and warm water. They were given until the stomach was distended, with no effect except to add to the patient's distress. Ipecacuanha and alum, in fair doses, likewise proved futile. Everything having failed, and the patient's distress from the emetic agents becoming very great, efforts in this direction were stopped. In due course of time the contents of the stomach were carried off by a profuse diarrhœa, which afforded the first relief the patient experienced.

From this and analogous cases I concluded that cocaine should be ranked among the most efficient of anti-emetic remedies. For this I also claim priority, for, early in January, 1885, I suggested to my friend, the late Dr. P. V. Schenck, to make trial of it in cases of the obstinate vomiting of pregnancy. He soon reported before the Medico-Chirurgical Society of St. Louis most complete and brilliant success in two cases in which all ordinary remedies had failed. He was enthusiastic on the subject, and warmly urged me to publish my results. His early death, unfortunately, prevented further experiments in this direction, as I myself have not treated cases of this character for many years.

I have already referred to the loss of appetite which the drug produces. The anorexia is the most certain and complete I have ever witnessed as resulting from the use of any drug.

* Read before the American Neurological Association, June 17, 1885.

In cases of the ordinarily uncontrollable vomiting of hysteria, as well as in all cases in which it is desirable to administer nauseating drugs to patients presenting gastric irritability—ipecacuanha in dysentery, for example—I am convinced that cocaine will prove very useful.

Genito-urinary System.—Although I have made no chemical or microscopical investigation of the urine as modified by the use of cocaine, the time at my disposal having been too limited, I believe that the urinary organs offer an extensive field for observation. It is certain that it produces a largely increased flow of urine, and, as a result of its abuse, a slightly paralytic condition of the bladder. The patient finds it difficult to begin the act of micturition, and, when the act should have been finished, the urine continues to dribble away for some time, as in the incontinence observed after overdistension from retention. From this fact it has occurred to me that it would be well to try the remedy in cases of irritable bladder, whether due to cystitis or to perverted nervous and muscular action, a condition which so frequently baffles the best efforts of the physician.

Upon the sexual organs cocaine acts as a direct stimulant. Among aphrodisiacs I have found it the only reliable agent. In this as well as in other regards it proves directly antagonistic to morphine, which, as is well known, is a powerful anaphrodisiac. The most remarkable results may be effected by bringing the system under the conjoined influence of the two drugs. Veritably atrocious teasing effects are thus induced; the individual will be swayed by the stimulation of his desires to violent and frequently repeated sexual efforts which will almost invariably prove futile or be held in abeyance by the restraining influence of the morphine. The tortures of Tantalus will be repeated, the punishment being transferred to the sexual appetite, which can not be gratified, and being, if anything, more acute than that caused by excitations of thirst and hunger.

A singular effect of the drug is sometimes to be observed in the act of coition. There seems to be present a state of erethism, making it difficult for the individual to determine precisely when the orgasm has been begun or completed. This singular state of affairs is, in some instances, so pronounced as to perplex the individual as to the time when withdrawal should be accomplished. The condition is probably due to a morbid irritability resulting in a disturbance of the reflexes.

Circulatory System and Respiration.—The heart's action is increased both in strength and in frequency under the influence of medicinal doses of cocaine. This is confirmatory of the effects observed by South American travelers from chewing the leaves of the plant. When the dose is excessive, or its use too long continued, the pulse becomes weak and still more frequent, and dyspnœa follows slight muscular effort. The respirations are always increased in frequency to correspond with the acceleration of the heart's action.

The Vaso-motor Nervous System.—It is probable that many of the phenomena already described are due to the effect of the drug upon the nervous apparatus of the arterioles and capillaries, but I desire to lay some stress upon certain effects of this character not alluded to before. Immediately after the hypodermic injection of a full dose of cocaine the capillaries of the skin become contracted. If there has been any flushed condition of the face, it is immediately replaced by very pronounced pallor. The mouth and throat become dry—at least subjectively—the pupils dilate, and profuse diaphoresis usually occurs, if the dose is large and repeated.

In these results there is a strong resemblance to the action of pilocarpine, and at the same time a very remarkable dissimilarity, all therapeutically in favor of cocaine.

Jaborandi and its alkaloid produce nausea, but also vomiting; they cause diaphoresis, but at the same time salivation; they depress the action of the heart, sometimes to an alarming degree, the reverse of the ordinary effects of cocaine. Not quite so certain nor so persistent in its effects upon the secretions of the skin as pilocarpine, it is far more agreeable and safe in its action in cases of cardiac dropsy.

The Cerebro-spinal Nervous System.—The reflexes are all exaggerated. This is peculiarly shown in the act of defecation. It should be observed that, in consequence of the increased secretion of the skin and kidneys, the alvine evacuations become dry, hard, and infrequent. When there is an attempt made to relieve the bowels, the act is accompanied by spasmodic contractions of the abdominal muscles, efforts simulating the throes of the parturient female; the hardened fæces are expelled with force, and every muscle in the body seems to partake of the spasmodic action. There is thus danger of laceration of the sphincter ani, formation of fissure of the anus, aggravation of hæmorrhoids, and, in persons of advanced age whose arteries are degenerated, cerebral hæmorrhage, as a consequence of these violent expulsive efforts.

As soon as a medicinal dose of cocaine has reached the general circulation, a feeling of well-being is experienced; all sense of physical or mental fatigue which may have been present disappears as if by magic; the mind becomes excessively clear; ideas constantly flow, and the faculty of speech seems especially exalted. In fact, it would thus appear that the island of Reil and adjacent speech centers felt especially the force of the drug. So long as these effects are continued, sleep is impossible; no fatigue is experienced from continued muscular movements, no matter how prolonged.

These effects upon the cerebrum give the key to its employment as a therapeutic agent.

Therapeutic Effects.—It has been well known for some time that the fluid extract of coca was a valuable remedy in the treatment of alcoholism and the opium habit, but it is not to be compared with the alkaloid cocaine in this regard. For a remedy of uncertain strength and action we have in cocaine one whose effects can be predicted with mathematical certainty. It not only replaces alcohol and morphine, but it generates a positive disgust for these agents. They can be withdrawn completely and at once without the slightest suffering or injury, and the cocaine itself may be gradually dispensed with, thus eventuating in perfect recovery.

The only caution to be observed in these cases is *to administer the drug hypodermically, and this by the hand of*

the physician himself. This I particularly insist upon. The drug should not be known to the patient, nor the amount of the alkaloid which is being given. If these precautions are not adopted there is great danger—nay, a certainty—that a *cocaine habit* will be formed, more disastrous in its results than alcoholism or morphinism.

I have already referred to its uses in the obstinate vomiting of pregnancy and of hysteria, and would only add in this relation that there is nothing which relieves any of the ordinary manifestations of hysteria so rapidly and completely as a hypodermic injection of cocaine. The same effects may be expected from its use in cerebral and spinal anæmia, "spinal irritation," neurasthenia, and, in general, in all those cases where the brain and spinal cord do not properly perform their functions from want of proper blood-supply; in all these I believe cocaine will prove the remedy *par excellence.*

I have tested its powers in the cold stage of intermittent fever, and have secured the happiest results. There is a return at once of a feeling of warmth, and the skin begins to act, thus bridging over both the cold and the hot stage of the fever. In pernicious cases I have no doubt it would prove of the greatest value. Indeed, as the temperature is increased, both subjectively and objectively, at least 1° F., I have great expectations of its value in the algid stage of even such a disease as cholera.

In chorea gravior, in convalescence from protracted illness of any kind, in blood-poisoning—in fine, in all cases where there is excessive tissue metamorphosis without corresponding constructive changes—I believe cocaine to be a most valuable remedy.

Insanity, however, I believe furnishes the great therapeutic field for the useful administration of cocaine. Especially is this true of melancholia and hysterical and hypochondriacal insanity; in these especially there is a great future before it.

The records of all asylums will show that melancholia is usually a long-continued and tedious disease to treat—one which most alienists naturally dread to encounter. The rapid relief and satisfactory therapeutical results which are observed in mania so frequently, the shortening of its duration, and the control of its more prominent manifestations, are not observed in the treatment of melancholia. Protracted mental depression with accompanying physical prostration are the constant conditions present. Anything which will alleviate this condition and shorten its duration is a boon to suffering humanity. I therefore urge upon the profession to fairly, extensively, and perseveringly test this drug and verify or disprove the wonderful results I profess to have secured in this direction. These effects are so wonderful that they must be witnessed in order to be believed.

As yet I have not had so much time as is desirable to fully experiment with this remedy, but my results obtained at St. Vincent's Institution during the past six weeks have been in every case eminently satisfactory. In certain cases, only to be ascertained by experiment with the drug, it certainly appears to act as a specific. In most cases of melancholia, even those of very long standing, its effects are manifested almost instantly after giving it hypodermically. My usual method has been to inject one grain, dissolved in ten minims of distilled water. Making all allowance for idiosyncrasies, differences in individuals, variations in the purity of the drug, and other factors not necessary to mention, it may be said that within five minutes the specific effects are fully manifested. The patient who has been morose, silent, taciturn, a prey to the most profound grief or sadness, recovers his normal self, begins to talk about his case, and wonders how he could ever have experienced such gloomy ideas. The cloud over the mind is dispelled, and, instead of the anorexia felt by the normal individual who takes the same dose experimentally, the melancholiac no longer refuses food, and, in place of inveterate insomnia, will have a good night's rest. It is in recent cases that its curative effects are most manifest. In those of prolonged standing these results are apt to be rather transitory. In one case, that of a suicidal melancholiac from Arkansas, recently admitted into St. Vincent's Asylum with an ugly gash in his throat, the duration of the disease was less than a month from the time of his arrival at the institution. Only five injections of cocaine were given, and he was discharged, completely restored to mental health, before his injury about the throat had completely cicatrized.

About fifteen patients are yet under treatment, some of whom are greatly improved, some almost convalescent, while a few have received very little permanent benefit from its administration.

A very intelligent young man (still my patient) has written a graphic description of the effects of the cocaine treatment upon his melancholia, for which he alleges the best results, even declaring that it has induced an abolition of his suicidal tendencies. This letter I shall be happy to read to any of the gentlemen present who so desire. In chronic cases the effects are to produce a "lucid interval" which may continue from one to twenty hours. It is too much to expect that permanent good results can be effected in such cases from any course of treatment whatsoever.

Toxic Effects.—Too frequently repeated medicinal doses or very large quantities of the drug, injected subcutaneously at once, produce results alarming both to the subject and to the spectators. The entire surface becomes pale and covered with perspiration; the pupils dilate gradually and are insensible to light; profound nausea, but no vomiting, follows; the muscles of mastication become more or less rigid and affected with clonic contractions, this effect being produced only among the earlier physiological and toxic effects; there are violent grating and gnashing of the teeth, so that small portions of the enamel are ground off. Tonic contractions of the same muscles (trismus) are sometimes observed, but exceptionally. The eyes assume a fixed, wild, staring gaze that is as characteristic as it is indescribable. There is ceaseless jactitation, with a sensation of wild nervousness that is almost unbearable. There is voluminous loquacity, an extraordinary fluency of speech, the volubility of which must be witnessed to be credited. Excitations of the sexual propensities, one rapidly succeeding the other with astonishing celerity, of a teasing character, are generally observed. Superadd to these phenomena visual and

auditory hallucinations and illusions of the most painful character, and you have a conception of the clinical characteristics of acute cocainism. I do not know the lethal dose of cocaine. If given in sufficient quantity, it would doubtless induce epileptiform convulsions, terminating in death from exhaustion.

Chronic cocainism, or the cocaine habit, presents in an exaggerated form most of the phenomena just described, and some additional ones worthy of record. One case has come under my observation which I will give *in extenso*:

In February last a retired druggist was committed to my charge. He had for many years been a hopeless victim to the morphine habit. The morphine was suddenly withdrawn and hypodermic injections of from a grain to a grain and a half of cocaine, twice daily, were substituted. The result was brilliant and marvelously rapid. The craving for morphine immediately ceased, and all the distressing phenomena usually following the sudden cessation of the use of the drug failed to manifest themselves. Cocaine answered every purpose as a nervous stimulant. But I was somewhat alarmed at ascertaining that a corresponding demand for cocaine was rapidly developing itself—that *a cocaine habit*, the literature of which is as yet a blank, was being formed. Alarmed and dreading the responsibility of subjecting him to unknown and, probably, pernicious influences, I sought immediately to diminish the doses he was taking. Against this, however, he rebelled, and my protests and arguments failed to withdraw him from the rapid formation of a habit apparently more alarming in its results than the terrible slavery entailed upon him by his former habit. My consent to the further administration of cocaine was therefore withdrawn. At that time all craving for morphine and all necessity for its use had disappeared.

Owing to his former occupation, he had no difficulty in procuring the drug in large quantities and taking it by the subcutaneous method. His familiarity with drugs made him all the more reckless, and he daily became more and more enthralled. He often took from twenty to thirty grains daily. He has frequently endeavored to shake off the habit, but he finds this impossible. It is vastly more powerful and fascinating than his previous tyrannical master. I have frequently prescribed the free and narcotic use of morphine as an antidote, but this he has refused to use, seeming to entertain a veritable disgust for the agent which had formerly exercised such a power over all his life and actions.

About this time he sustained a severe concussion of the spine, and came under my daily observation, so that I have had ample opportunities for observing and studying the effects of the constant use of this powerful alkaloid in full doses.

The teeth also are implicated in the ravages of this drug, decay and absorption of the roots occurring.

The effects of its internal use upon the eyes have not, so far I know, been thoroughly studied, but I am convinced that the sight becomes enfeebled—a tendency to amblyopia—which is more intensified in the later stages of chronic cocainism. I have also observed diminution of the sense of hearing. Visual hallucinations and illusions, depending upon cerebral disturbances, and, of course, not upon ophthalmic factors, will be referred to subsequently.

The appetite is completely abolished, and, while there is a subjective sensation of dryness of the mouth and fauces, they are found moist on inspection. For weeks—nay, for months—during the continuous administration of the drug and impregnation of the system by it, all desire for food ceases, and I am satisfied that inanition would ensue were not the will-power exercised or forced feeding accomplished. Although very little nourishment is taken, the body does not emaciate to any such extent as under ordinary circumstances of deprivation. There must be some nervous impression or stimulation produced which greatly compensates for the want of physiological nutrition. This is probably due to a lessening of tissue metamorphosis to a minimum.

As regards sleep, the effects are as extraordinary as they are certain. Insomnia is the rule—an insomnia which is not followed, commonly speaking, by the exhaustion ordinarily thus produced. It is astonishing how night after night, during which sleep is almost entirely unknown, are succeeded by days during which the subject is not apparently greatly depressed, not unrefreshed, during which he is able—not, however, without effort and procrastination that are characteristic, increasing—to resume his daily labors, and even perform brain-work of considerable complexity. In fact, I have seen this insomnia kept up for three and four consecutive days and nights, and yet no very marked injury could be observed as a consequence. The nights are sleepless, yet so great is the fascination of the drug that the patient prefers his insomnia to his accustomed rest, although aware that the most arduous duties await him in the morning. This, to my mind, is an all-conclusive proof of the dangerous power and terrible slavery to which this alkaloid subjects its hapless victims.

Nausea and excitations of the sexual functions, already alluded to, add to the patient's distress; but these he bears, overpowered by a fascination which can not be resisted. He experiences the paradoxical delights of "enjoyable suffering."

Visual and auditory hallucinations and illusions of a very painful character make him fear that at every pass he will encounter some dread object. These cocaine effects will make cowards of the bravest men, causing them to arm themselves heavily to guard against the ever-anticipated dread encounter. When the dark vistas and oppressive silence of night arrive he excludes the pure air of heaven, however overheated the room may be, and he blocks up the very key-holes of his doors to exclude unknown and unreal dangers.

In concluding a study of the phenomena produced by the poisonous effects of this drug, I may say that the most alarming are: the most debasing enslavement of the will, a general demoralization which is as diabolical as it is indescribable, and which tends rapidly toward depravity and to the development of everything that is degrading and ignoble in human nature. The influence of alcohol and of other alkaloids and narcotics, so well known and so frequently described, pale into insignificance when compared with that of cocaine. Habits of the most detestable character; a settled indifference to every interest of life; destruction of the most noble affections and affiliations; the utter death of friendship and of all the nobler qualities; complete disregard of all social and domestic duties, of even pressing family necessities and the common interests

of daily life; the radical extinction of every previous religious spark that has enlivened the soul; the development of the most intense selfishness—these are the certain results of indulgence in this the most powerful and devilish drug which it has ever been the misfortune of man to abuse. The most powerful morphine habit of which we can conceive is to the power and bondage of cocaine as the weakest sapling to the full-grown oak.

Note.—A case has just been reported to me by Dr. A. B. Nichols, of this city, in which he used one quarter of a grain of hydrochlorate cocaine internally for vomiting in a woman advanced seven months in pregnancy. The vomiting was arrested by the first dose administered.

ON THE USE OF COCAINE IN MINOR SURGERY.*

By HENRY TUTHILL HALLECK, M. D.,
BROOKLYN.

Considerable has been written and said during the last few months, in the journals and elsewhere, relating to the use of this new drug. Its use in medicine is of recent origin, as it has only been known to the profession since October last.

As time passes, however, this drug seems to be gaining a firmer foothold in therapeutics, and its field of usefulness is constantly widening the better it becomes known. Almost every day we hear of some new application to which this new remedy has been put, and in which it has been found decidedly useful.

The only drawback to a more extensive use of the remedy is the very high price at which it is sold; weight for weight, it is considerably more expensive than 18-carat gold.†

Since its discovery, or rather its application to medicine, in October last, it has been used by a large number of physicians in one or more cases both in surgical and in medical practice.

I have used the drug in two cases in minor surgical operations. The most important evidence in its favor, however, is based upon notes obtained from the surgical practice of Dr. George Wackerhagen, of this city.

Case I.—This was that of an adult forty-five years of age, and a case of phimosis. The operation was done under somewhat peculiar circumstances, as it was not in reality a necessary one. The patient had recently had his two sons operated upon, and partly for that reason and partly because he was a man of some scientific acquirements and was anxious to test the efficacy of cocaine, he was desirous of having the operation performed—so much so that he told the doctor if he would not perform it he would get some one who would. Under these circumstances Dr. Wackerhagen consented. As the patient was determined to be a martyr to science, the doctor would not deter him. A four-per-cent. solution of the hydrochlorate of cocaine was introduced hypodermically at the dorsal base of the penis, on either side, simultaneously painting the prepuce thoroughly, two or three times, over the point where the incision was to be made, after which he waited for fifteen minutes to get the desired effect. At the expiration of this period there was still some tenderness of the foreskin, when the forceps was applied for the purpose of extension. Five minims more were introduced hypodermically. Soon the penis became numb, cold, and blue. Five minutes later the doctor commenced the operation, using a clamp after the usual custom in operating for phimosis. This patient did not have the slightest pain at any time during the operation, according to his own statements. He said, further, that he would not have known that the operation was being performed if he had not been looking at it.

Case II.—Another adult, twenty-eight years of age. This was a case of stricture of the urethra. Dr. Wackerhagen commenced the operation by introducing 30 minims of the hydrochlorate of cocaine with a urethral syringe, afterward closing the meatus and holding it so as to prevent any escape. Then he injected 10 minims into the tissues at the dorsal base of the penis. After waiting a sufficient length of timef or the anæsthetic to take effect, he introduced the urethrotome and cut up to No. 37, French measure, the patient having no pain. He then introduced a bougie, and found the stricture had not been fully divided. The urethrotome was reintroduced and the stricture cut to 40, watching carefully at the same time for any symptom of pain that should manifest itself. At this cutting the patient did complain of some pain, but said it was very slight. So little pain did he experience, according to his own statement, that he would not think of taking ether were the operation to be performed again.

Case III.—This was another case of urethral stricture in the male adult. It was very similar to the last, but here no hypodermic of cocaine was used. Thirty minims (ten minims three times, ten minutes apart) of a four-per-cent. solution of hydrochlorate of cocaine were introduced into the urethra and retained for a sufficient length of time to produce anæsthesia, after which the urethrotome was introduced and the canal cut to No. 40 in the French scale. The urethra was cut from three inches and a half back of the meatus to the corona. This man manifested no symptoms of pain during the operation.

Another marked feature from the use of this drug was that no chill was experienced in any of the foregoing cases, and in all, especially in the operation for phimosis, its marked hæmostatic action was readily apparent.

Case IV.—This patient was also an adult, but with an ulcer of the rectum. He was a man of forty-two years. The anæsthesia in this case, however, was a failure, the effect was nil, and the patient complained of pain all through the operation. The mucous membrane of the rectum was painted with a four-per-cent. solution as high up as could be reached. No hypodermic was employed. After waiting for twenty minutes for the anæsthetic to take effect, the operation was commenced. The patient complained that he felt the pain just as keenly as if nothing had been used. The non-success of the drug in this case was attributed to two causes: first, that the preparation used was of American manufacture, whereas in all the former cases the foreign make had been used; secondly, to the much greater difficulty of properly applying the drug to the mucous membrane on account of the locality. The doctor finished the operation while the patient uttered maledictions on the drug.

Dr. Wackerhagen remarked that he preferred not to use it in the case of children, for the reason that it would be impossible to keep them still enough to operate with any degree of satisfaction, even when absolutely no pain was produced.

Case V.—This was the case of a man, thirty-two years of age, affected with urethral spasm, who was taken to New York to see Dr. Fessenden N. Otis. He also had a stricture. Dr. Wackerhagen demonstrated to Dr. Otis that a No. 7 sound was

* Read before the Brooklyn Pathological Society, March 12, 1885.

† Since this was written the price has declined, so that Squibb sells it at 18 cents a grain.

firmly held in the urethra by the spasm. After removing the No. 7 sound, however, and injecting about thirty minims of the hydrochlorate of cocaine and waiting for an appropriate length of time, a No. 28 sound would slip out and in easily. Several other New York surgeons were present and witnessed the operation, which was eminently successful in two ways: first, by proving that the drug could relax spasm, and, secondly, that there are sometimes strictures with spasmodic complications.

For notes of the two following cases I am indebted to the kindness of my friend, Dr. A. H. P. Leuf:

Case VI.—This patient was a young man with an old sebaceous cyst, located over the middle of the right sterno-mastoid muscle. The offending body was inflamed and pointing, and surrounded by a wall of inflammatory new formation about half an inch thick. The skin was repeatedly painted with a four-per-cent. solution of the hydrochlorate of cocaine for some time before operating. Five minims were injected hypodermically on either side of the sac. The anæsthesia produced here was so very superficial and unsatisfactory that the operation was concluded under ether. It is possible that a stronger solution might have been used with a better result.

Case VII.—This was the case of a young English surgeon, from whose tarsal cartilage Dr. Leuf removed a small tumor. This tumor was of about the size of a pea. The cutaneous surface of the upper eyelid was thoroughly painted with the solution, by means of a small brush, several times before the operation was commenced. The incision was made and the cocaine was continually applied, waiting by spells for the anæsthetic to take effect. He proceeded very slowly with the operation, which he was compelled to do in consequence of these interruptions, and, after all the care that was exercised in this case, much pain was evinced, and the anæsthesia was very unsatisfactory. Dr. Leuf stated that under the influence of ether the operation ought not to have taken more than five minutes, whereas with the cocaine it took nearly an hour, the pain being felt almost as acutely as if no anæsthetic had been used. No hypodermic injection could be given on account of the locality.

The next and last two cases which I shall relate occurred in my own private practice. These were more satisfactory than those in which Dr. Leuf used the drug.

Case VIII was that of a youth nineteen years of age. The operation was for phimosis. The foreskin was not so tightly contracted but that the mucous membrane could be easily reached with a fine camel's-hair brush and painted, which I did very thoroughly with a four-per-cent. solution of the hydrochlorate of cocaine (Merck's). This was repeated several times, and I waited for fully half an hour before operating, painting the foreskin, both on the mucous membrane and on the cutaneous surface, at very short intervals during the whole half-hour. I did not use any hypodermic injection in this case. I had given the patient his choice before the operation whether he would take ether or would have the cocaine, and he preferred the latter. The pain he experienced was extremely slight during the cutting part of the operation, the sutures causing somewhat more, but not enough to give rise to any very serious discomfort. He said he greatly preferred it to ether, which he had taken on a preceding occasion. The operation performed was that of Professor Wight. I also noticed that the hæmostatic effect in this case was good. The hæmorrhage was far less than in those cases in which I have used ether as the anæsthetic.

Case IX was that of a lady who very much dreaded to go under the influence of ether. The removal of a sebaceous cyst from the scalp was to be the operation. I doubted the efficiency of cocaine very much in this locality; however, I resolved to give it a trial, and, as I could not hope to produce any anæsthesia from its external application, I accordingly injected with my hypodermic needle fourteen minims of Merck's four-per-cent. solution of hydrochlorate of cocaine. Seven minims were injected at the anterior base and seven minims at the posterior base of the tumor. I then waited for twenty-five minutes for the cocaine to take effect. On making the linear incision, the patient felt some pain, and, as the spot was not a particularly sensitive one, I doubted somewhat whether the cocaine had anything to do with relieving the pain. However, on pulling out the sac, I thought that the sensation was very much deadened. She complained of some pain, it is true, but did not make half the fuss I expected.

I have also applied cocaine to the mouth with very good effect in one case. It was that of a child only a few months old. It was teething, and I rubbed the swollen gums with my index-finger, first moistened with the solution of cocaine. The child appeared decidedly easier after a quarter of an hour or so, and ceased crying after having it applied a second time. My experience with cocaine has been fairly satisfactory, and I shall continue to use it whenever I think it practicable.

There seems to be a goodly number of conflicting statements with regard to its efficacy, but whether only apparent or real remains to be demonstrated. It is said by some that the American article is useless, and that the imported one only is of use as an anæsthetic. One strong point in its favor is, that in every case where it will take the place of ether it does not leave the patient sick for hours afterward, as is usual after the use of that anæsthetic.

It would also be an interesting point to learn just how strong a solution could be used with safety to the patient to avoid sloughing, gangrene, etc., which might possibly be the effect if too strong a solution should be used, because of its astringency and possible effect upon the trophic nerves. Its application in medicine is likely to be far more extensive than in surgery, and any method by which its field of usefulness can be extended, whether by experiment or otherwise, is certainly praiseworthy.

THE HOME TREATMENT OF PHTHISIS.*

By F. C. SHATTUCK, M. D.,
BOSTON.

About ten years ago, when making a visit in a French hospital, I heard the epigrammatic professor say to those who accompanied him: "For phthisis, gentlemen, there are but two remedies, opium and lies." Of course he did not mean his statement to be taken in absolute literalness, but the remark affords a good illustration of the view which has been held in the past by the profession and the laity alike, but which is undergoing, and will undergo, further modification. Let me quote what another French professor, M. Jaccoud, says in his work, the English translation of which has just appeared: "To sum up what has been stated, pulmonary phthisis is curable in all its stages. This is the prolific notion which presides over the whole history of the

* Read before the American Climatological Association, May 27, 1885.

disease, and which should uneeasingly inspire and direct all medical action." *

There is very little disagreement among doctors as to the fact that the chances of recovery are much better for patients so situated that they can have a suitable change of elimate, or, at all events, move from the city to the country; but is removal indispensable to cure? The experience of nearly every physician in active practice answers this question more or less conclusively. Dr. Flint has shown that a certain proportion of the phthisical recover not only without climatic, but practically without any treatment; that in some eases phthisis ends by self-limitation. But allow me to dwell for a moment on the vital statistics of my own State. In 1857, 39·50 deaths from consumption occurred in Massachusetts for each ten thousand of the population; in 1883, 29·90, the diminution being gradually progressive during this period, as is seen in the accompanying table which I take from the registration reports. These figures show a still larger decrease in the mortality from consumption among the native population, for the decrease has taken place in spite of the constant influx of foreigners, and notably of the Irish, who are proved, by the studies of the late Dr. T. B. Curtis and others, to be especially prone to this disease.†

Death-rate from Consumption in Massachusetts per Ten Thousand.

1857	39·50	1871	33·93
1858	38·42	1872	36·26
1859	38·85	1873	35·36
1860	37·02	1874	32·80
1861	36·77	1875	34·73
1862	34·28	1876	32·35
1863	37·26	1877	32·93
1864	37·89	1878	32·00
1865	36·79	1879	30·42
1866	35·33	1880	30·81
1867	32·55	1881	31·50
1868	32·20	1882	30·10
1869	32·88	1883	29·90
1870	34·33		

This decrease is altogether too large to credit to greater accuracy in diagnosis and to the transference of consumptives to other States, but is mainly attributable to the prevention of phthisis by improved hygiene, especially among the native-born. Still it seems to me fair to carry some of the improvement to the account of the arrest and cure of actually developed disease through early diagnosis and more rational home treatment, hygienic as well as medicinal.

There are two classes of consumptives for whom the home treatment is the only treatment—those whose means do not allow a change of climate, whatever the condition or stage of their disease, and those whose condition is such that, whatever their means, they had better stay at home and die among their friends, surrounded by the comforts which are to be found in the homes of the well-to-do, but which can so rarely be secured, especially in this country, in hotels or boarding-houses. It is true that some of the latter class, buoyed up by the hopefulness so often characteristic of this disease, will not be said nay, and succeed in finding a physician who counsels a change or else take the matter into their own hands; these do not, however, immediately concern us. Nor does it come within the scope of my paper to discuss the questions as to the rules which are to guide us in selecting cases for which a change of climate is desirable, or in selecting a climate for any particular case. The fact remains that the vast majority of consumptives must, perforce, remain at home. How can we best aid the recovery, prolong the life, and alleviate the sufferings of these patients?

I have no novel or startling views to lay before you, and shall probably not be able to tell you anything which you do not know already. In the discussion which follows the paper, if not in the paper itself, there will be valuable suggestion. What I have to say is, of course, without special reference to the particular climate which may belong to the home of the can't-get-away consumptive.

The consideration of the treatment of phthisis falls naturally into two great divisions, the hygienic and the medicinal; let us take up the more important first, including under hygiene food, morals, fresh air, rest and exercise, dress, and bathing.

Phthisis (or the tubercular bacillus, if you will) resembles one of those weeds which grow only on poor or neglected soil, but it also exhausts completely what measure of virtue the soil may have; hence, by every means at our disposal, we should seek to improve the general health of our patients, that we may aid nature in choking out the disease. The key to the position in the present state of our knowledge is in attention to digestion. A patient of mine, a brilliant example of complete recovery, said to me: "As long as my stomach held out I was not very anxious." Every consumptive should eat the maximum amount of nourishing food which he can digest—which he can digest, let me repeat—for, as Lauder Brunton pithily says, we should always remember that food within the gastro-intestinal tract is still practically outside of the body. There are general laws of dietetics, and we know how long it took the stomach of St. Martin to deal with many different articles of food. Certain materials and certain methods of preparation agree better than others with the majority of mankind; but in dealing with patients we give our advice to individuals, not to men or classes of men collectively. In dietetics, as in a Western mining camp, every man is in large measure a law unto himself. I am often reminded of a wretched child suffering from congenital syphilis and rickets, among other things; the bowels were loose, did not improve readily under treatment which I considered to be suitable, and the weather was characteristic of the season—summer; so I sent the child and its mother to a healthy place in the country, with careful directions as to diet and drugs. After some weeks the mother returned

* "Curability and Treatment of Pulmonary Phthisis," translated by Lubbock, pp. 27 and 28.

† For full details on this latter point, which it is impossible for me here to further develop, I must refer to the very able "Report on the Sanitary Condition of Boston," written by Dr. Curtis in behalf of a medical commission appointed by the city. The report was published by the city in 1875.

with more of a child than she took away, and, on questioning her, I learned that for a time she conscientiously followed my directions, but was not rewarded by seeing any improvement; blueberries were plenty in that part of the country, the child craved them, the mother with misgivings gave them, and the diarrhœa promptly ceased. Our distinguished member, Prof. Flint, says, in writing of dyspepsia, that sufferers "must follow the dictates of instinct rather than any precise rules." I was delighted to find this warrant for the assent which my far more limited experience has led me often to accord to the request of patients, and particularly consumptives, for special articles of food, however bad the reputation of such articles as regards digestibility might be; never in the case of a consumptive have I had reason to regret the indulgence. I think we are perhaps oftener called upon to give minute directions as to the frequency with which food is to be taken than as to the form which it is to assume. Much more work can often be got out of the stomach without remonstrance by five, six, or seven light meals a day than by three heavier ones. A glass of milk or the like, with or without a raw egg, and a little alcoholic stimulant, midway between meals and at bedtime, may be of more service than anything contained in the drug-shops; and a cup of hot bouillon, as soon as possible after waking, will carry a patient over his morning cough, bath, and toilet, with a good appetite for breakfast. I have repeatedly seen this simple expedient make a great difference in the comfort of the whole day.

Alcohol, in such form and quantity as careful observation of the individual patient shows is best tolerated, is indicated in most, though not in all, cases. Any toxic effect is to be avoided, and the influence on the appetite and digestion is to be watched; there is room for the exercise of much judgment in the use of this form of food, and that a certain amount of alcohol is, under certain conditions, a food, I have myself no question.

With forced feeding after the manner of Debove I have no personal experience, and dismiss the subject of diet with the repetition of the axiom that in phthisis the physician should see to it that his patient takes all the nourishment he can digest.

The moral management of the case requires a few words. Here there is scope for the most delicate tact and the most intimate knowledge of human nature. Some patients need to be frightened, some to have their fears allayed. Let science clarify and sharpen our vision; let it not render us so hypermetropic that we do not see distinctly the individual in the patient before us. I think we are sometimes inclined to forget what a powerful therapeutic agent prognosis may be. Let us give the patient the benefit of every doubt, remembering that the prognosis represents our opinion, not inevitably the truth. An unfavorable opinion should often be reserved for a near and judicious friend, if the patient be so fortunate as to have one. All patients are not so tenderly considerate of their physician's mistakes as was the young lady who recovered after she was given up by her doctor, and ever thereafter, when she met him, blushed for shame. Occupation is another branch of moral treatment which must not be lost sight of.

Dress need not detain us long. Consumptives are apt to err on the side of too many and too heavy clothes, keeping the skin in perpetual action and wearying the body by mere weight. The ordinary house-dress of the average man in our climate in the winter season weighs eight to ten pounds. Let the consumptive wear wool or silk next the skin from the neck to the toes, and let him change them frequently; a change of stockings several times in the day will often obviate the discomfort of cold feet. It is important, especially with the poorer class of patients, to insist on wool, and warn them not to allow the shopkeeper to pass off a cotton for a woolen garment.

Too much stress can scarcely be laid on the importance of fresh, pure air. Carbonic acid and carbonic oxide are poisonous enough to well people, but how vastly more deleterious to those suffering from a constitutional disease manifesting itself in the lungs! Fortunately, sounder ideas prevail on this point than was formerly the case, but there is still room for improvement. The apartments occupied by the patient should face the south if possible; it seems to be thought by some that the exposure of a bedroom is of no consequence, as if a third of the life of a healthy person were not passed there. An open fire of wood or soft coal should be kept up in the living-room if possible, and ventilation should be carefully provided for. In severe or windy weather a simple frame fitted to the window and covered with flannel can be put in at the top, a weather-strip on the lower edge of the upper sash preventing the rush of cold air which would otherwise occur between the sashes. Fresh air can thus be constantly introduced without causing any appreciable draught. Equal solicitude should be given to the ventilation of the sleeping-room. I am often struck by the appearance of the houses in our most fashionable streets. In streets running east and west land is apt to be higher in price on the north side, which, of course, alone gets any sun during more than six months of the year. Of shades and curtains there are often half a dozen series, and during the forenoon the shades are pulled down and fastened at the bottom that the precious furniture and carpets, more highly valued by the owner than health, may not be faded; the sun is paid for and then excluded for the sake of the furniture. Those who can not afford delicate fabrics are better off.

So much for fresh air and sunshine in the house. Fresh air without the house is naturally considered in connection with exercise. We should insist on out-door exercise in such degree and form as the strength of the patient, the length of his purse, and the season will allow. Driving should, if possible, be in an open vehicle, which for a weak person should have a high back, and in windy weather a veil or a respirator should be worn by the occupant. People are finding out that sleighs are not the only open conveyances which can be used in winter. I believe that with proper precautions there is, as a rule, more risk of catching cold in a close than in an open carriage. Exercise in the saddle, if desirable or practicable, has the great advantage over walking that it distracts the mind as well as uses all the muscles.

We find that a certain number of those who consult us

have been doing too much. I have repeatedly seen fever greatly diminish or cease entirely after putting the patient to bed, with abundance of fresh air, for a few days. It is not enough to tell patients to avoid over-fatigue; very few know what this means. I often try to explain somewhat as follows: "A fatigue which passes away after resting an hour or so on the completion of your exercise is natural and healthy, and therefore does you good rather than harm; but if you find that, in spite of a reasonable rest, you are still tired, you have done too much." Such a rule I believe to be safe.

There is a popular idea that there is something about the night air which is particularly dangerous to consumptives—an idea which, like many of those bearing on medicine and current with the laity, probably came originally from the profession, which advances in knowledge faster than the public. The night air is all the air there is at night, and in non-malarious regions the danger of going out in the evening does not lie in the quality of the air, but in the fact that persons are at that time often tired and, consequently, more sensitive to alterations of temperature, or any other demand upon the vital forces; the bearing of this observation is sufficiently patent.

The character of the employment of the consumptive is also to be borne in mind, and an out-of-door occupation, involving no severer toil than the patient can stand, should be followed if possible. Too often this is impossible; but we must do the best we can under the circumstances.

Patients who are too weak to take any active exercise often derive great benefit from a sun- and fresh-air bath. In the country a little shed can be built, open toward the south and sufficiently deep to keep off the wind from the patient sitting in a chair or lying on a mattress. In the city an easy-chair can be placed near a widely opened southerly window. The invalid should have as many blankets or robes as he wishes. No matter how low the thermometer, if the sun shines brightly there is rarely any difficulty in keeping warm, and a small sun-shade or similar contrivance is often needed to protect the head. No artificial heat has the penetrative power of the sun, and I have repeatedly found patients, who were horrified at the idea when first presented to them, enthusiastic in their expressions of satisfaction at its practical working. In city streets people often object to this measure from a fear of appearing peculiar to their opposite neighbors or passers-by. I have found it a most valuable means of treatment for those who are debilitated from any cause.

Gymnastics, with the view of expanding the chest and promoting the absorption of diseased products in the lungs through the improved circulation thereby brought about, have perhaps not received so much attention from the regular profession as they deserve. Of course, exercise of any kind quickens the circulation; but this is not clearly understood by the laity, and the imagination is more excited by means which are manifestly directed immediately to the seat of the disease. Respiratory gymnastics have thus a double value, and precise directions are more likely to be followed than those which are purely general. I know of a "doctor" who has apparently found it very profitable to teach people how to breathe, and I do not doubt that some of his patients have found it profitable to learn; he thus prevents and cures consumption, reduces the weight of those who are too fat, and augments that of those who are too lean. A grain of truth is none the less precious because it is covered with an investment of quackery.

Another and the last branch of hygiene on which I shall touch is bathing. Cleanliness is desirable in itself, and it is quite as important for the phthisical as for the healthy to maintain a proper action of the skin. After a warm bath, unless it is followed by a cold douche, exposure to cold is to be carefully guarded against. A cold bath is a powerful tonic; but how are we to determine in a special case the proper temperature? Of course, in many cases cold baths are out of the question, but probably not in as many as is generally supposed. It is the reactive power of the patient rather than the thermometer which should decide the temperature of the cold bath; the colder the better, provided that thorough, prompt, and persistent reaction follows, promoted by a brisk rubbing with a coarse towel or a flesh-brush. The use of a cup of hot bouillon before the bath has already been alluded to, and reaction may often be further aided by the addition of rock salt or some other cutaneous stimulant to the water. That the systematic study of hydro-therapeutics as one of our weapons against debility will receive more attention in the future than it has in the past, I have no question.

The medicinal treatment may be divided into the general or curative, and the symptomatic or palliative, the object of the former being to stimulate and improve the general nutrition, that of the latter to check as they arise such symptoms as militate against the recovery or the comfort of the patient. Such a division may be artificial, but, for our present purposes, is convenient.

If we always bear clearly in mind the fact that our aim in giving general medicinal or tonic remedies is simply to promote assimilation, and thus put our patients into a condition more favorable to recovery or less favorable to the rapid advance of their disease, among other advantages we are apt to choose more judiciously the special form of tonic which is most likely to be of service. Cod-liver oil, either pure or in one of the numberless disguises which it is made to assume, and some of which certainly have their places, needs no commendation from me. It is, perhaps, a food rather than a drug; but a food which demands a certain amount of digestive power, and we all see it prescribed when it does more harm than good, for the very simple reason that digestion is not equal to it. With many physicians the diagnosis phthisis is followed by the prescription oleum morrhuæ as the thunder follows the lightning. "The doctor told me to take cod-liver oil, but I can't keep it on my stomach," said a feverish young girl without appetite who consulted me only yesterday. In my experience this remedy is generally to be avoided if the tongue be coated and the appetite poor; if, in addition, there be fever, the case is still clearer. The fever requires always fresh air, often rest, with quinine or another antipyretic, and the stomach a bitter tonic, as a rule, combined or not with a laxative, according to circumstances. After a week or two

of such treatment the appetite and digestion are often so much improved that cod-liver oil is borne. If there is any doubt as to its toleration, it is better to begin with teaspoonful doses and gradually increase to the full dose as warrant is found for doing so, the full dose being much larger than most of us have been in the habit of using, if the views of Jaccoud are correct. If the pure oil is well borne, I believe it to be better than the more palatable though weaker preparations, and the remedy is not to be thrown aside without a fair trial, inasmuch as a stomach which is rebellious at first sometimes accepts the situation with apparent cheerfulness after a few days' cautious persuasion. It is not needful that I should enumerate or dwell upon the various emulsions, etc.; the advertising pages of our journals, circulars, and the periodical visits of the affable gentlemen with hand-bags, remind us of them sometimes in moments when we would fain forget them. The fact remains that cod-liver oil pure, or never so skillfully emulsified, is worse than useless unless it can be digested; if it can be digested, it is a most valuable form for the administration of fat, a material which long and wide experience has shown to be especially indicated in consumption.

Jaccoud recommends highly glycerin, ℥ jss.–ij daily, as a substitute for cod-liver oil when there is fever.

Ferruginous tonics are sometimes of use for short periods if there is notable anæmia, but are contra-indicated by a coated tongue and sluggish bowels. Arsenic, on the other hand, either in solution or pill, has a much wider application than iron in phthisis, and should often be continued for long periods. The dose should be as large as is perfectly well borne, and it is sometimes well to omit it for a week and then resume. It interferes in no way with the administration of cod-liver oil or glycerin. The diastatic tonics and the hypophosphites also have their place, and often seem distinctly to aid a feeble digestion, thus contributing toward a gain in flesh and strength.

The leading symptoms which call for interference, and to which I shall briefly call your attention, are cough, pain, night-sweats, diarrhœa, and hectic with its attendant nervousness.

Patients often say to us, "Doctor, I have taken your medicine, but my cough is no better," the cough representing to them the disease. In a semeiological sense they are largely right, but in a therapeutic sense very far wrong. When the cough ceases entirely the patient is at the door either of recovery or death; but we know, even if our patients do not, that, as long as there is mischief in the lung, cough must persist. How often do we see consumptives who, generally on their own notion or acting on the suggestion of friends, but, unfortunately, sometimes in accordance with medical advice, are taking cough mixtures to their detriment! In advanced cases, which must sooner or later prove fatal, such an error is of less consequence; but in early cases the effect on the appetite and digestion is often disastrous. Coughing may be very hard work, but before we interfere with it there is one main question we should ask ourselves: Is the cough in the case before us useful or needless? I speak of cases relatively, not absolutely. A cough which is followed by expectoration is not entirely in vain, while that which is simply irritative wears out the patient. The former is not to be checked by any means which involves the risk of impairing the digestive power unless it provokes vomiting or breaks up the night's rest, which is of such vital importance that we are justified in seizing the two-edged-sword opium to obtain it if milder means fail. The surest way to diminish excessive expectoration is to pay close attention to hygiene and diet, though suitable inhalations will sometimes help. The type of the useful cough is that which occurs on waking in the morning, and which clears out the secretions that have accumulated during the superficial respiration of sleep. The value of a hot drink, which with a spirit-lamp at the bedside and five minutes' time is ready, as an expectorant at this time has been already spoken of. If this is not sufficient, a little alcohol or a stimulating expectorant, like carbonate of ammonia, can be given in addition.

The teasing and irritative cough, on the other hand, it is our duty to check if we can, but by the mildest means at our disposal which will accomplish our object. Oftentimes I have found chloroform-water stand me in good stead; but there are cases in which the narcotics, and especially morphia, must be used; the great danger of morphia is that it is so efficient in relieving cough that we are tempted to use it indiscriminately, thus doing great harm. One of the most distressing forms of cough met with in the phthisical is that hard variety which leads to vomiting, consuming the patient like a candle lighted at both ends; this generally calls for opium in some form, though it is well to try the effect of an alcoholic stimulant first. Especially in those cases with sharply localized pulmonary lesions, counter-irritation over the seat of the disease will often economize drugs and the stomach alike. The ammonia blister is a favorite form with me.

For the thoracic pain which is apt to be more or less pronounced at times in nearly all advanced and some early cases, and which is sometimes rheumatic or neuralgic, sometimes pleuritic, we are called upon to prescribe. Counter-irritation with mustard, chloroform, a liniment, croton-oil, and the like, generally proves sufficient, though here again we are sometimes forced to use opium. When the pain is fairly localized I find that the application of a dry cup or two, a simple remedy which has gone too much out of fashion and of which any untrained attendant can readily be taught the use, is often followed by marked relief.

Another symptom which demands interference is night-sweat, sapping the strength of the patient and marring his sleep. Sometimes it is a very easy matter to control this overaction of the skin, sometimes it is very difficult. Hence it is well to have many strings to our bow; we are not infrequently compelled to try successively aromatic sulphuric acid, oxide of zinc, ergot, atropia, quinine, or Dover's powder internally, or dusting powders, sponging with acids, alkalies, alcohol, or tincture of belladonna externally, before we meet with success. If the patient can bear it, active friction or shampooing of the skin is often desirable. I have given a good deal the pill used in the Victoria Park Hospital containing morphia and atropia, combined with a little capsicum and a laxative if required; night-sweats and

cough are both controlled by it, but my objection to atropia lies in the difficulty of so adjusting the dose that the desired effect on the skin is obtained without producing an undesirable degree of dryness of the throat. In two cases I have succeeded with picrotoxin after having tried in vain every other remedy of which I could think.

There can be no more question as to the propriety of trying to relieve diarrhœa than there is with regard to pain and night-sweats. When the loose discharges depend on ulceration, and still more when they depend on amyloid disease of the intestine, they are apt to be difficult to restrain; and yet in some cases of tubercular, as of typhoid ulceration, so far from diarrhœa being present, there is constipation. It is needless to say more than that the treatment is by astringents and opium, the particular remedy in any given case depending on the urgency of the symptom, trial, and any known peculiarity of the patient. In cases where there is any hope of recovery, if we give opium we should strive, while we give enough to attain our end, to give no more than is necessary.

For nervous irritability, whether manifested by a worried but healthy adult, a teething child, or a phthisical person, a plentiful supply of cool, fresh air is the first indication.

Against the fever of phthisis antipyretics have, as far as I know, been but little employed in this country. I certainly have made no systematic use of them myself. The fever is not the disease, and the cases must be very rare in which a diminution of the pyrexia for a few days may make all the difference between recovery and death, as is sometimes true of the more acute infectious diseases. At the same time fever works to the detriment of the patient in two ways—diminishing his income and also squandering his capital. Therefore, if we can combat it without destroying what little digestive power it is apt to leave, clearly our duty is to do so, and I propose to give the method which Jaccoud thinks has yielded him admirable results a thorough trial. It is perhaps scarcely fair, either to him or to you, to try to describe in a few words what his method is; but the gist of it is the administration of large doses of quinine for inflammatory fever by the mouth or under the skin, the hydrobromate being always chosen for the latter avenue of introduction into the system, while for the fever of absorption large doses of salicylic acid by the mouth or salicylate of soda hypodermically, if the stomach is irritable, are chosen. Whether we shall all find it as easy to differentiate the forms of fever in phthisis as does Jaccoud I do not know, but the subject of fever is far too large for our present opportunity.

My slight sketch of the home treatment of consumption is now finished. The different aspects of the question afford material for a dozen detailed pictures, and there are two important lines of treatment of which I have purposely omitted all mention—inhalation, notably by antiseptics and oxygen, and the use of artificially compressed and rarefied air. Perhaps I am wrong, but the published reports of the experience of Pepper, Beverley Robinson, and others, has not encouraged me to try antiseptic injections into the lungs; nor have I ever practiced the free incision and drainage of pulmonary cavities.

DISCUSSION.

Dr. P. Kretzschmar indorsed the remarks of Dr. Shattuck. There were some points which perhaps deserved further consideration. One related to the sleeping-room. As we all knew, one third of the time of every human being was spent in the sleeping-room, and he therefore thought that more attention should be given to this matter in the hygienic treatment. He had in mind particularly the question of the size of the sleeping-room, the question of the consumptive sleeping with other persons, and the question of leaving the windows open at night. The home treatment of consumptives related especially to the poor, and here we were apt to find five or six persons sleeping in a small room badly ventilated. He thought more could be done by the administration of pure air if attention were given to the ventilation and size of the sleeping-room, where the patient spent a third of his life, than by other means. He, of course, approved of the author's remarks concerning the ventilation of the sleeping-room during the day. The second point was, Should we not advise our patients, especially those inclined to phthisis, against sleeping with others? A third point was, we did not usually pay sufficient attention to the frequent and thorough removal of the sputa from the sleeping-rooms. In addition to the remedies mentioned, he recommended cold sage-tea before going to bed.

Dr. Robinson said he did not wish in any wise to criticise the paper as far as it went, for he agreed with Dr. Armour, who considered the paper an admirable presentation of the subject, but he regretted that the author had not mentioned three modes of treatment which he believed physicians might find of advantage in the treatment of phthisical patients at their homes after other methods had failed. The first was forced feeding, giving patients more food than they craved, and even more than the stomach could digest if the food was swallowed. The second method related to intra-pulmonary injections; the third to antiseptic inhalations, with regard to which he had presented his views in a paper to-day. These methods had been tried in St. Luke's Hospital during the past winter. A young man came into the service of Dr. Ball six or eight months ago, afterward into Dr. Kinnicutt's service, and finally into his (Dr. Robinson's). On admission, there was evident pulmonary infiltration at the apices, and the stomach was absolutely intolerant of the smallest quantities of food. Nearly everything was vomited. By washing out the stomach and pouring food into it through a soft tube they were enabled to give the patient nutriment, and increased his weight at least six or seven pounds. Beyond this increase in weight, the patient's phthisical condition was in no sense ameliorated. We had to take such a case for what it was worth. We certainly could not take it as showing that phthisis was made better even by improved nutrition; but it showed that we could increase the patient's weight and thus better his condition.

With regard to injection of infiltrated lung areas, he could only repeat what he had before endeavored to emphasize, namely, that there were certain cases in which we were unable to arrest cough by other means, while this treatment benefited cough and local congestion.

One more word, which he knew to be heterodox, but which he believed nevertheless to be true. He had had charge of a good many phthisical patients at the Out-patient Department of the New York Hospital, and he could say that certainly very few of those persons having infiltration of the lungs were benefited to any considerable degree by ordinary methods of treatment.

Dr. Shattuck, in closing the discussion, said he cordially agreed with all Dr. Kretzschmar had said. He had found it

hard to tell, in so short a paper, what to say and what to leave unsaid. With regard to what Dr. Robinson had said concerning forced feeding, he was glad to hear about it, and to know that it had been tried in New York. He had not mentioned it in his paper because he had had no personal experience with it. Inhalations and treatment with compressed and rarefied air he had left out purposely, because they were large subjects and he knew there were to be papers specially devoted to their consideration. With regard to injections into the lungs, he had read one paper on the subject by Dr. Robinson, and the impression which he got from it was that he did not do the patients any harm, but he could not say that he did them any good, and it was not pleasant to have the needle stuck into one unless it promised some good result.

THE RADICAL TREATMENT OF SYPHILIS.

By W. A. HARDAWAY, M. D.,
ST. LOUIS.

The article in this journal for July 11th, by Dr. Leuf, on the "Eradication of Syphilis during the First Stage by Surgical Means," will perhaps recall the fact that a paper of similar import was published by me in the "New York Medical Journal" for December, 1877. In von Ziemssen's "Handbuch der Hautkrankheiten," Neisser, in the article on syphilis, credits my paper on the extirpation of lymphatic glands in the radical treatment of syphilis to the "American Journal of the Medical Sciences" for 1877.* As a matter of fact, however, this subject was presented by me originally in the shape of a thesis for graduation in the year 1870. It was subsequently published in the "St. Louis Medical and Surgical Journal" for May, 1872, then enlarged and read before the American Dermatological Association in 1876, and afterward printed in the "New York Medical Journal," as stated above.

Before concluding, I should like to trespass on your space for a few general statements. Hill's case, well known to syphilographers, in which he cauterized a laceration of the frænum, made during violent intercourse, twelve hours after its occurrence, and with a negative result as to prevention of systemic infection, together with the oft-quoted inutility of the complete destruction of the vaccinal *bouton*, have been paraded time and again as proofs, both positive and analogical, of the utter futility of any local measures in the suppression of constitutional symptoms. While I am far from denying that the *complete* and *sufficient* destruction of the initial lesion, at the right time and in the right way, may, under certain circumstances, avert general syphilis, still I long ago said: "I believe that in a certain number of cases destruction of the initial lesion would prove futile, as I am of the opinion that the virus is soon carried to the lymphatic glands, as is evidenced by these glands undergoing the same processes as obtained in the primary sore, and this would explain why total destruction of the inoculated parts has generally proved unavailing." In the section on treatment, in the paper referred to, which I shall take the liberty of quoting at length, I made the following statements:

"As a logical result of the views which have been expressed as to the pathology of syphilis (that is, absorption by the lymphatics), it has long seemed to me that an early extirpation of the enlarged lymphatic glands contiguous to the initial lesion would in some instances avert constitutional infection. This would certainly be, to say the least, as legitimate an operation as excision of the chancre itself, which is looked upon favorably by some excellent authorities, although, even from my standpoint, I would regard this latter procedure as generally unavailing for reasons already given. By writers such as Lee, Lancereaux, and others, who do not deny that the syphilitic virus is carried to the glands by the lymphatic vessels, this operation might still seem to be justifiable, as depriving the blood of one of its sources of infection. While not bearing directly on this subject, but still of interest in this connection, we find Niemeyer writing that 'it is quite possible that at no distant day the danger of pulmonary tubercle, which the presence of the cheesy residua of enlarged glands produces, will take a place among the indications for the extirpation of peripheral lymphatic tumors.' It would be advisable to remove enlarged lymphatics following the initial sclerosis at the earliest period practicable, when they had first begun to indurate. . . . Again, if it be admitted that lymphatic glands remain as foci of infection, . . . it would not be bad practice to remove them."

Some years after the foregoing was first written I had the good fortune to read the very remarkable papers by M. Raynaud, entitled, "Recherches expérimentales sur l'infection et l'immunité vaccinales," "Gazette hebdomadaire," No. 29 *et seq.*, tome xvi, 1879. These experiments of the late distinguished French physician, which seem to be little known, but, so far as I am aware, never contradicted, appear to my mind to be conclusive so far as vaccinia is concerned, and also by a logical analogy for syphilis. As I have already occupied too much of your valuable space, I shall content myself with merely giving an outline of Raynaud's experiments. Raynaud has demonstrated (*a*) that the virus of vaccinia is conveyed to the system at large by way of the lymphatics; and (*b*) that extirpation of the vaccinal *bouton* alone is ineffectual as regards general infection, but that this end is completely gained when (for reasons that he clearly indicates) both the *contiguous glands* and the vaccinal lesion are suppressed.

* The whole title of the paper is "The Lymphatic Theory of Syphilitic Infection; with a New View of the Relation between the Chancre and Chancroid, and Suggestions for the Treatment of Syphilis."

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Fownes's Manual of Chemistry, Theoretical and Practical. A New American, from the Twelfth English, Edition, embodying Watts's "Physical and Inorganic Chemistry." With One Hundred and Sixty-eight Illustrations. Philadelphia: Lea Brothers & Co., 1885. Pp. xxx–1056.

The Management of Labor and of the Lying-in Period. A Guide for the Young Practitioner. By Henry G. Landis, A. M., M. D., Professor of Obstetrics and Diseases of Women in Starling Medical College, etc. Philadelphia: Lea Brothers & Co., 1885. Pp. viii–334. [Price, $1.75.]

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co.
Edited by FRANK P. FOSTER, M. D.
NEW YORK, SATURDAY, SEPTEMBER 26, 1885.

THE INTERNATIONAL MEDICAL CONGRESS.

WE are close upon the termination of the period of thirty days that the New York meeting of the American Medical Association's committee laid down as the time within which it would receive back into the fold any of the gentlemen who had declined to figure in its organization of the International Medical Congress, but who might be willing to withdraw their declinations. In the course of a week from now the period alluded to will have all but expired. So far as we know, only one person has seen fit to respond to the committee's overtures, while, on the other hand, the work of declination is steadily going on, and, as will be seen by announcements elsewhere in this issue, has been taken part in latterly by some of those to whose continued support the committee must have attached the utmost importance, and upon which it must have counted quite confidently. Not only has the committee thus signally failed to recall those who declined to share its fortunes, and to prevent others from joining them, but it is plainly evident from the expressions made use of in the committee's official report of its proceedings that it has at last come to recognize the fact that it must proceed with great caution in the work of making appointments, lest it may appoint gentlemen only to find them declining at the earliest opportunity.

It is manifest, therefore, that the committee has utterly failed to repair in any degree the breach of concord which its creation precipitated upon the American profession, and which, in the view of the great majority of well-informed and fair-minded men, has entirely done away with the possibility of a successful meeting of the Congress in this country in 1887. It was not to be expected that the committee would be able, even if it was willing, to take measures calculated to restore the harmony necessary to success; for it could not, of course, go counter to the implied instructions under which it acted. Having done its best to carry out those instructions at its Chicago meeting, it might at one time, when its efforts were first shown to have demonstrated the impracticability of reconciling the American Medical Association's usurpation with the possibility of a successful meeting of the Congress, have gracefully declined to proceed further in its thankless task. Instead of doing so, it chose to indulge in further attempts to accomplish the impossible, and it also took occasion—or occasion has been taken in its behalf—to inform the profession that its (the committee's) course was in no sense a compromise. Compromise it certainly was not, nor was it in any way conciliatory. As the committee, therefore, has no disposition to conciliation, it is useless to expect now that it will under any circumstances admit that its creation was detrimental to the proposed Washington meeting of the Congress. The question arises, then, whether it is incumbent upon the officials of the Congress to wait much longer before withdrawing the acceptance of the American invitation. Our own conviction is, that both the interests of the Congress and those of the American profession would be decidedly furthered by prompt action on the part of our European colleagues.

MINOR PARAGRAPHS.

THE NEW BRITISH PHARMACOPŒIA.

FROM the comments of our London contemporaries on the new British Pharmacopœia, we learn that certain changes of nomenclature have been made which bring it into close conformity with our own pharmacopœia, especially in the matter of the proximate principles of vegetable drugs. Such words as morphia, strychnia, atropia, etc., have been given up, as was done in our pharmacopœia three years ago, and we trust that they will soon disappear from medical writings. As with us, the alkaloids are now to be known by names ending in *-ina*, while the termination *-inum* is given to neutral principles. Now that the British and the United States Pharmacopœias are at one on this point, and in accord with the practice of contemporary chemists, we trust that their example will soon be followed in the pharmacopœias of other nations. As regards nomenclature, the oleates seem to have been put upon a different footing from other salts with names ending in *-ate*, for, while we read of sodii salicylas, sodii sulpho-carbolas, etc., we find oleatum hydrargyri, and so on. Paraffinum durum and paraffinum molle, which we take to mean respectively paraffin and "vaseline," seem to us to be preferable to our own terms for those substances. Among the coca preparations we find cocainæ hydrochloras and lamellæ cocainæ.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 22, 1885:

DISEASES.	Week ending Sept. 15.		Week ending Sept. 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	48	9	59	13
Scarlet fever	24	1	15	1
Cerebro-spinal meningitis	5	5	4	5
Measles	1	0	4	2
Diphtheria	38	18	46	30
Small-pox	2	0	2	2

Small-pox in New York.—It is reported that a woman suffering from small-pox was found in a house in Grand Street. It is probable that other cases may result, as a number of boarders left the house as soon as the nature of the disease was discovered.

Small-pox in Canada.—The United States Consul-General reports to the secretary of the National Board of Health the number of cases of small-pox to September 15th as follows: Province of Ontario.—Cornwall and vicinity, 2; Toronto, 2; Ottawa, 2. Province of Quebec.—St. Johns, 2; Farnham, 20 cases and 6 deaths since July 20th; Coteau Landing, 3; Longueil, 1; Three Rivers, 2. In villages in consular district, 8. Montreal, September 10th to 16th.—Cases reported 10th to 12th inclusive, 132; authenticated by Health Department, 54. Deaths reported from September 10th to 12th inclusive, 164. By order of the Board of Health, information concerning reported cases is

now withheld, on the ground that the information on which the reports are based is not reliable.

The Plymouth, Pa., Epidemic of Typhoid Fever, which it was supposed had come to an end, is reported to have again made its appearance. One case has already proved fatal, and several new cases have been reported.

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, August 29th: *Montreal, Canada.*—For the week ending September 2d: 230 cases of small-pox and 96 deaths. For the week ending September 9th: 192 cases and 120 deaths. The number of cases includes only those reported by physicians or which have been verified by the Health Department. During the three days, September 7th to 9th inclusive, 80 cases were reported, as against 112 during the three days, September 3d to 5th. *Toronto, Canada.*—Up to September 5th there were only 4 cases of small-pox reported. *Three Rivers, Canada.*—September 5th: One case of small-pox reported; disease contracted in Montreal. *Concord, N. H.*—For the week ending September 10th: The secretary of the State Board of Health reports that there are 4 cases of small-pox in hospital at Manchester, the disease being confined to the members of a French family recently arrived from Montreal. There have been no known exposures to these cases, and precautions are being taken to prevent the spread of the disease. *Havana, Cuba.*—For the three weeks ending September 10th: 92 cases of yellow fever and 29 deaths. *Cardenas, Cuba.*—September 5th: Free from epidemic diseases. *Matanzas, Cuba.*—September 9th: Intermittent fever prevalent. *Cape Haytien, Hayti.*—In good sanitary condition. *St. Thomas.*—August 31st: 2 cases of yellow fever, in a family recently arrived. No cases among the shipping. *San Domingo.*—September 3d: Free from epidemic diseases. *Pernambuco, Brazil.*—August 7th: 1 death from yellow fever. *Acapulco, Mexico.*—September 3d: Pernicious fevers prevalent. *La Guayra, Venezuela.*—August 29th: Free from epidemic diseases. Yellow fever in *Caracas* abating. *Callao, Peru.*—From July 18th to August 15th: 5 cases and 4 deaths from small-pox. During the week ending August 8th 1 case of yellow fever was reported. *Guyamas, Mexico.*—August 23d: No epidemic diseases. Sanitary condition good. *Cartagena, Colombia.*—August 28th: Consul reports sporadic cases of yellow fever. *London, England.*—For the four weeks ending September 5th: 26 deaths from small-pox and 12 from cholera or choleraic diarrhœa. The number of cases of small-pox in the hospitals is 295 against 310 August 29th. *Bradford, England.*—For the week ending August 22d: 1 case of small-pox reported; the disease is also reported as prevalent at *Ilkley*, a neighboring health resort. *Paris, France.*—For the two weeks ending August 29th: 11 deaths from small-pox; 29 cases treated in hospital. *Bordeaux, France.*—For the month of August: 4 deaths from small-pox. *Antwerp, Belgium.*—For the four weeks ending September 5th: 13 cases and 3 deaths from small-pox. *Cadiz, Spain.*—For the week ending August 29: Deaths during the week about 40 above the average. The increased mortality is due to diarrhœal disease and cholera. Officially, the port is regarded clean, and clean bills of health are issued. *Gibraltar, Spain.*—For the three weeks ending August 29th: 24 cases and 12 deaths from cholera. *Malta, Spain.*—For the two weeks ending August 15th: Free from cholera and small-pox. *Barcelona, Spain.*—From August 1st to 10th: 125 deaths from cholera; from August 10th to 31st: 581 cases and 335 deaths from cholera. *Valencia, Spain.*—For the two weeks ending August 29th: 56 cases and 24 deaths from cholera; 5 cases and 2 deaths also occurred on a Danish vessel in the harbor, from Barcelona. *Tarragona, Spain.*—For the week ending August 29th: 22 cases and 8 deaths from cholera. *Genoa, Italy.*—For the two weeks ending August 30th: 6 cases of small-pox and 2 deaths. *Venice, Italy.*—For the two weeks ending August 22d: 8 deaths from small-pox; diarrhœal diseases also prevalent. *Treiste, Austria.*—For the three weeks ending August 29th: 50 cases and 10 deaths from small-pox; the disease is said to be increasing. *St. Petersburg, Russia.*—August 1st to 15th: 3 deaths from small-pox. *Warsaw, Russia.*—For the two weeks ending August 22d: 12 deaths from small-pox. *Bombay, India.*—For the month of July: 41 deaths from cholera. *Calcutta, India.*—For the three weeks ending August 8th: 89 deaths from cholera. *Hioga, Japan.*—From July 1st to 25th: 4 deaths from small-pox. *Osaka* and *Hioga, Japan.*—August 8th: No cases of contagious or infectious disease reported. During the first six months of the current year the following cases and deaths from infectious diseases have occurred in Japan, as reported by the Japanese Central Sanitary Bureau: Typhoid fever, 7,984 cases and 2,078 deaths; diphtheria, 1,442 cases and 856 deaths; typhus, 444 cases and 78 deaths; small-pox, 4,472 cases and 1,191 deaths; cholera, 16 cases and 10 deaths. The total number of cases and deaths from cholera in Spain from March 4th to August 16th is 159,173 cases and 63,640 deaths.

The International Medical Congress.—We understand that Dr. John C. Dalton, Dr. Thomas M. Markoe, and Dr. Charles Stedman Bull, of New York, and Dr. Thomas F. Rochester, of Buffalo, have declined to hold the positions to which they were appointed in the organization.

Personal Items.—Dr. Fordyce Barker, after a summer spent abroad, for the most part in sickness, returned to New York on Saturday last. Our readers will be gratified to learn that he is now slowly recovering and is likely soon to be in his usual state of health.

Dr. Lewis A. Sayre, after an illness of about a year, has, we are happy to hear, recovered sufficiently to have been able to deliver the introductory lecture of the course at Bellevue Hospital Medical College last Wednesday.

Dr. E. G. Janeway, who has been seriously ill with pneumonia, is convalescing, and it is to be hoped that he will soon be able to resume his practice.

The American Gynæcological Society.—The following gentlemen have been elected as officers for the ensuing year: Dr. T. A. Reamy, President; Dr. T. Parvin, First Vice-President; Dr. G. J. Engelmann, Second Vice-President; Dr. J. T. Johnson, Secretary; Dr. M. D. Mann, Treasurer; Dr. F. P. Foster, Dr. J. C. Reeve, Dr. B. B. Browne, and Dr. R. B. Maury, Council. The next meeting of the society will be held in Baltimore, September 21, 22, and 23, 1886.

Buffalo General Hospital.—Miss Mary K. Howell has been appointed superintendent of nurses, to fill the vacancy caused by the resignation of Miss Lizzie Johnson.

College of Physicians and Surgeons of Chicago.—We learn that Dr. J. J. M. Angear has resigned the professorship of the Principles of Medicine.

Obituary Notes.—The death of Dr. William C. Hunter, of New York, occurred suddenly on Saturday, the 19th inst. He was born in Burke, N. H., in 1829, and was graduated from the College of Physicians and Surgeons, of this city, in 1857. He was at one time associated with the late Dr. E. R. Peaslee in the Medical Department of Dartmouth College. He was a member of the Medical Society of the County of New York, of

the New York Pathological Society, and of the New York Academy of Medicine.

The death of Dr. Francis D. Cunningham, of Richmond, Va., took place on Wednesday, the 9th inst., at the age of forty-nine. He was born in Goochland County, Va., in 1836, and was graduated from the Medical College of Virginia in 1857, attending lectures subsequently at the Medical Department of the University of the City of New York, from which he was graduated in 1859. He was a member of the Richmond Academy of Medicine, of which he was president in 1872, and of the Virginia State Medical Society, of which he was president in 1875. He was also a member of the American Medical and of the American Public Health Associations, and had made a reputation as an ophthalmologist.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 13 to September 19, 1885:*

Campbell, John, Colonel and Surgeon. Retired from active service September 16, 1885. S. O. 212, A. G. O., September 16, 1885.

Society Meetings for the Coming Week:

Monday, *September 28th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

Tuesday, *September 29th:* Boston Society of Medical Sciences (private).

Wednesday, *September 30th:* Auburn City, N. Y., Medical Association; Berkshire District, Mass., Medical Society (Pittsfield).

Thursday, *October 1st:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Obstetrical Society of Philadelphia; Washington County, Vt., Medical Society.

Friday, *October 2d:* Practitioners' Society of New York.

Saturday, *October 3d:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Letters to the Editor.

THE USELESSNESS OF ALCOHOL AND CHLOROFORM AS LOCAL ANÆSTHETICS.

26 West Forty-seventh Street, *September 23, 1885.*

To the Editor of the New York Medical Journal:

Sir: In the last issue of the journal I took occasion to publish some experiments showing the possibility of prolonging the anæsthetic effects of the hydrochlorate of cocaine when subcutaneously injected. I would merely add that, since the appearance of the paper in question, I have injected dilute alcohol and chloroform beneath the skin, following the methods indicated in experiments 1 and 2 [*vide* article in the journal for September 19th]. The astringent coagulating effect of these fluids, is, however, so great that they are little adapted to the requirements of cutaneous or subcutaneous injection. Moreover, this pronounced chemical action gives rise to pain, the severity of which appears to be in the direct ratio of the quantity injected. I also passed a strong India-rubber ligature about the index-finger of the left hand, and, having allowed the latter to remain dipped in hot water until the skin was pliable, I subsequently immersed it in a glass containing chloroform. Although the immersion lasted several minutes, there was little or no anæsthesia, the prick of a pin being distinctly felt. Subsequently I removed the ligature, and again immersed the finger for many minutes, but with no better results; sensibility remained practically intact.

These observations tend to dissipate the expectations of Nunnely, of Leeds, who declared that by exposure to the vapor (!) of chloroform he had been able to cause sufficient insensibility in a finger to render the performance of a surgical operation painless. On the other hand, they confirm the opinion of Simpson, who was induced, after a series of experiments, to acknowledge that he had little hope that by the external application of chloroform a degree of local anæsthesia could be induced sufficient for surgical purposes.

Cocaine, then, still remains the ideal local anæsthetic for subcutaneous purposes when re-enforced by the good offices of the tourniquet.

J. Leonard Corning.

Proceedings of Societies.

AMERICAN GYNÆCOLOGICAL SOCIETY.

Tenth Annual Meeting, held at Washington, Tuesday, Wednesday, and Thursday, September 22, 23, and 24, 1885.

The President, Dr. William T. Howard, of Baltimore, in the Chair.

Tuesday's Proceedings.

The Address of Welcome was delivered by Dr. Samuel C. Busey, of Washington, who said: "Mr. President and Fellows: I offer you the greetings of fellowship and bid you welcome as the guests of the Washington Obstetrical and Gynæcological Society. Your acceptance of the invitation to hold your tenth annual meeting in this city conferred a distinguished honor upon our young society. On the roster of fellowship the names of Atlee, Buckingham, Peaslee, Sims, Trask, Wallace, and White are marked with the asterisk of death. Then, here, at the nation's capital on this auspicious occasion, in the unity of a common purpose, let us join with you in that faith and devotion to duty which have been crowned with such marvelous success and rich rewards. You must lead, we will follow, and, when you have completed the labors of the present meeting, and the new and renewed friendships are interrupted by your return to the scenes of your daily work, if our gratitude as pupils shall be the measure of your pleasure as instructors, your second advent will not await the expiration of another decade."

The Natural Hygiene of Childbearing Life.—Dr. Busey, of Washington, read a paper with this title. The hygiene of pregnancy, he said, related to the preservation of the health of woman during the period intervening between conception and the commencement of labor. The processes of transformation, development, and growth which took place were physiological, but were, nevertheless, terminated with more or less violence and injury to both mother and child. The unavoidable mortality was, however, small. The processes of waste and repair, of growth and development, of organization and construction, were next considered. There was no border-line of health. We could not define where the physiological ended and the pathological began. The childbearing period began with puberty and ended with the expiration of the years of maturity. Fertility increased from the commencement of the childbearing period until the climax was reached, and then declined to its

extinction. The age of greatest safety of pregnancy coincided with the age of greatest fecundity. Beyond and under, the mortality increased with the increase and diminution of age, but the rate was higher with the increase beyond than with the diminution below the age of maximum safety or least mortality. The age of nubility should correspond with the age of maximum fecundity, maximum fertility, and least mortality. Puberty and nubility were not simultaneous. Too early pregnancies were to be deprecated. Nature presented the fifth quinquiniad as the period during which the laws of fecundity, nubility, and survival found their natural complement in relatively the highest perfection. First pregnancies were the most dangerous, and the danger was increased by too early and too late primiparity. The importance of lactation was next discussed. The extinction of the childbearing function protected the remaining vital forces from decay, but, if the seeds of disease had already been sown, the change of life might increase their activity. If the age of majority for women could be advanced so as to correspond with the first year of the period of maximum fecundity, popular prejudice and love of custom would sooner or later conform fashion to the law. Precocious matrimony was to be deprecated; it was the sequel of precocious puberty. In this country and in the higher walks of life the ratio of precocious matrimony was on the increase—whether equally so among the middle and lower classes, the speaker did not know. He concluded by saying that the principal object of his paper was to direct attention to this subject and to invite discussion upon it.

Dr. J. R. Chadwick had made some investigations in regard to the early appearance of menstruation in women of various nationalities in this country. In over four thousand cases he had found that American women menstruated earlier than women of other nationalities examined. Furthermore, American women of American parentage began to menstruate earlier than American women of foreign parentage. Scarcely enough observations in reference to the menopause had been made to justify absolute conclusions, but it had been found that the menopause was appearing later in American women. The fact that the childbearing period is increased both at the beginning and the end would indicate added vigor.

Dr. J. P. Reynolds, of Boston, agreed entirely with the statements made by the last speaker, and believed that the women of the upper and middle classes menstruated earlier than they did twenty-five years ago. He considered that this indicated an activity of function which would prolong menstrual life beyond the average period of cessation.

Puerperal Diphtheria.—Dr. Henry J. Garrigues, of New York, read a paper on this subject. This was a disease not referred to in the majority of text-books. It was one of the forms of puerperal fever, or rather one of the different diseases included under that term. It was distinguished by the appearance of diphtheritic exudation somewhere in the genital tract of the puerperal woman. It was accompanied by well-marked general symptoms, imperiled life, and called for active treatment. The paper was based upon twenty-seven cases treated in hospital practice and two in private practice. The characteristic feature of the disease was the diphtheritic infiltration, which was usually of a light pearl-gray color, generally appearing in small spots and coalescing or extending by involving new areas. The exudation was firmly adherent to and immbedded in the underlying tissue. It was most marked at the points where the canal became narrow. This might be explained by the more frequent occurrence of lacerations at those points. The posterior wall of the vagina was more commonly attacked than the anterior wall, which was probably due to the fact that it was bathed with the discharges from the uterus. The exudation might, however, appear on entirely healthy portions of mucous membrane, which had not been the seat of laceration. The surrounding parts were more or less swollen. The connective tissue of the pelvis was infiltrated with serous fluid and was sometimes the seat of ecchymoses. The skin was sometimes the seat of a dusky erythema, consisting of minute spots, disappearing on pressure and not elevated. In one case petechiæ as large as hemp-seed existed. These were not affected by pressure. The same patient afterward developed erysipelas. In five cases ending fatally autopsies were made. The uterus was much enlarged, sometimes reaching almost to the umbilicus two weeks after labor. The cervix, having been torn, might show diphtheritic patches or a thin gray film. In two cases large portions of the cervix sloughed and the vagina became gangrenous. The tissue of the uterus was friable and might be almost diffluent. The diphtheritic exudation might affect the Fallopian tubes. In some cases the muscular tissue of the uterus was scooped out as in dissecting metritis. This occurred in four of the cases of puerperal diphtheria. In one case the mass thrown off was four inches long, two inches wide, and one inch thick. These masses had a pyriform shape, their outer surface was of a gray color, and the inner surface of a flesh-color. They were perforated with a number of holes leading into the uterine sinuses. Under the microscope these masses were shown to consist of smooth muscular fiber in a more or less advanced state of fatty degeneration. The connective tissue was increased. Lesions were also found in other organs and occasionally in the joints. Difficult labors and a previous weakened condition of the patient predisposed to the development of the condition. The real cause of the disease was, however, an infection from without. He had never been able to convince himself that the poison passed from one patient to the other, but it seemed to be in the air of the ward. When a ward had been fumigated with sulphurous acid there would not be a seriously sick patient for weeks. That the poison came from without was also shown by the fact that, when the prophylactic treatment to which he would refer was adopted, the disease did not develop. The first symptom which showed a deviation from a normal course was usually the occurrence of fever, which mostly appeared from two to four days after delivery. Sometimes there would be a chill or chilly feelings. The temperature rose gradually as a rule. It had ranged from 100° to 107° F., the average being from 102° to 104°. Anorexia, vomiting, coated tongue, and diarrhœa showed disturbance of the gastro-intestinal canal. The patient complained of pain in the epigastrium and one or both groins, sometimes extending into the legs. Examination showed the uterus larger than it should be and quite tender. Tenderness was often also found in the groins and some swelling might also be observed. The lochial discharge was often scanty and offensive, but in some cases it had been normal. Where there was expulsion of the tissues of the uterus, there had been a purulent discharge until expulsion had been accomplished. The diphtheritic patch commonly appeared from three to seven days after delivery. It continued to spread for several days, and usually stopped in from three to eight days after the beginning of treatment. In one case the diphtheritic patches also appeared on the tongue, indicating that the disease was identical with the ordinary form of diphtheria attacking the throat. The irritation of the nervous system was shown by headache, stupor, and delirium. There was alteration of the renal secretion and sometimes painful micturition. Three patients had albuminuria. In two cases jaundice bore testimony to the perverted condition of the blood. The sweet breath and profuse sweats of septicæmia were observed twice. One patient developed painful arthritis of the elbow joint. When once the diphtheritic process was arrested, the patients recov-

ered rapidly. There was scarcely any difficulty in the diagnosis. When the injections of bichloride of mercury were employed they caused a yellow discoloration of abraded surfaces. This was strictly limited to the abraded surface, and was unaccompanied with general symptoms. When the chloride of zinc was applied to the affected surface in the treatment of the disease, a slough was caused having the color of the deposit, and the physician was sometimes at a loss to determine whether or not the disease was spreading. The point was decided by noting where the application was made and by observing the edge of the deposit. The diphtheritic deposit had a scalloped outline, while the outline of the slough from cauterization was smooth. As to prognosis, five out of twenty-nine patients died, giving a mortality of 17·2 per cent. Another might have survived, for she lived thirty-two days and died from rupture of the uterus, which had been thinned by sloughing, while an assistant was giving an intra-uterine injection. The post-mortem showed the walls of the uterus to be extremely thin. The duration of the cases ending in recovery was usually about two weeks. In cases in which a portion of the uterus was scooped out the organ was left in a weakened condition, which in future pregnancies might predispose it to rupture. In the way of prophylaxis, it was recommended to limit the vaginal examinations during labor as much as possible. The finger or hand should not be introduced into the uterus unless absolutely necessary. The delivery should be so accomplished as to avoid as much as possible wounding of the genital canal. Instruments should be used with the greatest care. The most important element in the prophylaxis was the use of bichloride of mercury as an antiseptic. Everything coming in contact with the patient should be washed in the solution of corrosive sublimate, 1 to 2,000. After this treatment was introduced only one case appeared in six months, and that was due to carelessness on the part of a resident who delivered a woman immediately after removing a macerated fœtus from another patient. After the disease appeared the treatment must be energetic. The only treatment that had given him satisfaction was that with chloride of zinc. The affected parts were touched with a solution of equal parts of chloride of zinc and distilled water. This was rather painful and an anæsthetic might be used. A warm solution of corrosive sublimate, 1 to 2,000, was used for intra-uterine injection where this was required, and subsequently a suppository of fifteen grains of iodoform was introduced. If this was done the process need not be repeated more than once in the twenty-four hours. The vagina was to be douched every three hours. The parts should be examined every day, and, if the process was not arrested, the application of chloride of zinc was to be repeated. If the disease was limited to the vagina and vulva, the intra-uterine treatment was omitted. Ergot was also given with the purpose of causing contraction of the uterus. Morphine, quinine, and digitalis were used as indicated. High temperature was combated with sponge-bathing, salicylic acid, and, if necessary, the rubber coil. Carbolic acid was also given sometimes combined with the compound tincture of iodine. If the temperature was not very high, warm poultices were preferred. Where there was diarrhœa, warm poultices were also considered preferable. Samples of the occlusion bandage to be used after labor were exhibited. They consisted of a pad of absorbent cotton wet with the corrosive-sublimate solution, over this a piece of oiled muslin or gutta-percha tissue, and over all another piece of absorbent cotton and a piece of muslin or flannel to attach it to the binder.

Dr. W. T. Lusk, of New York, had treated, ten years ago, one hundred and fifty cases of this affection, with twenty-eight deaths. The epidemic could be traced to a patient brought into the hospital after a long labor. She was suffering at the time from a syphilitic ulcer of the vulva, which was excessively inflamed. The child was extracted with forceps and the inflamed perinæum was torn. Soon after this the diphtheritic deposit appeared, and the whole ward was infected. The first cases were the result of transference from the patient, for the question of contagion was not then recognized as it was now. After a time great care was taken to avoid every possible source of contact, but the disease continued, and could be only explained on the supposition that the air of the ward was filled with germs. In the first cases, the treatment consisted in the application of equal parts of solution of persulphate of iron and compound tincture of iodine. The disease usually began with a certain amount of mildness and gradually became more severe. Of the first twelve patients only two died, while in the second set of twelve only two recovered. In the progress of the epidemic the entire system seemed to be affected, even before the advent of labor. Since the adoption of the use of corrosive-sublimate injections he had not seen a case of puerperal diphtheria. Neither had he had a death from fever, nor any cases of fever, even the old-fashioned "milk-fever" being absent.

Dr. H. P. C. Wilson, of Baltimore, was averse to the uso of bandages of any kind after delivery, preferring to have the napkins placed under the patient so as not to obstruct the free flow of the discharge, and to use frequent washing of the vagina with antiseptic solutions.

Dr. W. L. Richardson, of Boston, had treated many cases of puerperal diphtheria with ill success, until the appearance of Dr. Garrigues's paper. After the use of the pad and the corrosive-sublimate solution for the hands of the attendants and nurses was begun, the hospital had been almost entirely free from the disease. There had been no death since these measures were adopted.

Dr. John Byrne, of Brooklyn, asked as to the frequency of cicatricial distortions of the vagina after diphtheria, and related an interesting case of that sort.

Dr. Garrigues thought that the indorsement of Dr. Lusk and Dr. Richardson would be sufficient to induce others to try the occlusion pads. During the year preceding the introduction of the new method of treatment the mortality was nearly seven per cent. During the next year, with the new method of treatment, the mortality was one and a half per cent. During the second year it was less than three fourths of one per cent. In the institution in which these observations were made there were many disturbing elements, one of the most important being its connection with a large general hospital. In this new method of treatment the antiseptics were applied only to the outside in normal cases. Only in abnormal cases were vaginal and intra-uterine injections employed. He had only seen two of the patients subsequent to recovery. In one there were great shortening and narrowing, but during pregnancy softening took place and the labor was quite easy. The second patient was pregnant and the vagina appeared to be in good condition.

Four Cases of Oophorectomy, with Remarks.—Dr. Joseph Taber Johnson, of Washington, read a paper with this title.

Case I.—Miss M. had suffered severely from chronic oöphoritis and menstrual epilepsy. She was twenty-nine years of age and had suffered for fourteen years. There was constant pain in both ovaries, but most of the suffering was on the left side. For two weeks out of every month she was under the care of an attendant, her education had been neglected, and she was in a most deplorable condition. She had been under the care of skillful physicians, and almost everything had been tried. Oöphorectomy was therefore decided upon and performed August 17, 1882. Both ovaries and one Fallopian tube were removed. For several months she had no periods and no spasms. Gradually her menses returned and with them the convulsions in

milder form. She was now menstruating with more regularity than before the operation.

Case II.—Miss W., aged twenty-one, took a severe cold at the monthly period five years before coming under observation. Since then she had suffered from chronic oöphoritis. She also had leucorrhœa and a displaced uterus, for which she was treated without material benefit. The reader treated her for three months without benefit and then removed the ovaries. She made a rapid recovery and had since been free from pain.

Case III.—Miss S., aged twenty-four, had been a great sufferer from dysmenorrhœa and reflex symptoms. She suffered with burning pain in the abdomen and head for ten days preceding menstruation. For several months there had been no flow, but the distressing symptoms continued. Both ovaries and tubes were removed. She made a rapid recovery and continued healthy.

Case IV.—Mrs. ——, aged forty, the mother of three children, had suffered with pain in the region of the left ovary for twenty years. She had a lacerated cervix and perinæum, which had been restored without improving the symptoms. She had been under treatment for ten years, and was practically bedridden for three weeks out of every month. She wished to have the ovaries removed, but the author advised her to wait five years longer until the menopause, which would accomplish the same result. She, however, insisted on the operation, and he performed it last February. She did well for three days, when vomiting set in, and she died exhausted on the sixth day. The speaker then referred to the great importance of an early diagnosis in such cases in order that the operation might be performed before numerous adhesions had taken place and before the general condition had become so depressed, referring to the statistics of various operators in confirmation of his statements. He thought that many patients who were now lost from prolonged operations, on account of numerous adhesions, might be saved if there were means by which an early diagnosis could be made.

Dr. R. S. Sutton, of Pittsburgh, thought that everybody admitted that a woman with a cystic tumor of the ovary was doomed to death if the tumor was not removed. But, when she was suffering from some disease of the ovary which did not give tangible evidence of its presence, the surgeon often had difficulty in deciding as to the question of operation. Was the woman to be allowed to go on suffering because evidence of disease that would justify an operation could not be obtained? It was better to give the woman the benefit of the doubt and open the abdomen and examine the organs. He did not think that any one could tell the exact condition of the ovaries before opening the abdomen. It had now come to be the practice, in obscure conditions for which no explanation could be found and in which it was probable that the ovaries or tubes were at fault, to do an exploratory operation. As a rule, exploratory operations were safe. He had yet to open the first abdomen and fail to find disease of the ovaries or tubes.

Dr. W. H. Baker, of Boston, feared that there was great danger of the pendulum swinging too far and the operation being performed too frequently. He would not discourage the operation in properly selected cases. Greater skill was shown in curing these patients without the removal of the organs. A better understanding as to when the operation should be performed and when not would be arrived at by studying the organ itself very carefully in those cases in which it had been removed. In all reports of the operation there should be an accompanying report of the microscopical examination. The question of early diagnosis had been referred to. It was a matter of the greatest importance. The ovaries and tubes were not the easiest organs to examine. Even where the ovaries were adherent to surrounding tissues it was often extremely difficult to determine this fact, and an exploratory operation might be the only way of determining it. Where an exploratory incision had been made, and the organs found healthy so far as their gross appearance was concerned, he insisted that they should be put back and the abdomen closed, even if the woman suffered excruciating pain with menstruation.

Dr. T. A. Emmet, of New York, said that he was not an advocate of the operation, and he thought that more harm than good had been done by its performance. There were cases where it must be done. Where there was salpingitis with the tubes filled with pus, the operation was certainly indicated. That it should be done, as it frequently was, for the relief of so many symptoms was a reproach on the profession. He did not advocate the opening of the abdomen for the purpose of making a diagnosis. If the diagnosis could not be made before hand, he did not think it justifiable to run the risk of opening the abdomen. For three years he had been looking for cases in which he considered the operation indicated, and had seen but two such cases. One was a typical case in which there had been several attacks of peritonitis following gonorrhœa. Both tubes were as large as the wrist, and the history indicated the existence of pus. An operation was urged, but the patient refused. For five months there was no improvement. The treatment consisted of hot-water injections, keeping the bowels regular, daily applications of iodine, and attention to the general health. After several months the tubes began to diminish in size, and in the course of a year the accumulation had entirely disappeared and she left the hospital apparently a well woman. The second case was similar. That patient also refused an operation. She was now no worse, and in some respects better, than she was some years ago.

Dr. Lusk thought great caution must be exercised in the performance of this operation. He did not condemn it, and had himself operated in four cases in which there was distinct evidence of disease of the tube, with good success.

Dr. E. W. Jenks, of Detroit, had seen several cases in which the operation had been performed without benefit. Where the ovaries and tubes were diseased there could be no question as to the propriety of its performance. In many of these cases of so-called hystero-epilepsy, which were often nothing more than hysteria, he considered the removal of the ovaries a positive wrong. The exploratory operation was not free from danger.

Dr. T. A. Reamy, of Cincinnati, said that a woman had been sent to him with dysmenorrhœa and hysterical symptoms, with the request that he should remove the ovaries. Five months' treatment of the cavity of the uterus, with change in the patient's surroundings and general treatment, resulted in entire recovery. He had seen several other striking cases. It was the exception to find the ovary healthy in women after the age of forty.

Dr. Emmet thought that the operation should never be done for dysmenorrhœa. He considered dysmenorrhœa a neuralgic condition, the result of anæmia. When dysmenorrhœa was relieved by the operation, it was because the general nutrition was improved by the removal of the ovaries.

Dr. Sutton agreed with Dr. Baker that where, in an exploratory operation, the ovaries and tubes were found to be healthy, they should not be removed.

Dr. Mann said that, although, as Dr. Emmet had stated, dysmenorrhœa was a neuralgic condition, he thought that that condition might become so firmly established that it could not be relieved without taking out the organ affected with the neuralgia. In two such cases he had thought the operation indicated. In one the patient was free from pain only three days of each month. He advised the operation, which was performed by Dr.

Clark, of Niagara Falls. The patient completely recovered. The second case was his own. The woman had suffered for a number of years with excruciating pain. The ovaries were enlarged and tender. The whole abdomen was tender. The ovaries were removed and the patient entirely recovered her health. He could not admit that there were no cases of ovarian dysmenorrhœa which could be relieved by the operation, but they were rare.

Dr. JOHNSON had not recommended the operation except under well-marked indications. He agreed with those who feared that the operation might be performed oftener than necessary. Its use in nervous and neuralgic conditions was not always so beneficial as in some other conditions, such as myoma of the uterus, for example.

(*To be concluded.*)

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of March 12, 1885.

The President, Dr. B. F. WESTBROOK, in the Chair;
Dr. A. H. P. LEUF, Secretary.

On the Use of Cocaine in Minor Surgery.—This was the title of a paper read by Dr. H. T. HALLECK. [See page 343.]

Dr. ARTHUR MATHEWSON remarked that it was in the room in which the meeting was held (in the Brooklyn Eye and Ear Hospital) that the first use of cocaine as an anæsthetic in the United States had been made. Dr. Noyes saw it for the first time in Germany, at the Heidelberg Congress; he also saw it privately demonstrated. The speaker had had Dr. Squibb make him a two-per-cent. solution of Merck's preparation, and it had proved very satisfactory—in fact, quite as effective as a four-per-cent. solution. The drug now prepared by Dr. Squibb was unexcelled. Some preparations caused a great deal of irritation at first, but this soon disappeared. The boric-acid preparation sent him by Dr. Squibb was the least irritating. Micrococci and bacilli formed in it, however, and it was almost impossible to prevent their formation. There was a difference in patients concerning the usefulness of this remedy—with some it did well, while with others it did not. As to its effect upon the lids, he referred to a case of cut lids that had been soaked with the solution previous to the operation, and the patient was anything but loud in its praise. It was usual to meet with failure in that class of cases. When he removed a cyst of the lid he cut from within (on the conjunctival side), pressed out the contents, and stirred up the interior with a small curette. The effect of cocaine on children operated upon for strabismus was quite striking; they were so very quiet.

Dr. R. G. ECCLES was reminded of hypnotism by some of the experiments with cocaine. A few years ago an American physician had made the same preparation, and called it erythroxyline hydrochloride. He left a specimen at the college with his thesis. The speaker had found cocaine satisfactory in parturition.

Dr. W. C. BURKE, Jr., had been told by Dr. Polk that he had been using it in a series of labor cases during the first stage. He injected it deep into the cervix and the surrounding connective tissue, with the result of causing a loss of sensibility in all the parts below the umbilicus, although pains in the back and the epigastrium persisted. The effect lasted from half to three quarters of an hour. It had no ill effect, and it did not influence dilatation. The speaker had used it before incising a pinhole os, previous to dilatation of the cervix, which was accomplished with very little pain, the patient only experiencing a "pulling feeling." He had employed the American product, and had found it irritate the eye for several minutes.

Dr. C. N. D. JONES thought it as important to report failures as successes in the use of new drugs. The medical journals contained very few reports of failures, but failures could be grouped and studied to advantage. He had used the drug wherever it was applicable. He had found it useful in laryngoscopy. In enucleation of the tonsil there was some pain, also at times in manipulations involving the urethra.

Dr. G. W. BRUSH had tried a fifteen-per-cent. solution, but with very little effect. His experience had been with Merck's and McKesson & Robbins's preparations.

Dr. LEUF said that the unsatisfactory results mentioned in the two cases reported by Dr. Halleck might be accounted for by the preparation used having been of inferior quality. He had subsequently employed it in two prepuce operations in children, and also in several eye cases, with satisfactory results. The drug acted decidedly as a hæmostatic, at least on small surfaces. In all recent cases he had used Merck's cocaine.

Epithelioma of the Eyelid removed by Applications of Benzol.—Dr. MATHEWSON reported the following history of a case: An Irish laborer, fifty years old, was first seen October 31, 1883, when he had a growth on the right lower lid, projecting two thirds of an inch, with an ulcerated surface. It had first been noticed, as a warty excrescence, a year or two before, and it had lately begun to grow rapidly. Microscopical examination, by Dr. W. H. Bates, showed it to be clearly an epithelioma. At first the treatment consisted in dusting the granulating surface with calomel; afterward (at the suggestion of Dr. Bates, who had records of two cases of epithelioma treated successfully, in his own practice, with the agent) in applications of benzol. After about three months' use of these remedies, applied three or four times a week, the growth had completely disappeared, leaving a smooth, depressed cicatrix. On the 1st of March, 1885, the man came back, with the history of a small ulcerating spot having appeared some six months before at the outer edge of the cicatrix. This was extending rapidly, but quickly began to contract under renewed applications of the same remedies, and was much reduced in size when the patient was presented at the April meeting of the New York Ophthalmological Society. On the 1st of May, when the patient left town, it was scarcely noticeable. On the 8th of July the man appeared again, with a considerable increase in the size of the ulcerating surface, but it had again yielded promptly to the applications. The benzol was brushed over the ulceration and the adjacent surface after they had been carefully wiped, and calomel was then dusted on. The applications were made from two to four times a week.

A case of necrosis of the tibia was presented by the PRESIDENT, and specimens of cystic kidney, calculous impaction of the bile-ducts, and renal calculus were shown by Dr. H. D. BLISS, and the histories of the cases related.

Meeting of March 26, 1885.

Acute Dysentery.—Dr. C. N. D. JONES showed a portion of the intestine of a lad, fourteen years old, who had died of acute dysentery occurring while he was under treatment for a fracture of the neck of the os brachii and a comminuted fracture of the shaft of the os femoris. The injury was received on the 7th of July, 1884, by his falling to the ground from a roof on which he was at work, and he was taken to the Brooklyn City Hospital. He did well until the 1st of August, when he complained of griping pains in the abdomen. There was tenderness on pressure, especially in the left iliac fossa. The next day diarrhœa came on, and soon passed into dysentery. Death took place on the 19th of August.

At the autopsy it was found that the fracture of the thigh had not united. The small intestine was somewhat congested,

but otherwise normal. The transverse and descending colon were contracted, and the entire colon and the rectum were thickened. Their mucous membrane was extensively ulcerated, the ulcers being largest and most numerous at the lower part. Instead of the intestinal tube being examined in the usual manner, by slitting it longitudinally with an enterotome, the colon was separated from the ileum, and a portion of the severed end was then rolled outward, and, a part of the gut being invaginated, a forcible stream of water was thrown into the sulcus thus formed on the peritoneal surface, with the result of rapidly producing complete inversion of the tube. The intestine was then inflated with air, and preserved in that condition.

Acute Rheumatism complicated with Suppurative Nephritis.—Dr. Isaac H. Platt read the notes of the case of an Irish servant girl, twenty-seven years old, who had been treated at St. Mary's Hospital, in the service of Dr. Kuhn. When she was admitted, on February 19th, she presented the typical symptoms of acute rheumatism, which followed the usual course for a period of nine days. On the 26th the temperature, which had been ranging from 103° to 105·5° F., fell to 102·5° in an hour under the influence of forty grains of antipyrine. The drug was then given in doses of thirty grains every four hours; the next afternoon the temperature had fallen to 101°, and the girl seemed better. The next day, however (the 28th), the temperature rose again to 104° despite the continued use of the drug, and in the evening she became actively delirious. The next day she passed into a typhoid condition, with low muttering delirium, subsultus tendinum, and carphologia. Careful examination was made for thoracic and abdominal complications, but none were found. The urine had been examined a few days before, and found free from albumin and sediment. Stimulating treatment was pushed to the utmost, but she gradually sank, the delirium persisting to the last, and died on the 3d of March. For two days before that time there had been no joint symptoms.

Report of the Autopsy, by Dr. Leuf.—Rigor mortis moderate, thirty-one hours after death. Lungs normal, except for collapsed portions in the right lower lobe, and less marked in the left lower lobe, together with several very hard pigmentary nodules of the size of a millet-seed. The heart was pale, soft, and flaccid, with all its cavities containing blood, mostly fluid, the little that was clotted being soft and friable. The liver was dark, and of normal consistence and vascularity. The pancreas was pale and soft. The left kidney was pale and soft, but otherwise normal. So was the right one, except in its upper third, which was dirty-yellow and rough externally. Thin, ill-conditioned pus and *débris* exuded from the cut renal pelvis. An abscess was found in the upper part of the organ, involving exactly the superior pyramid—no more and no less. The apex of the pyramid next below was also full of cheesy material that was breaking down and had a marked tubercular appearance. The uterus was congested, anteflexed, retroverted, and deflected to the right by the rectum, which was distended with gas. The endometrium was congested and exfoliating. The right ovary contained an old corpus luteum, about six mm. in diameter. Microscopical examination, by Dr. J. H. Hunt, showed numerous minute abscesses, but no tubercles.

Dr. Josephine A. Dupré had had some experience with rheumatism produced, in rabbits and dogs, by intra-peritoneal injections of lactic acid (two per cent.). One case resulted in endocarditis; two others in acute articular rheumatism; and four others in additional acute suppurations—in one case acute suppurative nephritis, in another several abscesses of the abdominal wall, in the third a pelvic abscess, and in the fourth an abscess of which she had forgotten the situation. The clinical histories of these cases were typical of acute inflammatory rheumatism, and the suppurative processes were demonstrated by post-mortem examination.

Cerebro-spinal Meningitis in a Roller-Skater.—Dr. George W. Cushing said that, about midnight of March 11, 1885, he had been called to see the patient (J. C.), who was twenty-eight years old and of fine muscular development. He was restless, with a hot, dry skin, the pulse 135, the temperature 104° F., the respiration labored, headache, and the pupils contracted and intolerant of light. He also had marked pharyngitis and bronchial congestion. He was averse to talking and to being disturbed. A febrifuge mixture was ordered, also bromide of potassium. Subsequently the man's wife gave the following history: Her husband had been engaged in a roller-skating match at the Madison Square Garden the week before, ending at midnight March 7th. He was at home the next day (Sunday), and rested a part of the time, but was unable to eat, and seemed very much exhausted. He went to New York on Monday, for the purpose of getting the money due him from the proceeds of the contest, and did not return until Tuesday, when he had symptoms of an ordinary "cold." The patient's surroundings were so poor that it was impracticable for all the speaker's directions to be carried out, and, when he called the next morning, he found that stupor was gradually setting in. There were urinary incontinence and spontaneous bloody evacuations from the bowels; there was also great difficulty in taking food and medicines, and the head was rigidly drawn back. The ankles and feet were swollen and chafed from the pressure of the skates. Cerebro-spinal meningitis was diagnosticated, and counter-irritants were applied to the spine and the back of the head, with cold to the top of the head. He continued to grow worse until the 15th, when the speaker was called in haste, and found him dead—he had probably been dead for several hours. The autopsy confirmed the diagnosis, the case having been placed in the Coroner's hands as a matter of public interest in connection with the present furor in regard to roller-skating.

Report of the Autopsy, by Dr. Leuf.—"The thoracic, abdominal, and cranial contents were examined by Dr. A. Warner Shepard, while it fell to my lot to examine and take notes of the spinal canal and cord. The body was of average height and build. The muscles of the lower extremities were rather well developed. There was very little fat. The left great toe was blistered inferiorly, internally, and superiorly, but the nail was not affected. The lungs were hypostatically congested behind and at the bases. The right lower lobe was collapsed at its anterior margin and posteriorly at the base. The heart was normal, except the usual eccentric hypertrophy found in athletes. The stomach was empty and tubular. The liver was normal, with the exception of some occasional fatty infiltrations. The spleen was a little larger than usual. The kidneys were healthy, but large; the right one was darker than the left. The bladder was so distended as to half fill the pelvis. The portal vein and its tributaries were distended with blood. The dura mater of the brain and cord presented nothing abnormal. The pia mater, however, was yellow, and about 3 mm. thick over the anterior half of the cerebral convexity on either side. All over this area the convolutions, including the upper two temporo-sphenoidal convolutions, were hidden from sight; but over the posterior half of the convexity the convolutions were distinctly discernible, and only the sulci were filled with pus. The inferior, or orbital, surfaces of the frontal lobes were deeply injected, but not purulent. The yellow thickening of the pia was also noticeable in the anterior half of the great median fissure of the brain, and extended half-way down to the corpus callosum. This purulent condition of the pia extended to the base of the brain, along the Sylvian fissure, to the interpeduncular space, where the same suppurative condition of the

pia was noticeable. That covering the pons and surrounding the medulla was affected in like manner. The intra-meningeal space of the cord was filled with pus to such an extent as to distend the dura, and well up in the incision made into the membrane in the lower part of the vertebral canal, preparatory to extracting the cord. The pia, throughout the whole length of the cord, was thick and yellow, while the cord itself was softened throughout its whole extent below the cervical enlargement. It was also sclerosed on the left side in the upper thoracic region, the white portion being principally affected."

In regard to the ætiology of the case, Dr. LEUF would differ with those gentlemen who would attribute the man's death to a healthful and beneficial exercise. That the prolonged mental and physical strain to which he had necessarily been subjected, together with the known privation and exposure, were important factors in bringing about the termination of the disease, no one could or would deny; yet it was wrong, he thought, to consider them the causes of the trouble. When we reflected how little there was in the way of precedent for such a supposition, in the face of extremely prolonged and excessive walking, running, rowing, swimming, and the like, it was fairer and more rational to infer that this meningeal inflammation had been brought about by a pre-existing cause. Still, the case might accomplish much good by checking the rage for roller-skating, although it was desirable that as many persons as possible should avail themselves of this graceful and harmless exercise within proper limits. Probably it should not be indulged in much more than half an hour at any one time. It was interesting to inquire how much work the craze was likely to bring to gynæcologists and to specialists in diseases of the chest, and perhaps to neurologists.

Meeting of April 9, 1885.

Exsection of the Upper Third of the Tibia.—Dr. GEORGE WACKERHAGEN read the notes of the case of a child, two years and a half old, who fell upon the pavement in May, 1884, and bruised the left knee. At first the injury seemed to be trifling, but a month later the part gradually became painful, red, and swollen. The services of a surgeon were not obtained until the 25th of September, when an opening was made just below the knee joint, which gave exit to a quantity of dark-colored blood slightly mixed with pus. After that the swelling disappeared, leaving a little opening just below the spine of the tibia, from which a small quantity of unhealthy pus was discharged daily. The speaker saw the child in consultation on the 15th of October, and found two sinuses leading to dead bone. At the operation, on the 19th, it was found advisable to remove the whole head of the tibia, together with about one third of the shaft, by subperiosteal exsection. The crucial ligaments were found to have been entirely destroyed, and the inter-condylar space was filled with unhealthy granulations. These were removed with a sharp curette, and the joint was thoroughly irrigated with a 1-to-2,000 solution of bichloride of mercury. A rubber drainage-tube was introduced into the joint, and the wound was packed with iodoform and bichloride gauze. No inflammatory reaction followed, and the temperature did not go above 99° F. The child had improved very much since the operation, and new bone had been produced from the periosteum. The knee could be flexed to an angle of about 45°, and extended as in the normal condition. Bauer's hip-joint instrument had been applied for the purpose of making continuous extension, and the shortening was not more than half an inch.

Gangrene of the Lower Extremity from Arterial Thrombosis.—Dr. F. A. JEWETT reported the case of a student, seventeen years of age, previously of good health, who had consulted him on the 30th of January, suffering apparently with a slight attack of intermittent fever. Several weeks before, he had indulged excessively in skating. Under the influence of quinine, he was soon able to be about the house. On the 4th of February, in the afternoon, he complained of pain in the back, but this had disappeared by the next morning, when, while dressing, he suddenly felt a numbness in both lower limbs, together with a "peculiar sensation" in the abdomen. He rapidly grew worse, so as to lose the powers of motion and sensation. By means of friction and a hot mustard bath sensation was restored to both extremities, but was soon lost again in the left leg. The speaker now arrived, and found the left leg blanched and cold below the knee, with loss of motion and sensation. There was little pain. The patient was placed in bed, and the limb was surrounded with hot bottles. The next morning there were ecchymotic spots on the lower third of the thigh and the leg and foot. On the 7th burning pains appeared in the knee and foot, and the temperature was 102·5° F. On the 6th of March, the line of demarkation having fully formed at the middle of the thigh, circular amputation was performed in the upper third, the incision coming within an inch of the healthy granulations. The femoral artery was found to be completely plugged, and the slight hæmorrhage which resulted came entirely from the smaller vessels. The patient died of shock two hours after the completion of the operation. In disguising the odor of the gangrenous parts, at the time of the operation, the best result was obtained with nascent chloride of lead, made by adding a drachm of aqueous solution of nitrate of lead to a pailful of solution of salt.

Autopsy, by Dr. Leuf.—The kidney connective tissue was markedly increased. The spleen was enlarged, and contained buff-colored spots. The liver was slightly fatty. A clot was found in the abdominal aorta, about four cm. above its bifurcation and extending down into the two common iliacs. It only partly filled the aorta and the right common, external, and internal iliacs, so that some blood had been admitted through these vessels to the parts below; but the left common, external, and internal iliacs were solidly and perfectly plugged with a firm thrombus adherent to their walls. This plug extended down into the femoral as far as the end of the stump, where it had been cut off during the operation. The plug fitted the vessel somewhat loosely below the lower part of the external iliac. The collateral circulation probably took place through the deep circumflex iliac and the lumbar arteries.

Gangrene of the Leg due to Popliteal Embolism.—Dr. LEUF related the case of a German midwife, about thirty-five years old, who had had rheumatism at times for fourteen years, also frequent attacks of dyspnœa due to cardiac valvular disease. The attack of rheumatism which terminated her life began in the latter part of April, and at that time she was attended by another physician. She had the ordinary symptoms of rheumatism, and presented inflammatory signs in both ankles. After some days' treatment the feet became better, and the physician had a pack of ice-water and salt applied to the left foot. This was continued under protest for upward of two hours and then removed. A few hours later the patient felt a sensation as of something darting down the left thigh, along the course of the femoral, and stopping with a sudden jar at the back of the knee. This sudden jar was a shock to her whole body, and caused the entire leg below the knee to feel as if suddenly electrified, and the leg had continued numb, with tingling sensations, from that time until the speaker was called in, two days later. The other physician could not be induced to pay any attention to these symptoms, or even look at the foot. The speaker found the foot cold and swollen, with the plantar surface of a dark hue. The sensibility of the foot was impaired, and it could hardly be moved. The patient complained of severe pains in the toes and

instep. Her pulse was very irregular and her heart feeble, with mitral stenotic and regurgitant murmurs well marked. Her face wore an anxious, expectant expression, and was of a leaden pallor. She had black hair and a dark complexion. Examination at the back of the knee revealed a rod-like body beneath the skin in the popliteal space, having a diameter of over 1 cm. This hardness extended almost the whole length of the popliteal space. The diagnosis was made at once of embolism of the popliteal artery, from the lodgment of a detached heart thrombus caused by valvular disease the result of acute inflammatory rheumatism. The treatment consisted in giving opium and *Cannabis indica* to relieve pain and mental depression; digitalis to strengthen the heart; *Cascara sagrada* and extract of malt to relieve constipation and promote a flagging appetite; wine to hasten reaction; and a good nutritious diet to maintain and increase her strength. The speaker's prognosis was gloomy, and he predicted gangrene of the left foot and leg. He considered it dangerous to operate, because of the patient's condition and the irregular action of her heart, and believed she had the best chances of recovery by patiently awaiting spontaneous amputation. Hot applications were made to the foot and leg. Her general health continued good, and she ate abundantly. The pain grew very much worse, so that she was not freed from it even by taking a grain of opium every hour almost continuously for days. The foot became darker, and the toes black and dry. Dark-red patches made their appearance about the ankle, and gradually extended up the leg almost to the knee, from which point they receded about 4 cm. and began to form a line of demarkation. This line was dentate, so as to form two side flaps if spontaneous amputation occurred. Dr. B. F. Westbrook was called in consultation by the speaker, and fully coincided with him in regard to the case. A few blebs formed on the foot and ankle, and afterward on the leg, exuding a semigelatinous, sero-sanguineous fluid. The stench was considerable, but it was easily controlled with carbolic acid and biehloride-of-mercury solution. On the 29th (twenty-four days from the time he first saw her) the speaker found the patient sitting up, panting for air, with all the signs of orthopnœa. Mucous râles could be distinctly heard without applying the ear to the chest. After consultation, and taking her preceding history into consideration, he concluded that she had a pulmonary infarction and œdema of the lungs. It was Sunday, so that no oxygen could be obtained; and large doses of chloride of ammonium were prescribed. The next day she was found in a dying condition. An autopsy was not allowed.

There had seemed every reason to believe that, had it not been for the unforeseen accident, her strength would be sufficient to carry her through the process of spontaneous amputation. Her heart's action was so irregular and incompetent that she would have been very likely to succumb to an anæsthetic. Taking into consideration the general results of cases of gangrene, we learned that the majority of the patients operated upon died, and death was often hastened by the shock of the procedure. It seemed to the speaker that a large proportion of patients would fare better with nature than with the surgeon; nevertheless, the reverse was true of many others. He felt certain, therefore, that, by a more careful selection of cases with reference to the advisability of operating, a much larger percentage of recoveries would result.

The two cases of gangrene being under discussion, Dr. Leuf remarked that, after careful consideration, he was disposed to ascribe a spinal origin to the thrombus in the first case, on the supposition that a special myelitis might set up nutritive changes in the coats of the aorta, and these in turn give rise to the thrombus. He thought this the best way to account for the formation of the plug. The excessive exercise of both lower extremities might be sufficient cause for the inflammation of the cord.

Dr. C. N. D. Jones thought the fever symptoms would have been interesting as bearing upon the question of whether the primary cause was a myelitis or an arteritis. He wished to know if there had been any syphilis.

Dr. Jewett replied that the case began with chills and fever on a Wednesday; there were no chills the day before, but there had been some on the preceding Monday. He did not see the patient on Thursday, but saw him afterward, when he was without fever. No syphilitic history could be obtained; if there was any syphilis, it must have been hereditary. The patient only complained of numbness of the left thigh. In Simpson's works mention was made of an obstetrical case almost parallel. The plug was about 2·5 cm. above the bifurcation, and the symptoms were about the same. The connection between the cord and the thrombosis that had been suggested was not very clear to him, and seemed a little strained. He also thought it questionable if excessive exercise was the cause of the trouble.

Dr. Leuf rejoined that the lack of much pain in Dr. Jewett's case would support the myelitis theory.

The President thought it rather curious that selerosis and softening should have taken place, as it would appear in this case, with hardly any symptoms. He asked if the patient had been skating shortly before the onset of the sickness.

Dr. Jewett answered, "A few days before."

The President added that it was also curious to see interstitial nephritis in one so young. This kidney trouble and cord affection were sometimes associated. Perhaps this case was one of embolism, and not of thrombosis.

Dr. Jewett said that there was no post-mortem evidence of any possibility of embolism.

The President asked if the plug, extending so far down as it did, would not prevent the collateral circulation suggested by Dr. Leuf.

Dr. Leuf explained that the plug fitted the vessels loosely from a point in the external iliac about 2 cm. above the iliopubic ligament.

The President, in reply to a question as to the advisability of an operation in Dr. Leuf's case, said that it was absolutely contra-indicated by the gross incompetence of the heart.

Miscellany.

The International Medical Congress.—The "Maryland Medical Journal" comments as follows on the recent work of the American Medical Association's new committee:

"We present in another column a partial report of the new committee on the Congress, which held its meeting in New York city on September 3d. We invite attention to the recent work of this committee, and would urge our readers to compare this work with that of the first Committee on the Organization of the Ninth International Medical Congress, which was published in the number of this Journal of April 4, 1885. We will attempt, in a brief way, to show by way of comparison that the new committee has played its part in this affair in a manner in thorough accord with what might have been expected of it. This committee should never have had an existence in the first place. It has failed to do anything save provoke strife and differences in the profession in this country, and this last attempt to organize the preliminary arrangements for the Congress is but the crowning act of its incapacity and unfitness for the work it has undertaken. The committee was called into existence by a small faction of sore-heads at New Orleans, which introduced false and absurd issues into the plan of or-

ganization of the Congress, with no purpose of promoting the welfare and scientific work of the Congress, but simply to make prominent certain private grievances and petit ambitions. The agitators of this rebellious movement against the work of the first committee were chiefly men who failed to receive appointments in the organization of the Congress.

"In order to overthrow the work of the first committee the cry of the 'code' was raised, and sectional feelings were appealed to. The work of disorganization was in this wise inaugurated. We ask every impartial mind, What does this mean? In what way have the fortunes of the Congress been benefited by the work of the new committee? Will any one venture to assert that the Congress can be a success under the arrangement now proposed? We will endeavor to answer these propositions.

"First, we will call attention to the fact that the new committee has virtually thrown aside the 'code' issue. It has thrown open the doors of the Congress to all members of the regular profession of medicine in this and other countries, with no restrictions other than the simple inscription of their names on the register, and taking out of tickets of admission. The committee does not undertake to say who are members of the regular profession. This plan is the one proposed by the first committee, but not the one proposed by the new committee at the Chicago meeting, which forced a large number of the first appointees to present their resignations. In short, this new committee has accepted the work of the first committee after having driven out of the organization of the Congress a large number of the most distinguished members of the profession in this country. By introducing the absurd 'code' issue at Chicago, the committee has completely alienated from the organization of the Congress the very best scientific minds. It has rescinded its destructive work at Chicago in the face of the adverse criticism of the almost entire medical press in this country and in Europe, but not until after it had succeeded in filling a number of its appointments with men of second-rate merit. The committee adopts the 'code' issue in this respect only. It has made no appointments except with 'old-code' adherents. The present organization, therefore, will only be represented by 'old-code' men. In order to carry out the 'code' idea and the 'sectional' idea, the committee has filled the various offices of the Congress with men, a few of whom are scarcely known at home or abroad, and whose fitness for the positions to which they have been called may be regarded as of questionable character.

"Second, we direct attention to the fact that the rules for the government of the Congress are almost identical with those framed by the first committee. The first committee created nineteen sections, whereas the present arrangement provides for only seventeen; but this change has been brought about in this manner. The Section on Medical Education, Legislation, etc., has been dropped and the Section on Otology has been added to the Section on Laryngology. A number of verbal alterations were introduced into the rules adopted by the new committee, but the general purport of these rules is the same as adopted by the first committee.

"The only reformation made by the committee in the plan and organization adopted by the first committee is reduced to this: 'new-code' men have been dropped and 'old-code' men have been substituted for them. The changes in the *personnel* of the presidents of sections are thus shown. In the Section on Anatomy, W. H. Pancoast, of Philadelphia, has been substituted for Joseph Leidy, of Philadelphia; Section on General Surgery, William T. Briggs, of Nashville, for D. W. Yandell, of Louisville; Section on Medicine, A. B. Arnold, of Baltimore, for J. M. Da Costa, of Philadelphia; Section on Obstetrics, DeLaskie Miller (residence not known to us) for T. A. Reamy, of Cincinnati; Section on Therapeutics, etc., F. H. Tirrell (residence not known to us) for H. C. Wood, of Philadelphia; Section on Military and Naval Surgery, Henry F. Smith for David L. Huntington, U. S. A.; Section on Pathology, E. O. Shakespeare, of Philadelphia, for Francis Delafield, of New York; Section on Diseases of Children, J. Lewis Smith, of New York city, for Abraham Jacobi, of New York; Section on Ophthalmology, J. W. Calhoun (residence not known to us) for Henry D. Noyes, of New York city; Section on Otology and Laryngology, S. J. Jones, of Chicago, for Clarence J. Blake, of Boston, on Otology, and George M. Lefferts, of New York city, on Laryngology; Section on Dermatology and Syphilis, A. R. Robinson, of New York city, for William A. Hardaway, of St. Louis; Section on Public and International Hygiene, Joseph Jones, of New Orleans, for Hosmer A. Johnson, of Chicago; Section on Collective Investigation, etc., Henry O. Marcy, of Boston, for N. S. Davis, of Chicago; Section on Psychological Medicine, John P. Gray, of Utica, N. Y., for S. Weir Mitchell, of Philadelphia.

"It will thus be observed that the changes made by the committee in the appointees of the Congress are not of a character to inspire the very highest order of scientific work, nor do we believe that the Congress as now organized will attract that attention and interest it would have received under the plan of organization first proposed. The revolutionary work of the American Medical Association, in authorizing the changes made by its committee, is entitled to every atom of criticism and censure it has received. There was no reason or justice in its action. This action will have but one result, that of lowering the standard of scientific work in this country and of introducing into the ranks of the profession an element of discord and disturbance which can not be effaced during the next generation. The association has given its entire influence toward elevating the claims of men who care more for their own advancement than for the general professional good. It has favored an alliance with ideas and principles which have no existence in the scientific creed of our times. The present organization of the Congress, as far as it is known, bears no comparison in point of ability and authority to the first organization. Inasmuch as it has been called into existence out of deference to false issues and demagogical ideas, its results will not only prove highly prejudicial to the success of the Congress, but can have only an unfavorable influence upon the status of the profession in the United States."

The "Medical Record" says:

"For the first time in its history the International Medical Congress has fallen into the sole management of a society of the country in which it is to meet. Although Sir James Paget, an ex-president, expressly affirms that this was not expected or desired when an invitation was given, yet it is evident from recent events that the society referred to intends to retain its hold and force upon the Congress its own men and methods. The work of the committee which met here in such secrecy on September 3d but too surely confirms this. Details of its mysterious labors are given elsewhere. These show some indications of adroit wriggling to escape the results of previous blunders, but no manly meeting of the issues, and no recognition of the real demands of the profession. The committee have utterly eliminated and blotted out Drs. Cole and Shoemaker, trusting, we presume, to gain back Philadelphia by thus making scapegoats of these gentlemen. They have also filled the vacancies in the presidencies of the sections. Their list of names suggests both freshness and decay, but does not fairly represent American medicine. And the profession will very quickly ask who many of these new men are who thus take the seats which have heretofore been held only by recognized leaders. Is our country to be made ridiculous by their upheaval, and the Congress turned into a menagerie of unknown doctors and ethical sticklers?

"However, though the appointments are weak enough, they need not kill the Congress. But a much more serious thing remains: no attempt was made to remove the code issue from the Congress. It is still incumbent on an American physician to subscribe to the American Medical Association's Code of Ethics in order to hold any official position in the Ninth International Congress—if it meets in this country. The stupidity, as well as absolute wrongfulness, of failing to meet this point is certainly beyond parallel. The good Lord only knows, perhaps, what a number of nice, venerable, determined old gentlemen we have here trying to manage our little medical world; but many of us are getting some inkling of their immeasurable and fathomless fatuity. It appears, at any rate, that they are bound to destroy the Congress, for they persist in forcing upon it restrictions which cut off from the Congress and impugn the respectability of a large number of the most honored men in our profession. In thus doing they violate justice and right, break the pledges at Copenhagen, and affront their fellow-physicians here. Of course a bitter controversy is inevitable; and we are sorrowfully forced to the conclusion that there is at present no hope for the Congress whatever. The profession here and in other centers

is almost a unit against the policy of the association and its committee, and it will continue to protest against the organization of a meeting which will be so thoroughly misrepresentative of American medicine."

In another article the "Record" says:

"The real trouble in the case of the Washington Congress is that, under the direction of a few gentlemen prominently interested in the American Medical Association, the local issue of the code has been forced upon an international scientific body. There was no justice or right in this, and it was in violation of all precedent and of tacit pledges made at Copenhagen. The consequence of their action is that a large number of our country's best physicians are incapacitated from holding any position in the meeting, and, of course, can not with self-respect take part in the work of a body which impugns their professional respectability. The profession has almost unanimously condemned this action. In proof of this we give here a list, which we believe is complete, of the journals in this country that have disapproved of the course of the association: *New York Medical Journal*, *Boston Medical and Surgical Journal*, *The Medical Record*, *Chicago Journal and Examiner*, *Maryland Medical Journal*, *Medical Age*, *Philadelphia Medical Times*, *Louisville Medical News*, *Atlanta Medical and Surgical Journal*, *Virginia Medical Monthly*, *Indiana Medical Journal*, *Pacific Medical and Surgical Journal*, *American Practitioner*, *New Orleans Medical and Surgical Journal*, *Cincinnati Medical Journal*, *Columbus Medical Journal*, *Medical News*, *Kansas City Medical Index*.

"We believe that there is not one of the few medical journals that defend the course of the present committee which has not some official or close personal connection with the organization of the American Medical Association and the Congress.

"There can thus be no doubt as to the sentiments of the profession. It is impossible that this sentiment should be changed by the mere fact that Drs. Cole and Shoemaker have been so completely effaced. This was a sop to the Philadelphia Cerberus; but it was a mean act and will win no support to the committee."

The "Medical News" publishes the following:

"At the stated meeting of the Luzerne County Medical Society, held at Wilkesbarre on Wednesday, September 9th, the following resolutions, offered by Drs. Mayer and Guthrie, were discussed and then carried, but one vote being recorded in the negative:

"*Whereas*, The International Medical Congress is a scientific body taking no cognizance of medical ethics or politics, therefore be it

"*Resolved*, That it is the sense of the Luzerne County Medical Society that the officers and members of the Medical Congress should be the most eminent representatives of the entire regular profession of our country without regard to their views as to extraneous subjects.

"*Resolved*, That the action of our brethren of Philadelphia, and of other cities, in declining to hold office in connection with the said Congress as now proposed to be organized, and in protesting against the method of its organization, is hereby heartily approved.

"In seconding the motion for the acceptance of the preamble and resolutions offered by Dr. Guthrie, Dr. Mayer said:

"I desire to state that I had intended presenting to you to-day other resolutions of similar tenor, but, upon learning of Dr. Guthrie's purpose, will content myself with endeavoring to further the passage of these, which I so highly approve.

"This whole matter referred to in the resolutions, when compressed into a nutshell, would seem to be as follows: That the committee of our National Association, originally appointed to secure a proper representation of delegates and committees for the coming International Congress, made selections which gave satisfaction to the best professional judgment of our country; that then certain aspiring and neglected members of the association conspired at the last moment to exclude from the appointed list a large number of men favorably known abroad and distinguished at home for their zeal and success in scientific labors, upon the plea that these gentlemen differed from the majority of the association about ethical matters, well the subjects of legitimate controversy. They succeeded in their plot, and in the enforced substitution for many honored names of others comparatively obscure. This action has caused a profound sensation in medical circles, and has aroused the best sentiment of the country in opposition to this usurpation. A large number of the ablest, the purest, and also the most conservative members of our profession, including, near at hand, such lights as D. Hayes Agnew, Bartholow, Stillé, Leidy, Mitchell, and Pepper, and at a distance other prominent men in New York, Boston, Baltimore, the South and the West, have combined in a protest against this action of the Modified Committee, and have declined to fill the positions assigned to them unless the original status of things be restored. In the mean time some of the members of this committee are inundating the land with proclamation and manifesto, and are endeavoring, by public circular and private solicitation, to whip and spur county societies and individual members into adherence to their views.

"I trust that our society will now speak 'with no uncertain sound' and place its stamp of reprobation upon this despotic attempt of a few to coerce the many, and, by a unanimous vote, confirm the manly protest made by our distinguished brethren in behalf of all that is broad, high-toned, liberal, and free in American medicine. Its name has been soiled in the dust of corrupt medical politics. Let us do our little to help cleanse it."

The Chicago correspondent of the "Boston Medical and Surgical Journal" writes:

"The International Congress, from the standpoint of the profession here, has a gloomy outlook. We can not see how from the present situation the gathering can be in any sense international. There may be a large meeting, but if only American doctors attend, and if, as the prospect is certain, many of the most distinguished members of our own profession are absent, what is the use of a Congress at all! Drs. Lyman, Hyde, Jackson, Parkes, and Senn have publicly announced that under the present organization they *could not* serve in the positions to which they have been appointed. Not only have a large number of the strongest men in the country declined to participate, but so large a class that the idea is growing among the profession here that the Congress will not be worth attending, that it is a foredoomed failure as an international gathering. This feeling is heightened by the indications from abroad of a growing sentiment of dissatisfaction with our ways of doing, which is entertained by the profession of Europe, and which promises to reduce to zero the small delegation of eminent visitors we had any reason to expect under the most favorable auspices.

"And the present prospects promise little for the amelioration of the situation. We can see how some of the difficulties would disappear if one side or the other would back down—a performance there is not the smallest chance of our seeing. The leaders of the association movement and the company of decliners to serve both belong to that class of mankind who do not retreat easily; they will not do it in this instance. And even if they did, and mutually did, the injury done in Europe to the prospects of the Congress are past repair. The spectacle is a humiliating one for the American profession."

The "Western Medical Reporter" says:

"Our readers may have noticed in former issues of the 'Reporter' a conspicuous absence of comments upon the war-cloud which now obscures the bright horizon that erstwhile encircled the coming International Medical Congress. We assure our readers that our silence has not been due to indifference upon our part, for the matter is certainly one of vital importance to every medical man of a progressive mind. There seemed, however, to be no probability that the prominent gentlemen who are most closely identified with the best interests of the American medical profession would so far forget themselves, and that spirit of liberality and scientific progress which has been pre-eminently the claim of the profession of the United States, as to seriously embroil themselves in a quarrel that could but engender the contempt of the majority of the profession both at home and abroad; we now, however, appreciate our mistake. To open the closet and exhibit to the world the skeleton of the American medical family, 'the code,' was indeed in very poor taste to say the least, especially when such an exhibition was absolutely certain to prove prejudicial to the coming Congress. It seems a trifle peculiar that we Americans, with all our boasted liberality and freedom of thought, should be the first to cast a stone at the medical freethinker, and it may well seem a trifle paradoxical to the scientific representatives of what we are prone to term the effete governments of the Old World to find the future of the International Congress endangered by the intolerance of American physicians.

"Our European brethren may perhaps appreciate the fact that the

American Medical Association in its action regarding the Congress has not voiced the sentiments of either the majority or the best of the members of the profession in America, but we are none the less disgraced in their opinion. It is perhaps wrong to lay this trouble at the door of the association as a whole, for, as in every other organization of a similar character, it will be found that the active management is in the hands of a very few individuals; but, as the matter now stands, there is nothing else to bear the responsibility of the family quarrel. With all respect to its venerable editor, the 'Journal of the American Medical Association' appears to be the only obstacle in the way of an amicable rearrangement of the committees and a resumption of the strictly scientific work which, if undisturbed, will make the coming Congress fully as successful as any of those which have preceded it. Pertinacity is an excellent quality under exceptional circumstances, but in the present instance concessions for harmony's sake would be in much better taste. The time is past for a body of men, scientific or otherwise, to attempt to forcibly coerce the opinions of the majority, and experience has taught the profession within a very few years that the code question had better be left to take care of itself.

"The physician's own conscience is his most trustworthy mentor. He may, from that purest of motives, honesty, decline to consult with one whose views are so dogmatic and so diametrically opposed to the results of scientific research that there could not possibly be any interchange of ideas which would be liable to redound to the patient's advantage. To accept a fee for such a consultation would be akin to larceny. To consult with a man who meets a consultant, not as a '-path' or an '-ic,' but as a respectable physician, is, however, above reproach, whether both are recognized by the association or not. The propriety of a consultation ought to be determined by the characteristics of the men and not by the school which has empowered them to practice. The relation of a certain proportion of physicians to the mass of the profession is a trifle like the old story of the pigs in the clover patch. They have protected themselves by a barbed-wire fence denominated 'the code,' that plainly says to the fellows upon the outside, 'Thou shalt not steal.' The favored ones have always seemed to be strangely familiar with the spaces between the wires, and, in case their less fortunate brethren should find a few plums upon their side of the fence, they have always been perfectly willing and eager to rush out and help themselves; now, however, that the outsiders have shown themselves both able and willing to jump clear over the wires, the protest of the fat fellows is most vehement. It is a singular fact that the young man who graduates at a reputable college and settles down in a new locality to earn his bread and butter will meet with less courtesy and more bitter opposition at the hands of the gray-haired adherents of ye venerable code than at the hands of the 'irregulars.' We have known instances in which the aspirant to medical fame has had his first cold-water bath at the hands of men whose names he had been previously proud to read upon his diploma.

"How long the profession will continue to depreciate itself in the eyes of the public by unseemly strife is a question, but the millennium is devoutly to be prayed for. The explanation of the fact that the medical profession commands so little respect at the hands both of the laity and various municipalities is simply that its members are continually employed in cutting each other's throats. They are expected to labor for nothing—or what is worse, glory—and to devote themselves to the welfare of a thankless public simply because there is not among them sufficient professional *esprit de corps* to encourage them to battle for their rights. Should a surgeon refuse to work for the State, city, or any private corporation for nothing, or, at most, for a mere pittance, there are a thousand others who will jump at the chance if offered them. Doctors do sometimes refuse to accept glory from conscientious motives, as is illustrated by the resignation of so many gentlemen whose names graced the committees for the coming Congress. As our respected contemporary, the 'Medical Age,' has aptly remarked, 'even the Michigan men have resigned their exalted positions upon the committees, and when a Michigan man resigns an office there must be something rotten in Denmark.' If the statement had been a trifle more comprehensive, and had embraced the profession as a whole, it would have been quite appropriate. There is no one, however, who is better qualified to express an opinion regarding the Wolverines than the editor of the 'Age.' We will live in the hope that the cement of brotherly love will be spread on hot and thick at the St. Louis meeting next year, and that certain prominent members of the association may become quite expert in the use of the trowel by that time. We fear, however, that there will be no peaceful interim in which to practice the new and to them novel exercise. There are others, too, who might find profitable employment in professional tailoring in order that our poor skeleton, the code, may be provided with garments new wherewith to cover his unseemly nakedness, in case the profession is bound to trot him out for the edification of the scientific world at the next meeting of the association."

The Erie County Midwifery Law, passed at the last session of the Legislature, reads as follows:

"SECTION 1. On or before the first day of July, eighteen hundred and eighty-five, the county judge of Erie County shall, by an order to be filed in the Erie County Clerk's Office, appoint a board of examiners in midwifery to consist of five members who shall have been licensed to practice physic and surgery in this State, and thereafter, as often as any vacancy shall occur in said board, said county judge shall, by a like order, fill such vacancy.

"SEC. 2. Immediately after the filing of said order said board shall organize by the selection of one of its members as president, and of another as secretary and treasurer, who shall hold their office for one year, and be thereafter annually elected, and shall adopt and have power to adopt and enforce such rules and regulations as are necessary to carry out the purposes and provisions of this act.

"SEC. 3. Such examiners shall meet on the first Tuesdays of October and April in each year, and on such other days as such board may appoint, in the city of Buffalo, after due notice thereof is publicly given, and shall then examine all candidates of the age of twenty-one years and upward, possessed of good moral character, who shall present themselves to be examined for license to practice midwifery in the county of Erie, and shall, on receipt of ten dollars, issue their certificate to any person so examined who shall be found by them to be qualified, which certificate shall set forth that said board has found the person to whom it is issued qualified to practice midwifery, and shall be recorded by the clerk of the county of Erie in a book to be kept by him for that purpose. All moneys going into the treasury of this board shall be applied to defray the expenses of this board.

"SEC. 4. Any person who has received and recorded such certificate shall thereupon be designated a midwife, and authorized and entitled within the county of Erie to practice midwifery in cases of normal labor, and in no others; but such persons shall not in any case of labor use instruments of any kind, nor assist labor by any artificial, forcible, or mechanical means, nor perform any version nor attempt to remove adherent placenta, nor administer, prescribe, advise, or employ any poisonous or dangerous drug, herb, or medicine, nor attempt the treatment of disease, except where the attendance of a physician can not be speedily procured, and in such cases such persons shall at once, and in the most speedy way, procure the attendance of a physician.

"SEC. 5. Said board of examiners shall have power, on proper cause shown and after hearing the person holding their certificate, to recommend to the county judge of Erie County the revocation of the same, and said judge shall have power to revoke such certificate and license.

"SEC. 6. Any person who shall practice or, without the attendance of a physician where one can be procured, attend a case of midwifery or obstetrics within the county of Erie after the thirty-first day of December, eighteen hundred and eighty-five, without being duly authorized so to do under existing laws of this State, or without having received and recorded the certificate provided for by this act, and any person who shall violate any of the provisions of this act, shall be guilty of a misdemeanor, and, on conviction thereof, shall be fined not less than fifty dollars nor more than one hundred dollars, and shall forfeit any certificate theretofore granted under the provision of this act.

"SEC. 7. This act shall take effect immediately."

The first meeting of the board (consisting of Dr. M. D. Mann, president, Dr. J. H. Pryor, secretary, Dr. H. R. Hopkins, Dr. P. W. Van Peyma, and Dr. J. W. Keene) for the purpose of examining candidates

will be held Tuesday, October 6th, between the hours of 3.30 and 6 P. M., at the Fitch Institute. If necessary, the board will meet on other days, which will be announced. Any person applying for examination must furnish satisfactory evidence that she is of good moral character, twenty-one years of age, or more, and has attended, or assisted in attending, ten or more cases of labor. The examination will be both written and oral, and the answers to questions must be written or spoken, as the board may direct. Applicants will be examined in English or German, as they may desire. It will be the aim of the board to determine whether a candidate is competent to fulfill the requirements and instructions of the law as stated in Sections 3 and 4, and the character and scope of the examination will be planned with that intention. The candidate must possess a knowledge of the following essential subjects: The structure of the external and internal parts of the female generative organs and pelvis. The symptoms, mechanism, course, and management of natural labor. The symptoms and indications of complicated or abnormal labor, and the emergencies which render it necessary to seek a physician's advice. How to care for the mother and child after the child is born. The hygiene of the sick-room, including cleanliness, etc. The prevention of disease, and how to avoid infection and contagion.

Further information can be obtained by applying to the secretary, J. H. Pryor, M. D., 327 Franklin Street, Buffalo.

The French Society of Otology and Laryngology, as we learn from the "Union médicale," will meet in Paris on the 8th, 9th, and 10th of October.

Preservative Solutions for Embalming.—Santer (quoted in "Union médicale") recommends, for temporary use, injecting the vessels with the following solution:

Carbolic acid	1 part;
Glycerin	10 parts;
Alcohol	5 "
Water	40 "

If permanent preservation is desired, this is to be followed by a copious injection of a one-to-two solution of chloride of zinc colored with fuchsin, or of a solution (strength not stated) of sulphate of albumin [? aluminium] colored with cochineal. The surface of the body is then to be coated with vaseline or with a sandarac varnish containing carbolic acid, the cavities being filled with cotton treated with corrosive sublimate or soaked in a five-per-cent. glycerin solution of carbolic acid.

The Leuval Prize for an Improved Instrument for Deafness.—Baron Léon de Leuval, of Nice, has offered, through the Third International Congress for Otology, a prize of 3,000 francs for the best portable instrument, constructed on the principle of the microphore, for the improvement of hearing in cases of partial deafness. Instruments intended for competition must be sent before December 31, 1887, to one of the members of the jury appointed to decide upon their merits. The jury consists of Prof. Hagenbach-Bischoff, Ph. D., M. D., chairman of the jury, Basle (Missionsstr. 20); Benni, M. D., Warsaw (16 Bracka); Prof. Burckhardt-Merian, M. D., Basle (42 Albanvorstadt); Gellé, M. D., Paris (49 Rue Boulard); Prof. Adam Politzer, M. D., Vienna (I Gonzagagasse 19). Perfected instruments only are to be considered, and with reference particularly to their mechanical construction, the proper application of the laws of physics and their power to improve the hearing. The prize will be awarded at the Fourth International Congress for Otology, to be held in Brussels in September, 1888. If none of the instruments presented are considered worthy of the prize, the competition will be kept open until the meeting of the Fifth Congress.

Companion for an Invalid.—An English lady, of extensive experience in the care of the sick, writes us that she is desirous of obtaining a position as traveling companion to an invalid, and that she is willing to come to America for the purpose of accompanying such an one back to Europe. We shall be happy to furnish her address to any of our readers who may wish to secure her services.

The American Public Health Association will hold its thirteenth annual meeting in Washington, D. C., December 8, 1885. The Local Committee intrusted with perfecting arrangements for the meeting, which includes transportation and entertainment for the members of the association and place for holding the sessions, is as follows: Dr. Smith Townshend, chairman; Dr. J. C. McGinn, secretary; Dr. J. S. Billings, U. S. A.; Dr. John M. Brown, U. S. N.; Mr. William P. Dunwoody, National Board of Health; Hon. John Eaton, Sr., Prof. John Gamgee, Dr. A. Y. P. Garnett, Dr. A. L. Gihon, U. S. N.; Dr. Walter Gwynn, Dr. Charles H. H. Hall, U. S. N.; Dr. C. G. Hirndon, U. S. N.; Dr. Adrian Hudson, U. S. N.; Mr. E. S. Hutchinson, Dr. J. H. Kidder, U. S. N.; Dr. William Lee, Dr. George B. Loring, Dr. De Witt C. Patterson, Dr. Stephen O. Richey, Dr. Charles Smart, U. S. A.; Dr. Thomas J. Turner, U. S. N.; Dr. J. M. Toner, Dr. P. S. Wales, U. S. N.; Dr. Ralph Walsh, Dr. Charles H. White, Dr. T. S. Verdi, Mr. Samuel A. Robinson, and Dr. D. E. Salmon.

Extract of Pinus Canadensis.—Dr. C. H. Davis, of Tunkhannock, Pa., writes to the Rio Chemical Company as follows:

"I can speak positively of the great value of Kennedy's extract of pinus canadensis. I have been treating a case of protruding piles of twenty years' standing, making life almost intolerable at times; they have been treated for years with only palliative results. About a year ago an operation was submitted to, since which time the tumors have remained smaller and less sensitive, but a new trouble soon set in, namely, itching to a terrible extent, which nothing seemed to relieve until I tried the extract of canadensis, two parts to one of glycerin, two or three applications of which relieved the itching entirely, and the disease is being rapidly benefited in every way. Have used it only once a day after each evacuation. I find it an excellent remedy in leucorrhœa also."

THERAPEUTICAL NOTES.

The Physiological Action of Hydrastis Canadensis.—Fellner ("Med. Jahrb."; "Ctrbl. f. Gynäk.") has found, by experiments on dogs and rabbits that golden seal gives rise to changes in the blood-pressure and in the action of the heart. Increase of the blood-pressure arises chiefly from contractions in the vascular system, and its decrease from paralysis of the vaso-motor centers, dilatation of the vessels, and retardation of the pulse. The depressor nerve has no influence upon a diminution of the blood-pressure induced by hydrastis, although in the vascular areas of the splanchnic and other nerves contractions and dilatations occur. If large and then small doses are injected while the aorta is compressed above the diaphragm, the pulse is alternately retarded and accelerated; and this is followed by tumultuous action of the heart and its exhaustion and paralysis. The action of hydrastis, whether irritative or paralyzing, is not confined to the vaso-motor nerve centers, but it acts also upon the cardiac ganglia; it is therefore a cardiac as well as a vascular poison. The drug acts upon the muscular tissue of the uterus as it does upon the blood-vessels, causing contraction and relaxation. In certain cases this action may be observed even in the small intestine. From one to two drops of a ten-per-cent. solution of hydrochlorate of hydrastine, injected subcutaneously, give rise to energetic uterine contractions. According to the author, this salt and phosphate of berberine should be used in practice, as, in small doses, they exert the same action as the fluid extract of *Hydrastis canadensis*.

Capsicum in the Treatment of Delirium Tremens is no novelty, but the large doses used by Dulácska ("Pest. med.-chir. Presse"; "Ctrlbl. f. kl. Med.") are noteworthy. He used the drug in four cases, one of which was complicated with pneumonia. Thirty grains of the powder were given every hour. After four doses had been taken, sleep took place, followed by profuse sweating and urination, and often by an alvine evacuation. The author attributes the effects to the action of the remedy on the intestinal nerves, but he did not observe any intestinal derangement result from its use.

Cocaine in Seasickness.—Manasseïn ("Berlin. kl. Wchnschr."; "Lancet") has used the following solution in several cases with gratifying results:

Hydrochlorate of cocaine	2¼ grains;
Alcohol	q. s.;
Distilled water	4½ ounces.

He gives a teaspoonful every two or three hours.

Lectures and Addresses.

AN ADDRESS

DELIVERED BEFORE THE NEW YORK ACADEMY OF MEDICINE, OCTOBER 1, 1885,

BY THE PRESIDENT,

ABRAHAM JACOBI, M. D.

FELLOWS OF THE NEW YORK ACADEMY OF MEDICINE: It is a source of intense gratification to me to greet you this evening in the beginning of a new season of co-operative work, after a long vacation. May the labor of the coming months be successful both for ourselves and for the medical world, *ars longa, vita brevis.* Art is so extensive indeed and life so short that we have to concentrate all our efforts to accomplish a certain amount of result.

In behalf of our common interests I crave your attention first to a few facts which I consider of great importance in regard to medical progress. They are connected with the session of the International Congress held in Copenhagen from the 10th to the 16th of August, 1884. In a general meeting held on August 14th, upon propositions made by Sir James Paget, of London, Prof. Ewald, of Berlin, Prof. Bouchard, of Paris, and Dr. Billings, of Washington, the following resolution was passed: That an international committee be formed for the collective investigation of disease, in connection with the work of the International Congress, and that a certain number of gentlemen do represent their respective countries thereon. The gentlemen designated for that purpose were Trier and C. Lange, of Copenhagen; E. Bull, of Christiania; Rauchfuss, of St. Petersburg; Ewald and Bernhardt, of Berlin; Schnitzler, of Vienna; Pribram, of Prague; Koranyi, of Buda-Pest; D'Espino, of Geneva; Bouchard, of Paris; Lépine, of Lyons; Sir William Gull and Mahomed, of London; Humphry, of Cambridge; Sir Joseph Fayrer, for British India; Gutierrez-Ponce, for South America; N. S. Davis, of Chicago; A. Jacobi, of New York; and Isambard Owen, Secretary-General, of London. The only changes which have since taken place in the list of membership have been brought about by the untimely death of Dr. Mahomed, and the addition of Axel Key, of Stockholm, and Runeberg, of Dorpat.

According to a circular distributed by the Secretary-General some time ago, "the main objects which the committee seeks to attain through the collective investigation of disease are to widen the basis of medical science, to gather and store the mass of information that at present goes to waste, to verify or correct existing opinions, to discover laws where now only irregularity is perceived, to amplify our knowledge of rare affections, and to ascertain such points as the geographical distribution of diseases and their modifications in different districts. It will be its endeavor to place clearly before the whole profession the limits and defects of existing knowledge, as well as to stimulate observation and to give it a definite direction. It will be a not unimportant incidental result of its work should it tend, as is hoped, to the better training of the members of the profession in habits of scientific and practical observation, and in systematic methods of recording the facts which they observe.

The age in which we live has seen enormous advances in the sciences on which the fabric of medicine rests—such as chemistry and other branches of physics, physiology, and pathology. Each of these has taken giant strides. It must be admitted, however, that purely medical knowledge has scarcely made proportionate progress. It can not be expected that it should do so, as it deals with the aberrations of the most complex of organisms, is of all sciences the most difficult, and demands the greatest patience and the largest accumulation of data.

Hitherto the advancement of medical science has been brought about mainly by individual effort. The value of such work in the past we in no way underrate, nor do we desire to lessen the amount of it in the future; but in medical science there is much that defies interpretation from individual experience, and many problems so far-reaching in an ever-widening field, with elements so manifold that no single man, however gifted and long-lived, can hope to bring the whole within his range. The need, therefore, in medicine of that combination and concentration of individual work which is adopted in many other branches of science and in commerce, and to which increasing facilities of intercommunication have given so much impulse and so much strength, can not be questioned. Indeed, it may be said that, resting on individual research alone, medical knowledge can be advanced but slowly and with difficulty. Future progress to any great extent must be the work, not of units acting disconnectedly, but of the collected force of many acting as one. For many to act as one, organization is needed; that organization it is the purpose of our committee to supply.

Disease is many-sided, and we wish to include in our organization those who see it from every side. All, therefore, whether hospital physicians, family and school attendants, specialists, medical officers of the army and navy and of workhouses and asylums, will be asked to contribute their quota of observations to the common fund.

These are both the motives and the propositions of the committee appointed at Copenhagen. In regard to them, and collective investigation in general, the favorable opinion of the profession has been expressed frequently. But now and then a voice is still heard disparaging its utility, and discouraging the collection of facts on a large scale for the reason that the procedure has not yet been demonstrated to be useful. Indeed it has not, for it has never been tried to a large extent. We shall hardly insist, however, that the ground-stone must not be laid because the tower is not yet on the edifice; that the seed must not be sown because the fruit can not be harvested to-day, or was not gathered yesterday.

Hesitation has also been expressed from another point of view. One of our foremost medical journals ("Boston Medical and Surgical Journal" of September 4, 1884) makes the remark that those who labor only for personal

renown will not enter enthusiastically into the work proposed by the committee. But its demands are very trifling indeed, the questions to be settled by the observations of large numbers are but few, and of such a nature as not to expropriate those who are able and anxious to arrive at and be credited with scientific results of their own, and benefit by the reputation attached to them.

If the remarks above quoted were founded on reality, whoever worked for personal reputation only would not even participate in the discussion of a scientific society, for fear that his remarks, coupled with the essay of somebody else, would miss the opportunity of being listened to as the main topic of an evening's conversation. Now, on the contrary, we are in the daily habit of seeing experience published and ingenuity displayed in just such discussions. Nor do I believe that, as another journal has it ("New York Medical Journal," September 4, 1884), "the answers coming from a great body of men of diverse views would constitute but a catalogue of raw impressions," and that, "when the facts to be observed are of a nature to call for exquisite discrimination on the part of the observers, to multiply the number of the observers is to depreciate the general quality of the work." For the more uncertain the correctness of observations is apt to be, the more numerous they ought to become. Single observations have settled a fact but very rarely. The very existence of large societies proves the instinctive demand for variety and comparative appreciation of observations. Is not every physiological fact known to us the outgrowth of a number of experiments of many men? and pathological knowledge the result of a great many autopsies by different men in many countries? What is individual experience but the accumulation of a multitude of facts of a similar nature by one man? What is science but the result of accumulated experience, collected and compared, of many men, countries, and ages? Are a hundred meteorological stations more efficient or less so than one would be? I do not belong to that class who believe a problem easy of solution merely because its solution is anxiously sought for, nor do I deny difficulties because they are obstacles to the accomplishment of cherished ends, but I know that we are in a better position to serve the co-operative work of all countries now that steam and telegraph have reduced distances, mail and travel have multiplied intercourse, and we are to-day as near St. Petersburg as our ancestors were, a hundred years ago, to Lake Erie or the James River.

Thus it appears evident that the difficulties are not excessive. As to the usefulness of collective investigation, the opinions will become all but unanimous. The efforts of the British Medical Association and the Medical Society of Berlin, and the fair success of an attempt at solving a problem connected with the ætiology of croupous pneumonia, made in the Medical Society of the County of New York during the last year, are sufficiently promising for the collective investigations of the future. In their interest it is that I propose to make a further communication and request your co-operation.

The Central Committee on Collective Investigation of the International Congress has selected the following subjects, viz.: Rickets, chorea, acute rheumatism, and cancer, planned a number of simple questions in regard to them, mainly to their ætiology, and expects as simple answers. Being the secretary of the American sub-committee, I have gathered all of them in pamphlet form, added a few introductory general remarks, supplied by the Central Committee, and present herewith a specimen for your inspection. Those of you—I hope all of you—and those of the profession at large who will learn of this request, are respectfully asked to interest themselves and their friends in behalf of the undertaking, notify me of their desire to be furnished with a copy, and comply with the suggestions of the committee contained therein. We do not look for immediate achievements. For the complex of sciences and arts called medicine has required thousands of years to arrive at its present condition; the aggregation of many wills and forces has resulted in a slow evolution only. No single discovery even, nor the first attempts at collective investigation, will effect a revolution in medicine. But what we do hope to accomplish is the gathering of facts on the strength of an improved method, the confirmation of old and the acquisition of new knowledge, and thus to contribute to the success of at least this one committee. It need not matter how much may have, nay, has, been done to mar the success of the next International Assembly, and to deprive us of the opportunity long looked forward to of greeting the giants of science, the celebrated teachers, the ingenious experimenters, and our literary or personal friends of Europe, on our own soil. For an International Congress will never convene under the roof of a house divided in itself, though the division may be the work of a few sacrilegious hands only.

But this is a sad theme, known to everybody here, deplored by everybody who feels as both a personal grief and a public calamity the humiliation which is involved in the hesitation on the part of the Congress to assemble in our country.

It is in profound sorrow that I pass by the subject; I prefer to speak of another topic, which, while it is not directly connected with any of the aims and immediate purposes of this Academy, concerns us as professional men of the State of New York and the Union. I allude to the almost unexpected success on the part of the profession of the State of New York in harmonizing a large majority of the medical men of the United States.

Let me explain. Chap. II, Art. IV, Sec. 1 of the Code of Ethics of the American Medical Association reads as follows: "A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the only acknowledged right of an individual to the exercise and honors of his profession. Nevertheless, as in consultations the good of the patient is the sole object in view, and this is often dependent on personal confidence, no intelligent regular practitioner, who has a license to practice from some medical board of known and acknowledged responsibility recognized by their association, and who is in good moral and professional standing in the place in which he resides, should be fastidiously excluded from fellowship, or his aid refused in consultations

when it is requested by the patient. But no one can be considered as a regular practitioner, or a fit associate in consultation, whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology, and organic chemistry."

This paragraph has so often been criticised by both friends and adversaries that it is unnecessary to refer again to its contradictions, its "nevertheless" and "but," and to its implied acknowledgment of modern "homœopathy." For let us not forget that the code of ethics of the American Medical Association saw the light forty years ago, and that what they call "homœopathy" nowadays differs from the Hahnemannism of those times in everything but the name. They now maintain that their practice is not based on an exclusive dogma; they profess to teach in their schools—and do teach—anatomy, physiology, pathology, and organic chemistry, and thus come up to the requirements of the above-quoted article of the code of ethics of the American Medical Association. *Indeed, if there were no better grounds for their rejection, they would to-day be entitled to membership in the association.*

What the Medical Society of the State of New York, in its sessions of 1882 and 1883, adopted in its stead ("Trans. of the Med. Soc. of the State of New York" for the year 1882, p. 75), in a code of medical ethics which covers two pages instead of the eighteen pages of the code of medical ethics of the American Medical Association ("Proceedings of the National Medical Conventions, held in New York, May, 1846, and in Philadelphia, May, 1847," Philadelphia, 1847, pp. 91–106), reads as follows:

"Members of the Medical Society of the State of New York, and of the medical societies in affiliation therewith, may meet in consultation legally qualified practitioners of medicine. Emergencies may occur in which all restrictions should, in the judgment of the practitioner, yield to the demands of humanity."

Compare with these brief sentences the explanatory declaration of the American Medical Association, passed unanimously in its session at New Orleans of April 30, 1885. There and then it was "*Resolved*, That clause first of Art. IV in the National Code of Medical Ethics is not to be interpreted as excluding from professional fellowship, on the ground of differences in doctrine or belief, those who in other respects are entitled to be members of the regular medical profession. Neither is there any other article or clause of the said code of ethics that interferes with the exercise of the most perfect liberty of individual opinion and practice.

"2. *Resolved*, That it constitutes a voluntary disconnection or withdrawal from the medical profession proper to assume a name indicating to the public a sectarian or exclusive system of practice, or to belong to an association or party antagonistic to the general medical profession.

"3. *Resolved*, That there is no provision in the National Code of Medical Ethics in any wise inconsistent with the broadest dictates of humanity, and that the article of the code which relates to consultations can not be correctly interpreted as interdicting, under any circumstances, the rendering of professional services whenever there is pressing or immediate need of them. On the contrary, to meet the emergencies caused by disease or accident, and to give a helping hand to the distressed without unnecessary delay, is a duty fully enjoined on every member of the profession, both by the letter and the spirit of the entire code.

"But no such emergencies or circumstances can make it necessary or proper to enter into formal professional consultations with those who have voluntarily disconnected themselves from the regular medical profession, in the manner indicated by the preceding resolution."

After these resolutions had been passed in New Orleans many of the professional men who always persisted in adhering to the code of the American Medical Association were of the honest opinion that they had, by accepting them, removed every discrepancy of opinion or difference of action on the part of those adhering to either the old or new code. For it is true that the explanatory declaration of Chap. II, Art. IV, Sec. 1, exhibits a great resemblance to the New York Code of 1882. For the Medical Society of the State of New York it must be a source of intense gratification to be convinced by the passing of that declaration that a few years have sufficed to so change public opinion as to oblige even the American Medical Association to recognize the justness of most of the New York proceedings. Upon this result the New York State Society can but be sincerely congratulated, and the spirit of equity and justice as displayed by the committee drafting the explanatory declaration must be commended.

The expressions of opinion in regard to the wholesome effect of the New Orleans declaration have been very numerous. I am in possession of several letters containing remarks full of satisfaction and hope. A gentleman well and deservedly known in the professions of both hemispheres, and markedly so with us for his allegiance to the code of ethics of the American Medical Association, gave enthusiastic expression to his delight over the satisfaction that declaration must give, and to the hope that the New York Academy of Medicine would give a public utterance in that direction. That would "immediately settle all difficulty about the code, and at once restore peace and harmony in the profession." I had to tell him that the Academy excluded all politics, ethical or other, from its discussions, and that the only societies which could act in the matter were the medical societies of the county and of the State of New York. There the matter then rested, for I believe I was right in excluding it from any consideration in our midst.

Still, while this Academy is no political body, old and new codes, as far as I know, being equally represented with us, we are an integral part of the body medical, and the events in the professional world affect our interests and sympathies intensely. Thus we have to regret that the wording of the resolutions of New Orleans is very likely to obscure their meaning. Emergencies are acknowledged to be binding, but, while the New York code admits that a physician may (not shall, or must) consult with a legal practitioner in a case of emergency, the explanatory declaration of the association insists that such a meeting is not a meet-

ing in the usual meaning of the term, and such a consultation "no formal professional consultation."

The differences are rather slight, it is true. If, in spite of that, the code question is still made a war-cry by some, that fact reminds us of the bloody wars and persecutions directed against former friends because of nominal differences of eccleciastical opinions in the history of the church. It is also explained by the intense enmity exhibited under all circumstances by those who have been convinced against their will. In a few instances we have to deal with the zeal displayed by converts who, after they had greeted the birth of the new code with congratulations, were induced, by certain external circumstances, to change what they call their minds within the period elapsing between the appearance of two monthly numbers. Or, what is still more—shall I say surprising, shall I say sad?—there are those who fought the new code because they longed for a fight without caring on what account. A gentleman who edited an upright and rattling journal at that memorable time, and voted "the regular ticket," and was by no means gentle toward the new-code men and principles, has convinced and assured me he never read the new code. I believe him. There are others again—their number has been large at all times—whose souls and sensibilities are moved by shibboleths, by single words, provided these words are skillfully handled by shrewd calculation.

"Just where fails the comprehension
A word steps promptly in as deputy.
With words 'tis excellent disputing;
Systems to words 'tis easy suiting;
On words 'tis excellent believing;
No word can ever lose a jot from thieving."
—*Bayard Taylor's "Faust."*

This is the element which, in skillful hands, determines for a moment the result of meetings, caucuses, assemblies. It is the emotional element, which is swayed by sentiment both false and true, by gesticulating oratory, and by implicit temporary confidence in the veracity and sound motives of its presumed leaders, which, therefore, "takes the specialists of the new-code persuasion by the tops of their heads and cuts their throats," but, after all, is cooled down by common sense, consciousness, and conscientiousness, when left to itself. Such men are in the majority. They are the waves of the ocean, always changing, now smooth and smiling, then turbulent and raving, and still always the same, steady in their general effects, now and then a disturbance and an injury, but always the eternal source of healthful development. We never cease to bless the ocean, even when it is doing its temporary worst. Let us, therefore, not despair of the future peaceful and blissful development of the country or the profession in times of turbulent commotion.

What difference is left unabolished may be left to itself until acrimony is soothed and bitterness replaced by kindness. Greater discrepancies than these have been wiped out. When the actions of men are weighed, their opinions in regard to dogmatic utterances will be disregarded. When deeds are counted, let creeds be tolerated. But let us have patience, all of us; great improvements in the universal conscience do not take place by hard fighting and refuting. Lecky is right when he says that the greatest errors can not be annihilated; it takes time for them to fade out.

In the face of the explanatory declaration passed in New Orleans which, in its main aspects, I take it, indorses the New York State Society and the spirit of the new code, the majority of those present in the meeting of the American Medical Association were guided into believing that they must protect a sacred code from infidel invaders. The main complaint was that new-code men had been given offices in the organization of the International Congress. On page 101 of the "Journal of the American Medical Association" you will find the following complaint: "Directly upon the threshold of the most important part of their work a majority of the original committee practically ignored all allegiance to the American Medical Association, and, assuming an entirely independent attitude, at once placed in the front of their ranks . . . one who was well known to have repudiated the National Code of Ethics." And, in a voluminous circular addressed to State and county medical societies, composed almost exclusively of editorials of the "Journal of the American Medical Association" and signed by the permanent secretary of the association and four other gentlemen, the following language is used: "The editorials of the 'Journal of the Association' . . . present the case" (the differences in regard to the proposed organization of the International Congress) "so clearly that there can be no doubt of the duty of the friends of the association, or of the animus of its enemies. We feel assured that your society will indorse the action of the Association, and stand firm in support of the Code of Ethics."

It is, however, fairly understood by this time that the war of the codes is over. In fact, it has always appeared to unsophisticated people that the fighting about the code was not reciprocal at all; for when the New York State Society had settled its code question to its satisfaction and that of the country societies in affiliation therewith, it appears that, in them and by them, the subject was not mentioned again except on strong provocation. You remember that it took a great deal of emphasis to relieve even this Academy of the proffered dispute. The code question is dying a great deal more easily than the bloody shirt disappeared from the politics of the country. If it is puffed up as the pivot of the organization of the International Congress, everybody is perfectly aware that this is either a pretext or a grave mistake. I believe it is both. Europeans, who were not afraid of admitting laymen and homœopathists, expected to meet, if ever they should consent to cross the Atlantic for an International Congress, the American medical profession. No International Congress must be caught in domestic quarrels, or audaciously kidnapped by a society, or a party, or the faculty of a medical school.

We are presenting a sad spectacle. In our first attempt at welcoming the medical world to our shores we have failed. The humiliation connected with this fact we have to submit to; to trace it to all its causes I can not under-

take here. The least we can do is to admit it; if the task we hoped to accomplish was too much for us, let us try to prepare for the future by attending to those duties of our own which we can perform without hindrance or disturbance.

The affairs of the Academy will require our undivided attention. In many respects we have been very successful indeed. The hall and building in which we meet is practically our own and free of debt. Thus we can look forward again to improve our quarters, enlarge our facilities, and think of securing in some near future a fire-proof building for our ever-increasing bibliographical treasures. Our income has increased with our membership. Both, however, require additions. There are many desirable men in the profession whom we ought to carry on our lists for mutual advantage.

The hopes I expressed in my inaugural address a few months ago have begun to be fulfilled. Old sections have been revived, new ones have been formed. I may here assure the gentlemen who have undertaken the task of organizing them that whatever aid the President and Council can give them in their labors will be freely offered. The sections will not only contribute to the improvement of their own members, but will enhance the interest of the general sessions by the communications coming to them from the sections, and the discussions emanating therefrom.

To enable them to begin their work, Article VI of the Constitution had to be altered. That change was brought about, in the manner prescribed by law, some months ago. It has also appeared to many fellows that more alterations are required; they have given notice of their desires in this respect, but have been unwilling to come before the Academy with any propositions to make radical changes, though in the manner prescribed by law. Now, both the constitution and by-laws may be repealed or amended by a three-fourths vote at a stated meeting, provided notice of the same has been given in writing at a previous stated meeting. But it will prove more satisfactory to guard against any mistake by trusting the work of moving proposals to change our by-laws in the hands of a committee carefully selected for that purpose. Off-hand legislation is always dangerous; it often errs, and always weakens the conservative tendencies which must underlie any political, scientific, or social structure if it is expected to last. The president expresses the hope that, if such a committee is appointed, it will be slow in considering and quick in reporting. If I am at liberty to state a wish of my own, I should say that one of the articles which require amending is that which refers to the Committee on Medical Ethics. This committee is almost powerless; it has no initiative whatsoever; in every case calling for interference or judgment, it has to wait for a charge to be preferred by a fellow; the odium of an accusation falls always on an individual member, whose unselfish interest in the welfare of the Academy or the profession is at once published, as it were, by arraying him personally against the accused. To prefer a charge is thus almost rendered an impossibility. Thus, indeed, our law is more apt to encourage derelictions of ethical duties than to prevent or punish them. Now, I am of the opinion that the interest of an accused must always be taken into account, but that that of the Academy is at least of equal importance. What the district attorney and the police are in the political and social commonwealth, the Committee on Ethics ought to be in our midst. It ought to be both authorized and directed not to wait for personal charges, but itself watch over the moral welfare of our community. If such an authority is established, the ethically weak will know that he is observed, and may be held responsible without a fellow being compelled to draw upon himself odium or revenge.

No society, either political or other, can ever do without a penal code—old or new; thus there is no harm in admitting that the Academy is in need of a committee on ethics like any other society. If the number of those who necessitate its existence or interference is but small, so much the better; but the few, when not stopped, act as bacilli of moral putrefaction. Human kind is so organized that disease-germs will operate rapidly and persistently. A committee on ethics endowed with the authority to warn and censure in time, without any procrastination, will strengthen the feeble when he feels the first symptoms of struggling against temptation, may frighten the man of harder fiber who would otherwise rely on his facilities and the difficulties on the part of the committee, and protect the interest of society and the endangered dignity of the profession.

That I speak of no imaginary evil we all know too well. What I said a few months ago of the growing tendency of a few to make the public acquainted with their merits and accomplishments through the columns of the secular press was considered timely and met with the appreciation of many members of the profession, both old and young, here and elsewhere. I mean to deserve the respect of my peers and superiors in the profession by again directing your attention to the fact that the penny-a-liners of the daily press are being utilized in the interest of, and by, weak-kneed brothers who can not stand on their own legs, who mistake cheap notoriety for reputation, and the grin of derision for the smile of approval. The more power is concentrated in commerce, the greater the prevalence which is conquered by trade, the more rampant the spirit of grasping egotism which is pathognomonic of modern industrial pursuits, the more is it the domain of the liberal professions to approximate their aims to an ideal. Let us not forget that learning by heart the action of medicines, or the working of articulations, or the proper use of an instrument, does not exhaust the possibilities of a medical man. The physician requires all that, but beyond that all the characteristics of a man of principle and intellectual and moral culture. Neither can be inculcated by the demands of old or new codes. Still, as a corporation and a profession, we are responsible for the existence of these qualities in our members. It is true, we can not supply ideals to order, nor can we make those whose eyes seek the mire raise their brow to the skies. But such as find it difficult to develop those qualities spontaneously must be taught and aided in acquiring them.

As far as I am concerned, I hope there will be no occa-

sion again to refer to the same subject during my term of service. If there is, I shall repeat my warning; for I take it for granted that when you elected me to the highest office in your possession you did so both in the belief that your candidate would have opinions and principles of his own, and on the condition that he should do his full duty.

Original Communications.

PNEUMATIC DIFFERENTIATION.*

By HERBERT F. WILLIAMS, M. D.

The article which first drew the attention of the profession to this process appeared in the "Medical Record" of January 17th of the current year. It made no pretensions to completeness, and was written with the hope that extended observation by competent men in the profession would give to the subject treated its proper therapeutic position.

This process presents some facts so self-evident that their discussion is idle. To deny all therapeutic value to such an invocation of natural laws and forces would be absurdity itself. On the other hand, the claims in its behalf already made by overzeal are equally unwarrantable. There is, therefore, a position in our therapeutics for pneumatic differentiation.

While it can not be said that experience hitherto gained has defined this position in all its relations, a few points already demonstrated will be presented, in the hope that their significance will provoke and encourage an inquiry that can not fail of wholesome results.

The five patients with phthisis reported as recovered in the original article remain in apparent health to-day, and, with the exception of two treatments given in Case No. 1 for acute bronchitis, there has been no necessity to resume. In Case No. 2 the patient has lost but one half-day from his employment as machinist since his discharge from treatment one year ago last March.

The subject of Case No. 5 has become a longshoreman, does the work of a man in his position, and commands a man's wages.

In Case No. 3 the patient remains at his employment in perfect health.

In Case No. 4 the patient is the same as reported. The slight drain from the fistulous opening in his side, however, prevents the rugged appearance of the other cases.†

On my first examination of this case, in which the principal lesion was in the left lung, I found what I regarded as primary changes taking place in the apex of the right. The present immunity from disease in the latter locality has suggested recent investigation of the other cases in which the phthisical process was confined to one lung.

I find that in no instance has the sound lung become diseased during the time of observation, and almost invariably I have been able to watch the patients until death or a subsidence of their symptoms. These observations, with their inevitable conclusions, furnish, to my mind, arguments in favor of a system of thorough antisepsis more suggestive and cogent than any hitherto offered.

The six patients with primary infiltration remain in perfect health with one exception. This patient, until two months ago, had exceeded the best weight of his life. In his occupation as solicitor he contracted a fresh cold, which ended, as before, in consolidation. Treatment was resumed, and Dr. De Watteville reports him rapidly improving.

In my investigations, formerly reported, I personally conducted the treatment. Since then the immediate administration has been in the hands of Dr. Fox in Brooklyn, and Dr. De Watteville and Dr. Tiegel in New York. Their clinical experience in more than seventy-five cases will doubtless be detailed by themselves.

They have, however, afforded me daily opportunity for consultation and continued access to their memoranda. Their courtesy enables me to make confident assurance that in their practice the relative results have been such as to confirm and emphasize the deductions originally published. Enough time has not elapsed to permit of extensive exploration in advance of the points then indicated.

I have deemed it profitable to collate many considerations which have been impressed upon me by the contemplation of this method and of the conditions in which it may be either appropriate, inadvisable, or doubtful. Many of the suggestions which I make in this connection have neither novelty nor significance except such as old and well-recognized material always assumes when brought into relation with original research in the same field.

It is suggestive of the value of the treatment that its development is in line with, and depends upon, physiological axioms. The continued use of this method will discover all degrees of adaptability and every shade of fortunate result.

If there is one thing known concerning pulmonary phthisis, it is that well-directed treatment must be early.

It is a safe, though not necessarily a correct, conclusion that, however careful may be the physical diagnosis, if we get evidence of lobular infiltration the probability is that more than one lobule is affected. If the ear detects a râle, there are several too distant for recognition.

I have long since come to base my prognosis upon an estimate of more trouble than I am able to detect. There is a great deal of truth in what I have recently seen written by an unprofessional pen: "Pure air is the life of the lung-tissue; irregularity in the supply is lung disease."

There may have been a time in our individual history when a catarrhal concretion, lodged in a remote bronchus, was the smoldering ember threatening a conflagration that would have consumed us had not one fortunate cough expelled the obstruction and removed the contingent congestion or infiltration. No one has a right to treat lightly the simplest cough when appealed to for relief or advice. Further back than this, if we, as physicians, are going to change the statistics in pulmonary consumption, we must

* Read, with a demonstration of the pneumatic cabinet, before the American Climatological Association, May 27, 1885.

† These five patients continue in good health at the present time, September 25th.

inculeate the well-known laws that are conducive to pulmonary health, and demand of the heads of our families a promise that they will compel their developing children to breathe properly.

We come, then, to the earliest opportunity when the benefits of this process may obtain. In childhood, when inflammatory action is so liable to be set up and where its consequences are so frequently overlooked on account of the elastic vitality of youth, we have a field for action in preventing the collapse of lobe and lobule and in removing all tendencies to the retardation of proper circulation, which not only produce immediate mischief, but may be, I believe, the cause of the easy development of the gravest symptoms in maturer life—as, for instance, the sudden hæmorrhage, without the appearance of a symptom that occasioned anxiety in the patient.

In the formative period of childhood and youth the proper expansion of the lungs will do much to prevent the pernicious consequences of improper frame development. The questions of treating actually instituted disease of the lung are too vast to comprehend in a single paper.

Thus far no patient able to apply for treatment has been refused, though in many instances the patients and friends have been told that temporary relief and improvement, if any, were all that could be expected. Indeed, I feel that in some cases of phthisis alleviation has been a greater achievement than recovery in others.

In any new form of treatment, and especially one as radical as this, the early applicants are those who spend most of their lives in seeking for that which they will never find, and would not appreciate if they did—viz., restoration to health. It has sometimes been difficult to exercise sound judgment and impart proper advice on account of their earnest solicitations. Such patients, if allowed, easily magnetize themselves at first, and will construe the feelings that are engendered by hope and novelty into actual improvement.

In all acute conditions such inspirations may be allowable, but the chronic cases demand the exercise of caution, though at the risk of reproach for coldness and apathy.

Through the careful labors of Dr. Austin Flint, we have been taught that there is a tendency to self-limitation in the phthisical progress.

I recognize in some cases a cessation of the severity of symptoms, and occasionally meet patients who profess to have outlived by many years the prognostication of the leaders in our profession.

So far as I know, no explanation has been offered for such conditions. I have questioned if further investigation in the life-history of the *Bacillus tuberculosis* may not bear a kindred relation to the germs of some of the eruptive fevers, where a thorough propagation renders the soil unfertile for subsequent thrift.

In a case under this treatment when, if I may so speak, the crisis has not been reached, every form of encouragement is permissible; but we meet some patients who have surprised everybody by recuperation, whose early gratitude has been succeeded, first, by two or three years of chronic process, then by growing unthankfulness, and finally by despair. They are quick to seek new devices, adopt strange methods, or grasp without discernment for anything or *everything* that promises well. When such a person applies to me he will have the benefit of my experience, which says that relief and improvement are all that can be expected.

To find a solution for this we have but to look at our post-mortem records, where fatty livers and hearts, or obliteration of the kidney cortex, with its frequent cysts and adherent capsule, plainly point to concurrent or dependent degenerative action. Where pyogenic cavities have guarded the system from frequent pyæmias, or where, from any cause, secondary assimilative or organic changes have not taken place, even though the patient may have suffered for years, I doubt not that permanent improvement or recovery may be expected.

It is to the treatment of these chronic cases that my remarks in the closing paragraphs of my first paper were mainly addressed. Good judgment suggests that rest and quiet are more applicable to some cases than ill-advised attempts at recovery, especially those that demand over-exertion in the patient. Still, such cases have been and must be met, and, with the nicety of graduation of pressure together with the influence of remedial or perhaps nutritive agents, and the certainty with which they can be introduced into the general circulation through the lungs, an improvement can be made upon what has thus far been accomplished by this process.

There is a great scope for discrimination not only in regard to the selection and administration of remedies in this manner, but also as to the force calculated to produce the best results. I have seen how unfortunate results may be ascribed to this process with which it may have nothing to do.

The irregularity of the symptoms that develop in the progress of phthisis is such that it is often difficult, if not impossible, to determine whether untoward developments are a morbid incident or the result of therapeutic error.

The subject for earliest study was that which seems at first to trouble every investigator with whom I have conversed—viz.: The effect on the pulmonary circulation with reference to production or arrest of hæmorrhage.

All seem to have an exaggerated idea of the force best calculated to produce good, and, with a fear born only of unfamiliarity, shudder at the possibilities of calamity.

It is possible that the coincidence of instant death upon the first inspiration might arise; or, through carelessness or incapacity, too much power might be exerted, which would act as a direct cause. Human fallibility is such that it may be impossible to determine the existence of fatty-degenerated bronchial walls, attenuated alveolar septa, or unprotected or aneurysmal arteries or veins.

When the totality of the symptoms points to any or all of these conditions, it is incumbent on the operator to use every possible precaution. But, when such precaution is observed, I claim for the procedure the protection accorded any measure adopted for the administration of potent agents.

Exceptional disaster could not forbid intelligent use. It would be as just to return to primeval modes of travel through fear of railroad mismanagement. It is no argument

against the therapeutic value of $\frac{1}{30}$-grain doses of arsenious acid that two or three grains may kill.

Originators in surgical procedure have outlived the obloquy of initial failure.

Chloroform is fatal as well as beneficent. But to those who are forward in their estimation of the dangers of this process I am indebted for valuable argument in its favor. It must be granted that the force is constant, for it is natural. An agent for harm may be made an agent for good when applied to suitable conditions, and its very malignity, when unrestrained, is an incentive to harness it for human welfare.

The healing art would be tame and loathsome if emasculated of every capacity for peril.

In the discussion following the very able paper read before the New York Academy of Medicine by Dr. E. D. Hudson, Jr., "On the Physical Examination of Weak Chests and Differential Diagnosis of the Several Forms of Early Phthisis," Dr. Loomis is reported as saying that "he had been able more than once to recognize the presence of acute phthisis a number of weeks before the hæmorrhage occurred which ushered it in, and by means of the peculiar harsh quality of the respiratory sounds." My confidence in the preventive power of this process, together with the influence of an appropriate astringent, in this manner applied, is such that, should my lungs be judged by him to be in this condition, I should at once resort to this treatment to forestall such calamity.

In my first paper I spoke of the way in which the capillary circulation of the lungs was reduced by this means—namely, by decreasing the resistance of the blood in its passage through the lungs by the fuller inspiratory and expiratory effort. If it was my intention to obtain the direct hæmostatic effect, I should do what is always done when we can—in other conditions of hæmorrhage—apply pressure. The distribution of the circulating vessels of the air-cells and ultimate bronchi is such that, if a continued inflation can be maintained in them, exsanguination of their walls must take place. It is possible to accomplish this by a slow, full inspiratory act under any pressure thought desirable, maintaining this as long as can be with comfort. The expiration must not be made against the external air, but into the cabinet, and, as soon as possible, a full inspiration must again be made.

Such explanation might seem inadequate, but I think will be strengthened when I say that I have never seen hæmorrhage accompanying or immediately following treatment.

In each of six cases a single seizure has occurred at intervals of from twenty-four hours to several days after the last treatment. This did not interfere with the progress of treatment.

In another case, characterized for three or four years before treatment by at least annual hæmorrhages, the patient sustained with complete immunity thirty one treatments covering the month in which he had come to expect the recurrence of his trouble, had gained two pounds and a half, and was subjectively improved, when he was overtaken by a hæmorrhage which rendered further treatment inadvisable.

We need not speak in detail of the acute conditions in which theory and practice have demonstrated the great utility of this process. As clinical evidence is gained we can more accurately anticipate the probable result of treatment in given cases. The conditions under which remedial and, perhaps, nutritive agents can be administered are such that an improvement upon previous attempts at this method can be expected.

In the pre-tubercular stage, when imperfect nutrition and assimilation are the first indications of impending disease, much may be hoped for from this form of medication. From experiments recently made, I think it a close approximation to say that from ten to fifteen per cent. of the atomized solution can be condensed upon the respiratory area. In the treatment of emphysematous conditions great benefit has been produced in three cases. This is paradoxical, for at first sight it would seem that to expand residual air would of necessity stretch its enveloping membrane and, of course, aggravate the condition.

The forces that produce emphysema are largely expiratory. In my first paper it was shown to be impossible, by any judicious resort to the force at our command, to produce over-distension. The improvement that has followed the treatment of emphysematous conditions is undoubtedly due to the subsequent increased circulation of the blood in the diseased part, and the consequent improvement in the tonicity of the alveolar walls due to improved nutrition. It may be also due to the removal of excess of catarrhal secretions in the ultimate bronchi or any anterior point. Mr. Ketchum has completed a device by which alternate rarefaction and compression of air can be made synchronously with the respiratory act, or by which either compression or rarefaction can be maintained at the will of the operator. This will enable us to obtain all the results of the compressed air-bath with which we are familiar, and to which our attention has recently been called by the lectures of Dr. C. Theodore Williams, of England, and by the methods well known throughout the Continent.

I am indebted to Dr. Teigel and Dr. De Watteville for the following report of cases occurring in their practice:

W. P. M.; occupation, barber; presented himself for examination April 18, 1885; age, twenty-seven years; colored. Best weight, 132; present weight, 120. Temperature, 101–102°. Expansion, two inches.

Condition.—Married; no children.

Family History.—On father's side, mulattoes; on mother's side, octoroons. Family history, negative.

Personal History.—A little over eighteen months ago he caught cold and could not get rid of it. He got weaker and weaker. Consulted Dr. Speir in Brooklyn; was told that his lungs were very weak, and was sent to the country. There he received great benefit, and returned, he thought, a well man. He soon fell back, however, and got very much worse. Heavy cough day and night. Complete loss of appetite; never had any pain, however. Last December coughed up quantities of heavy fœtid yellow matter. He does not expectorate much, but has a dry cough, which gives him no rest. He is losing flesh, has fever every night up to 102°, and is extremely short of breath.

Inspection.—A poorly developed thorax with insufficient expansion. Body emaciated. On both sides the thorax is flat

tened below the clavicles, amounting on the right side to a positive excavation.

Palpation.—Thorax resists pressure and is not normally elastic, especially on upper half. Vocal fremitus much increased, especially on right side.

Percussion.—Dullness and high-pitched note on right side in clavicular and supra-mammary region. Less marked on left. On right side the sound is tympanitic, and changes character and pitch when mouth is opened or shut. With open mouth it gives a typical cracked-pot sound. This tympanitic percussion note is limited to a space the size of a hen's egg. Percussion sound improves as we approach the middle third. On left side it is better than on right.

Auscultation.—On right side, in clavicular region, cavernous breathing, but not accompanied by gurgling. Vocal resonance much increased in upper third. Breathing tubular. Expiration saccadent and prolonged. Râles of every description—loud, sonorous, and sibilant—are heard in very low breathing; fine crepitant râles are observed. They diminish as we descend the thorax, and are infrequent on lower half. On left side very much the same condition exists, though not in the same degree. Dry râles are heard in front and back, but diminish gradually till they nearly cease at the base.

Course of Treatment.—Three times weekly. Began on April 18th. Commenced with $\frac{3}{10}$ inch and a spray of a solution of 1 per cent. ammon. chlorid., 5 per cent. glycerin.

April 25th.—Increased to $\frac{6}{10}$ inch. He breathes nicely, but his respirations are limited. He reports that he sleeps well at night, and that his appetite improves. He has expectorated a great deal.

May 1st.—Respiratory sounds are stronger, but râles still present in great number. The objective signs are very little changed. Subjectively, patient is in high spirits. He eats voraciously, has a normal temperature even at night, coughs during day, and expectorates heavily. He feels "splendid."

6th.—Changed to red-bark decoction (made by Mr. Beudiner, Tenth Street and Third Avenue).

12th.—Caught cold during damp days, and developed catarrh on left side. Coughs much, and does not look so well.

27th.—Marked progress. Patient has gained strength, so that he was able to assist and officiate himself in house-moving, going up and down stairs frequently. Feels none the worse for it. The left lung has recovered. On right side the râles have much diminished. On left side the improvement is marked, with exception of the region of the clavicle; the râles have nearly disappeared; here and there fine crepitant râles are heard still. The expansion is limited still, but has increased about half an inch.

The breathing in clavicular region has changed in character, the note being higher and the character more tubular than cavernous. Percussion, however, still shows the former symptoms, although the space where the cracked-pot sound is heard seems to be more limited. Subjectively, the patient's account of himself leaves nothing to desire. He coughs still, but only when he gets rid of mucus. Sleep is good, appetite good. Temperature normal. Strength improved, but by no means great. Talks of returning to work soon. He takes treatment with great regularity three times weekly, and intends continuing for some time.

M. O., aged thirty-six years, married; one child, which died of hydrocephalus and spina bifida. Patient presented himself for examination on March 28, 1885.

Family History.—On paternal side, negative; on maternal side, frequent throat troubles. One brother died four months ago of tubercular laryngitis and pulmonary phthisis.

Personal History.—Patient has for many years suffered from catarrhs, cough, and light attacks of pleuritic pains. Since New Year's the cough has much increased, often producing broken sleep, loss of appetite, and a general tired feeling; short breath on the least exertion. A dull soreness, accompanied sometimes with sharp, stitchy pains on left side, on the back, under the lower half of scapula; also on right side in the mammary region, between the fourth and sixth ribs, accompanied by wheezing at intervals. He feels feverish at night, and has to take quinine frequently. His occupation (broker) exposes him to draughts and constant changes of temperature. He is losing flesh.

Inspection.—A tall man, not very well nourished, with an extremely long and narrow thorax. Complexion pasty and pale; lower eyelids baggy; voice slightly hoarse. Hands long, clammy, and finger-nails thin, round, and bent forward extremely. Respiration jerky and quick, especially on least exertion. Respiratory movements extremely limited and chiefly abdominal. Full expansion at mammary line not quite two inches.

Palpation.—Respiratory fremitus exaggerated on right side in front, also on left side under scapula. Apex-beat of heart normal.

Percussion.—Dullness and high-pitched note, but not extreme, on the upper two thirds of right lung in front. Left side, normal resonance, except in the scapular region.

Auscultation.—*Right side front*, saccadent breathing and prolonged expiration; character vesicular. Fine crepitant râles are heard as far as the sixth rib, and very slightly in the clavicular region. In the region of nipple, fine sibilant râles at end of inspiration and during expiration. Respiratory sounds, on the whole, are feeble. *On left side front* the sounds are more normal. Behind, under scapula, loud sonorous and sibilant râles; also fine crepitant râles, especially during expiration.

Course of Treatment.—March 28th, three times weekly, $HgCl_2$ $\frac{1}{2000}$ to $\frac{1}{1000}$, with $\frac{3}{10}$ inch. Breathes with difficulty, and very jerky.

April 3d.—Complains of more pain under scapula.

8th.—Increased to $\frac{6}{10}$ inch.

11th.—Varied with inhalation of iodine.

20th.—Increased treatment to six times weekly. Tried decoction of red bark containing four and a half per cent. cinchona red (tannin).

30th.—Patient is much improved; breathes easily and fully against $\frac{8}{10}$ inch; râles nearly gone; pains gone.

May 3d.—Got his stomach out of order and got cold (neglected precautions). Sibilant râles appearing again, but with considerable expectoration.

6th.—Râles entirely gone. Pain has completely left.

10th.—Reduced to three times weekly; continue steadily with red-bark decoction.

27th.—Patient has not turned up for treatment for over a week. On last examination the objective signs were gone, as far as auscultation showed it. He is looking much better; sleeps well at night; his appetite good, at least fair; coughs a little in the morning, but not during the day. He is still a little short-breathed, but nothing like before. He should have continued for a few weeks longer, but his business, he said, called him away.

DISCUSSION.

The PRESIDENT had seen the patient to whom the author referred as having had a hæmorrhage within twenty-four hours after a treatment. The patient had had thirty-one treatments and the hæmorrhage occurred after the thirty-first. He had been under Dr. Loomis's care for four years, had, he believed spent one year in the Adirondacks, and had supposed that he had entirely recovered. At any rate, he went back to his work as a lawyer, promising to spend four months in the Adirondacks

every year. It was not necessary to mention all the physical signs which had been present; there had been well-advanced phthisis on the left side near the apex. He did not go to the Adirondacks, but to the Berkshire Hills, last summer. Dr. Loomis had not heard of him for more than a year and a half, when he was called to visit him two or three months ago while having a very profuse hæmorrhage, which had gone on for a number of days. He said that he had had the treatment according to Dr. Williams's method a great many times, but that the last time he thought there was a little carelessness in the manipulation. At least he attributed the hæmorrhage which occurred to that. The patient did not think the treatment was dangerous if it was properly administered. The hæmorrhage continued for three or four weeks. That was the only case Dr. Loomis knew of in which hæmorrhage had occurred in connection with this treatment.

Dr. Williams had one or two other patients who were doing well. One, a lady, had done very well under this special treatment. She had a cavity in the lung, and had been the world over for her health. She had remained at home the past winter, and was much better than in the autumn.

Dr. Armor, of Brooklyn, had been interested in the treatment and views of Dr. Williams, and had kept under observation some patients so treated. He thought the matter could be stated in a few propositions, some of which might have to be considered hereafter: First, the benefit of the expansion of the lungs by the apparatus without reference to the local medication. Second, the question as to whether antiseptics and other agents could be introduced more deeply into the lung substance by this means than by any other device which had been proposed. Third, the practical result, which was to be tested by clinical observation. He was aware that an instrument of this kind should be in the hands of careful observers, who were capable of diagnosticating their cases and of appreciating the results. It might be a dangerous instrument in the hands of others. He thought it should be most carefully guarded by most careful men. One case had recently come under his observation in which he had been very much interested. He carefully examined the young man before he was submitted to treatment. When he came to Dr. Williams's office he was so weak and emaciated that he had to ride in a carriage. It looked to him like a very unpromising case. He had a few weeks before an attack of pneumonia, probably on the right side. Dr. Armor found the patient, as stated, very much emaciated, feeble, rapid pulse, feeble expansion of the lung on the right side; below the scapula were marked dullness, entire absence of respiratory murmur, and above râles. It looked like a case of unresolved pneumonia. On submitting the patient to a treatment, the lips looked redder and a good deal of expansion of the lungs took place. He did not see the young man again for about a month. Dr. Williams told him that after a few days' treatment there began to be moist râles in the lower portion of the right lung and quite free expectoration. Dr. Armor found at his last examination still slight dullness below the scapula over the region referred to, but much less than formerly; there was respiratory murmur all over that portion of the lung, but a little feebler than on the other side; there were no moist râles. The symptoms had entirely abated; there was absence of fever, the general appearance was good, the appetite good; he had gained about a pound a week, and had walked a distance of two miles to his office. There was certainly a very remarkable improvement in the condition of the lung, whether it was due to constitutional treatment or to the instrument. He had had thirty-one treatments. In a letter to him, Dr. Bowditch, of Boston, had said it was his impression that this treatment would mark a new era in the management of pulmonary affections.

HYDRONAPHTHOL;
A NEW ANTISEPTIC.

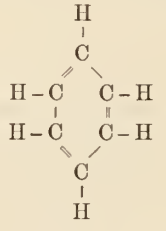
By GEORGE R. FOWLER, M. D.,
SURGEON TO ST. MARY'S GENERAL HOSPITAL, BROOKLYN.

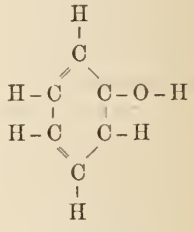
Hydronaphthol, the subject of the present article, has only recently been discovered, and this is believed to be its first introduction into surgical practice. It was in the belief that it would be found of value in the treatment of wounds that I began the investigation of its antiseptic properties in the early part of the present month, when my attention was called to the compound by Mr. W. J. Rigney, of New York, to whom I am indebted for the facts regarding its composition herewith presented.

Hydronaphthol belongs to the phenol series, and bears the same relation to naphthyl, the hypothetical compound radical of naphthalin, that carbolic acid does to the compound radical phenyl. Thus, carbolic acid was formerly regarded as the hydrated oxide of phenyl. Hydronaphthol, considered in the same way, would be a hydrated oxide of naphthyl. The following formula will show the analogy:

Carbolic acid, $C_{12}H_5O$, HO;
Phenyl, $C_{12}H_5$
Hydronaphthol, $C_{20}H_7O$, HO;
Naphthyl, $C_{20}H_7$.

At the present time, however, these hypothetical compounds, phenyl and naphthyl, are considered as being obsolete, and not capable of existing. In fact, carbolic acid is regarded as an oxide of benzol, or as a benzol in which one of the hydrogens is substituted by one hydroxyl (O H). According to the graphic formula of Prof. Kekulé, this substitution occurs as follows:


Benzol.


Carbolic Acid.

In the aromatic hydrocarbons are found many isomerical substances. This peculiar identity in chemical composition, associated with varying physical properties, can only be accounted for by a difference existing in the arrangement of the atoms in the molecule. The graphic formula as above illustrated is well adapted for explaining the relations and properties of these aromatic compounds, of which benzol is the prototype. Thus, in all the monosubstitutions of benzol there is but one compound possible; no matter in what position the substitution takes place, the product must be the same. As seen in the preceding formula (carbolic acid), the hydroxyl (O H) substitution takes place in the first position, but the product would be the same if it were to take place in any of the other five positions. While this is true of the monosubstitutions of benzol, the disubstitutions are capable of forming three different compounds, identical in chemical composition but very different in their physical properties.

A knowledge of the relation, constitution, and properties of these substances is indispensable to an intelligent appreciation of their usefulness and application; and, as all the so-called phenols possess, in a greater or less degree, antiseptic properties upon which their value in surgical science as well as preventive medicine depends, I may be pardoned for thus alluding to some recently developed facts in their chemistry, in this connection.

Naphthols are the hydroxyl substitutions of naphthalin, and are two in number, commonly known as Alpha- and Beta-naphthol. These are made by heating naphthalin with sulphuric acid. Alpha-naphthol is formed when 60° to 90° C. is reached, and Beta-naphthol at from 180° to 190° C. The Alpha- or Beta-naphthalin-monosulphonic acid thus formed is treated with sodium hydrate, and is decomposed into sodium naphtholate, sodium hydrate, and sodium sulphite. Naphthol is obtained from the sodium naphtholate by decomposing it with hydrochloric or sulphuric acid; it is then purified by distillation.

Hydronaphthol is a derivative of the hydroxyl substitution of naphthalin, which latter of itself possesses antiseptic properties of sufficient value to have already excited notice and a desire to learn more of its compounds. The term "hydronaphthol," although perhaps not, strictly speaking, correct, yet conveys sufficiently well its character and relations to naphthalin, and at the same time is a convenient term for every-day use. It has been but recently discovered that it possesses antiseptic properties, and the claim is made that it is from ten to fifteen times more efficient than carbolic acid. It is the most promising antiseptic of the phenol series, and, besides, possesses so many other advantages over substances now used for this purpose that it bids fair to supersede many of these. In surgical practice it will take the place, probably, of carbolic acid. Of the many new members of the phenol series which have been discovered since Calvert called attention to carbolic acid about thirty years ago, and which have been utilized in the industrial arts, some are better antiseptics than the latter. With but one or two exceptions, however, none have obtained any prominence as germicidal agents. Carbolic acid, though a fairly reliable antiseptic in strong solutions, when so used, involves some risk to life, from its corrosive action upon animal tissues and well-known poisonous properties. In weak solutions it is exceedingly unreliable, and its disagreeable odor often hides that of putrefaction, instead of preventing the occurrence of the latter. On the other hand, hydronaphthol is non-irritant, non-poisonous, and non-corrosive; and, although only soluble in water to the extent of one part in one thousand, in this proportion is antiseptic. It has no odor to disguise that of putrefaction, nor is it decomposed or rendered inert by the products of putrefactive decomposition—such as sulphureted hydrogen, ammonia, etc. It is far more stable than carbolic acid, not being volatile at ordinary temperature. Its vapor, when volatilized for purposes of fumigation, has no obnoxious effect upon the organs of respiration. It will not injure, either in substance, solution, or vapor, colors or textile fabrics. Its sparing solubility in water is rather an advantage than otherwise, as mistakes in making solutions can not occur. A saturated solution is about of the strength of one to one thousand, and in this proportion it will perfectly preserve for an indefinite time animal tissues and fluids, and yet upon living tissues this solution produces no perceptible effect other than the formation of a very slight albuminate film—this latter to be considered rather an advantage than otherwise, inasmuch as it constitutes an additional security against infectious germs floating in the air. If for no other reason than that it is non-corrosive, and hence will not injure the polished surface and keen edge of cutting instruments, it is to be preferred to mercuric bichloride, and to the latter it is second only in antiseptic qualities. It has a slight aromatic taste and odor, and crystallizes in scale-like clinorhomboid laminæ of a silvery white or grayish hue. Although but sparingly soluble in water, it dissolves freely in alcohol, ether, chloroform, glycerin, benzole, and the fixed oils. It is not volatile at ordinary temperature, but begins to sublime at about 90° C. With the alkalies and the alkaline earths it forms compounds which are unstable, are readily decomposed by carbonic acid, and of doubtful antiseptic value. It is easily powdered, and in this condition, triturated with carbonate of magnesia, silicates, such as fuller's earth, China clay, etc., in the proportion of two parts of the hydronaphthol to one hundred of either of the above named, can be dusted along the line of incision and over the mouths of drainage-tubes, in the latter application having an advantage over iodoform, now so commonly used for that purpose, in that it does not dry up the serum escaping from the wound cavity, and thus block up the exit extremity of the tube. Absorbent gauze, cotton, jute, wood-flour, sawdust, peat, moss, and paper-wool may be impregnated with it by immersing them in its alcoholic or benzole solution and then drying; the hydronaphthol crystals cling to these without the aid of stearin, paraffin, or resin, as in the case of carbolic acid. As it is not decomposed by the presence of organic matter, it possesses this advantage over corrosive sublimate in the preparation of surgical dressings. Its ten-per-cent. alcoholic solution perfectly sterilizes silk, and sufficiently hardens and preserves, as well as sterilizes, catgut.

(*To be continued.*)

ISOLATION OF THE TEMPERATURE SENSE IN THE ORO-PHARYNGEAL CAVITIES AND NASAL PASSAGES BY MEANS OF COCAINE.*

By JOHN N. MACKENZIE, M. D.,
BALTIMORE.

My attention was first called to the isolation of the temperature sense by means of cocaine through an observation of Dr. William Warfield, of this city, who noticed during an operation on the eye (under the anæsthetic influence of this drug), performed by Dr. Russell Murdoch, that, while the sensibility of the conjunctiva and cornea was abolished, the contact of the instruments was felt as a distinctly cold

* Read by title before the American Laryngological Association, June 25, 1885. See also letter in (Philadelphia) "Medical News," May 30, 1885, on "Isolation of Temperature Sense."

sensation. Subsequently Mr. H. H. Donaldson, of the Johns Hopkins University, acting upon this hint, examined the eyes of two patients with reference to this singular fact, and discovered that, although the eye was rendered completely insensitive, the sensations of heat and cold were readily distinguished.

Struck with the original observation of Dr. Warfield, I experimented with regard to the isolation of the temperature sense in the nasal and oro-pharyngeal cavities. Six persons (hospital patients) were taken for the experiments. Having thoroughly anæsthetized the mucous surfaces of the soft palate, uvula, and nasal passages with a four-per-cent. solution of cocaine, a probe, which had been previously immersed in a mixture of ice and salt, was made to impinge upon the parts rendered insensible to contact and pain. A distinct sensation of cold was complained of in each instance. The opposite extremity of the same probe was then heated over the burner of a lamp used for laryngoscopic purposes, and in its heated condition carried over the anæsthetized area. While absolutely no pain was felt by any of those experimented upon, there was a marked unanimity of the answers, given voluntarily, in regard to the sensation of heat. In three of the cases an eschar followed the application of the heated probe, and in one an acute pharyngitis developed; yet at the time of application no pain was felt, though the temperature sense remained intact. These observations are of interest, in view of the fact that, while recent physiological research has rendered it probable that the sensations of heat and cold are distinct from those of mere contact and pain, it has heretofore been impossible to demonstrate the fact by the complete isolation of the temperature sense. It is accordingly obvious that its separation from the other senses may lead the way to more interesting physiological discovery.

A CASE OF
SUBMUCOUS LARYNGEAL HÆMORRHAGE COMPLICATED WITH CYST.*

By FRANK L. IVES, M. D.

Having been unable, after careful search, to find among the few recorded cases of cyst of the vocal bands anything resembling the following, it has seemed to me worth while to present it to your notice:

A robust man, about forty years of age, whom I had previously treated for a slight catarrhal affection of the larynx, called upon me on April 25th and gave the following history: The night before he had exerted his voice to an unusual degree at a public meeting. He felt no inconvenience after returning to his home, but, on waking the next morning, at first had great difficulty in making himself heard. Afterward his voice grew a trifle clearer. He had no pain or soreness in his throat, nor had he any difficulty in breathing. The only sensation was one of irritation, which caused him to "hack" almost continually. When he came to me he could only speak in a hoarse whisper. Examining his larynx, I found it to be normal in shape and color, except the left vocal cord, which was swollen uniformly throughout its entire length to about twice its natural size, and was a bright red in color, the coloring being perfectly even. My patient being forced to leave that evening, I directed him to use a soothing inhalation, and use his voice as little as possible. On May 2d he called upon me and stated that his voice had improved somewhat, but the irritation still remained. Examination showed the left cord to have returned to its normal size, and to be only slightly congested, but upon the edge and near the middle there was a smooth, glistening tumor, of about the size of a pea and light brown in color. It was not pedunculated, and its origin seemed to be merged in the substance of the cord. On touching it with a probe it was easily indented, but quickly returned to its original shape. Being convinced, from the appearance of the growth, that it was a cyst with sero-sanguineous contents, I proposed to my patient to make an incision into the growth, but also told him that the growth would disappear without any operation—how soon, I could not say. He preferred to wait. Four days after he called upon me and stated that the previous evening, while at dinner, he had a violent paroxysm of coughing, caused by some food going the "wrong way." When he recovered, he found to his delight that his voice was perfectly clear. Examination showed the growth to have disappeared.

* Read before the American Laryngological Association, June 25 1885.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

A System of Obstetric Medicine and Surgery, Theoretical and Clinical, for the Student and Practitioner. By Robert Barnes, M. D., Obstetric Physician to St. George's Hospital, Consulting Physician to the Chelsea Hospital for Women, etc., and Fancourt Barnes, M. D., Physician to the Royal Maternity, Charity, and to the British Lying-in Hospital, etc. Illustrated with Two Hundred and Thirty-one Wood-cuts. Philadelphia: Lea Brothers & Co., 1885. Pp. xxiii–884.

A Practical Treatise on the Diseases of Children. By Alfred Vogel, M. D., Professor of Clinical Medicine in the University of Dorpat, Russia. Translated by H. Raphael, M. D., formerly House Surgeon to Bellevue Hospital, Physician to the Eastern Dispensary for the Diseases of Children, etc. Third American, from the Eighth German, Edition. Illustrated by Six Lithographic Plates. New York: D. Appleton & Company, 1885. Pp. xii–640. [Price, cloth, $4.50; sheep, $5.50.]

Plumbing Problems; or, Questions, Answers, and Descriptions relating to House Drainage and Plumbing, from the "Sanitary Engineer." With One Hundred and Forty-six Illustrations. New York: "The Sanitary Engineer," 1885. Pp. xiv–244.

Practical Therapeutics: a Compendium of Selected Formulæ and Practical Hints on Treatment, Systematically Arranged, Interleaved, and copiously Indexed. By Edward J. Bermingham, A. M., M. D., Fellow and ex-Vice-President of the American Academy of Medicine, etc. New York: J. R. Bermingham, 1885. Pp. 6–420.

Transactions in the Texas State Medical Association, Seventeenth Annual Session, held at Houston, Texas, April 21, 22, and 23, 1885. Austin, Texas: Printed for the Texas State Medical Association. Pp. 1–430.

Consanguineous Marriages: their Effect upon Offspring. By Charles F. Withington, M. D., of Roxbury. Read at the Annual Meeting of the Massachusetts Medical Society, June 9, 1885.

United States Consular Reports. Supplementary Reports on Cholera in Europe in 1884. Washington: Government Printing-Office, 1885. Pp. 1–12.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co. Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, OCTOBER 3, 1885.

THE SURGEON-GENERALSHIP OF THE MARINE-HOSPITAL SERVICE.

WE lately took occasion to deprecate the efforts that, it was alleged, were being made to induce the Administration to dismiss Dr. Hamilton from the office of Surgeon-General of the Marine-Hospital Service, for it was evident that there were no other grounds for those efforts than the yearnings of a horde of office-seekers—so evident that we expressed our disbelief in the probability of any such action being taken by the President or the Secretary of the Treasury. Dr. Hamilton has not yet been superseded, and we still hold to the conviction that the Administration would not finally have dismissed him, no matter what pressure might have been brought to bear on it. Since the article we have referred to was written, however, Dr. Hamilton has tendered his resignation of the office, preferring, no doubt, to take the initiative, as the matter had excited public attention. This course on his part may be taken to be indicative of a sensitiveness that is the natural accompaniment of those other qualities that have made him so efficient and satisfactory an officer; but it does not in the slightest degree relieve the Administration of its plain obligation not to allow of so flagrant a violation of the spirit of civil-service reform as the supersession of this officer, even by the acceptance of his resignation. Dr. Hamilton is young, active, and enthusiastic in his work—a work that to a great extent he himself has organized—and it is not to be supposed that he is anxious to shift the burden of his responsibilities to untried shoulders, and relapse into the quiet of a subordinate position. His resignation is undoubtedly due to the machinations we have spoken of, and our belief is that the President will readily foresee the interpretation that the friends of civil-service reform would put upon his acceptance of a resignation called forth by the circumstances of this case. We are glad to be able to add that there are indications that the resignation will not be accepted.

We have lately received a letter from a medical officer of the Marine-Hospital Service, in which he thanks us for the editorial article which we published on the subject in our issue of September 19th, and goes on to say that he, as a Democrat, can not but regret that Dr. Hamilton should feel compelled to resign, during a democratic Administration, solely for political reasons, when, by his continuance of the policy of the late Surgeon-General Woodworth, the service was taken out of politics, and Democrats were enabled to enter it on their literary and professional merits solely. He expresses his conviction that there is not an officer in the corps so competent to administer its affairs as Dr. Hamilton, and that a political appointment would, by a single stroke, destroy the bright prospects of the corps as a harmonious body of workers. Finally, he hopes that we may find time and opportunity to urge Dr. Hamilton to withdraw his resignation. We presume that Dr. Hamilton could hardly be induced to take this course, except by the request of the President or the Secretary of the Treasury, and, indeed, apart from his natural disinclination to do so, it seems to us better that the responsibility should rest, as it now does, solely upon the Administration. The President has given abundant evidence of his desire to further the efficiency of the public services, and we doubt not that, now that Dr. Hamilton's resignation will soon bring this matter pointedly to his notice, he will himself furnish the readiest solution of the difficulty by declining to countenance the sacrifice of the best interests of the Marine-Hospital Service to those of the spoils system.

MINOR PARAGRAPHS.

THE ANTI-VACCINATION FEELING IN MONTREAL.

A DISPOSITION to make the best use of the gifts sent by the gods can not be said to have been strikingly exemplified of late by a considerable portion of the people of Montreal. Indeed, they seem rather to have taken pleasure in ranging themselves with those conservatives of whom it was said in "The New Gospel of Peace" that when they had fallen into hot water they would suffer no man to pluck them out, lest they should be scalded. It has been almost inconceivable to the great majority of the people of this continent that so enlightened a city as the Canadian metropolis should for years have been the scene of the only considerable opposition to vaccination that has shown itself in America since the practice was established. There is, to be sure, a wide-spread feeling that it would be unwise to make vaccination generally compulsory, as is done in many European countries, but it would be difficult to find a community in the United States that would offer any serious opposition to temporary compulsion during the prevalence of a small-pox epidemic. Such an opposition has been manifested in Montreal for many years past, and in consequence the city has suffered severely from small-pox at short intervals.

During the past week actual rioting has taken place, and both the sanitary and the police authorities seem to have been sadly unprepared for it. Physicians and members of the Board of Health have suffered violence, and even a poor apothecary, whose sole offense was that of including vaccine virus among the commodities that he kept for sale, has had a like experience. The anti-vaccination bigotry is said to be mostly confined to the French Roman Catholics. If this is the case, it would seem to be nursed more as a pretext for a war of races and of creeds than from any traditional or inherited prejudices, for we have never supposed that the Church of Rome was opposed to vaccination, and certainly the French as a nation have been unsurpassed in its maintenance. It is curious to observe that the French-Canadian anti-vaccinationists seem bent upon upholding two somewhat remarkable allegations—first, that during the present epidemic the French have not been stricken with the disease in greater proportion than the English, and second, that small-pox is rather a good thing to have. Meantime, the trade interests of Montreal are suffering severely.

THE AMERICAN GYNÆCOLOGICAL SOCIETY.

IN this issue we conclude our report of the tenth annual meeting of the society, which was held in Washington last week. The proceedings are certainly to be ranked with those of the

most successful meetings that the society has ever held, and we shall be much surprised if the sale of the tenth volume of the "Transactions" does not show a continuation of the increase of the demand for the series that has been apparent during the past two or three years. Much of the success of any given meeting of such a society depends upon those of the members who reside in the city where it is held, and upon the extent to which they succeed in enlisting the co-operation of the local profession. Taking this view of the matter, we can not too highly praise the Washington members, who, together with a great number of the leading physicians of that city, exerted themselves most effectively to make the meeting and the occasion satisfactory and enjoyable. We understand that but four members of the Washington Obstetrical and Gynæcological Society were absent from the dinner which that organization gave to the fellows of the American Gynæcological Society, and that those four were either sick or absent from Washington. In view of the membership to which this young society has already attained, the fact is not a little remarkable, and it affords a striking proof of the zeal with which the obstetricians and gynæcologists of Washington entered into the spirit of the occasion. We trust that, as Dr. Busey suggested in his address of welcome, the American Gynæcological Society will not allow another decade to pass before it again chooses Washington as its place of meeting.

A MEDICAL MISSION.

Usually our Government is averse to spending money for scientific purposes, and it must be confessed that the underlying theory of our Constitution rather calls for that sort of policy. It seems sometimes, however, that there is too little disposition to yield the theoretical point before the pressure of an urgent need of scientific information of a nature to lead directly to results of the greatest practical importance to the whole people. It is pleasant to be able to record exceptions to this traditional inertia, especially of the sort mentioned in our news columns—that, namely, of the appointment of Dr. Shakespeare, of Philadelphia, as a commissioner to visit the scenes of cholera prevalence in Europe, for the purpose of studying the disease and the methods resorted to for controlling its ravages. No more important subject could engage the attention of the Government at the present time, and it would be difficult to find a man better qualified than Dr. Shakespeare to carry on the inquiry.

THE BROOKLYN PATHOLOGICAL SOCIETY.

In another column we publish the programme for the meetings of this society, from October 8, 1885, to June 10, 1886. It will be seen that the list of authors is made up of the names of gentlemen who are widely and favorably known for their previous contributions, and that the subjects upon which they are to read papers relate to a very wide range of the subdivisions of medical science. These formal papers constitute, of course, only one element of the work with which the society will be occupied during the season, but in themselves they will form an achievement that any such society might well be proud of. The fact that the whole list could be made out before the society season had begun betokens the society's continued activity, but our readers, who have had its proceedings laid before them for the past year or more, need no such proof of its efficiency.

NEWS ITEMS, ETC.

The Montreal Small-pox Epidemic shows rather an increase than any diminution. There were fifty-six deaths in the city and its suburbs on Sunday, seventy-nine on Monday, and eighty-four before four o'clock on Tuesday. It is gratifying to learn that some at least of the Roman Catholic clergy have advised the members of their congregations to submit to vaccination, and that the Sisters of Providence are doing still greater service by reporting cases of the disease to the Board of Health. The sanitary officials of the city are reported to have asked the New York Health Department to send one or more of their *attachés* to Montreal, to assist in the organization of a plan of managing the epidemic, but it is stated that our Commissioners have concluded that it would be unwise to grant the request. The latest estimate gives the number of cases now in progress as between three thousand and thirty-five hundred.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending September 29, 1885:

DISEASES.	Week ending Sept. 22.		Week ending Sept. 29.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	59	13	39	16
Scarlet fever	15	1	15	2
Cerebro-spinal meningitis	4	5	2	2
Measles	4	2	4	0
Diphtheria	46	30	39	19
Small-pox	2	2	3	3

A Vaccination Riot broke out in Montreal on Monday, the occasion of which was the passage of an ordinance by the Provincial Board of Health making vaccination compulsory. The house of a health officer, Dr. Laberge, was stoned, and the Board of Health's central office was then attacked, and several women among the applicants for vaccination are said to have been struck with the missiles. After threatening a newspaper-office and making sundry other demonstrations, the mob visited the houses of Dr. Lachappelle, of the Board of Health; Dr. Laporte, a public vaccinator; M. Grenier, a public official; and the shop of an apothecary who sold vaccine virus. At each of these places violence was displayed, and Dr. Laporte's house was set on fire. A renewal of the rioting on the following day seems only to have been prevented by a prompt and overwhelming display of military force.

The Cholera in Europe.—Dr. Edward O. Shakespeare, of Philadelphia, has been appointed United States Commissioner to investigate the cholera in Europe, with special reference to the recent outbreak in Spain. He sails next week with *carte blanche* from the Government, and will be absent about three months.

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, September 23d: *Montreal, Canada.*—For the week ending September 23d: 235 deaths from small-pox. No report of the number of cases. From September 21st to 23d, inclusive, there were 31 deaths from small-pox in four municipalities adjoining Montreal. *Three Rivers, Canada.*—For the week ending September 19th: 5 cases of small-pox; the disease is increasing. *Toronto, Canada.*—September 23d: Free from small-pox. *Cardenas*, September 12th, *Matanzas, Cuba*, September 23d, and *Nassau, N. P.*, September 19th: Free from epidemic diseases. *Guaymas, Mexico.*—Consul reports, September 23, yellow fever in *Sonora*. From September 1st to 23d there were 138 cases and 36 deaths. The disease has also reappeared in *Hermosillo*, there having been, from September 7th to 23d, 12 deaths. At *Ortiz* station several deaths from

yellow fever have occurred among the soldiers. *Vera Cruz, Mexico.*—Consul reports, September 8th, yellow fever still prevalent, the mortality being about 50 per cent. *La Guayra, Venezuela.*—September 5th: Free from epidemic diseases. *Cartagena, Colombia.*—Consul reports, August 28th, that 28 cases of yellow fever have occurred at intervals during the past three or four months. Masters of vessels for ports in the United States generally decline to take bills of health. *Callao, Peru.*—For the week ending August 22d: 5 cases of small-pox. *Paris, France.*—For the week ending September 12th: 12 deaths from small-pox. *Bordeaux, France.*—For the week ending September 12th: 7 deaths from small-pox. *Marseilles, France.*—September 7th: Cholera reported at *Cette*. *Cadiz, Spain.*—September 5th; Cholera officially declared September 3d. The average weekly mortality is about 40 per cent. During the week ending September 3d the mortality was 147. *Gibraltar, Spain.*—Five cases and 5 deaths from cholera during the twenty-four hours ending on September 5th. No new cases were reported. *Santander, Spain.*—September 10th: Cholera increasing. *Genoa, Italy.*—September 10th: 2 cases of small-pox. *Rome, Italy.*—By telegram September 2d: 4 deaths from cholera, nine miles from *Genoa*, and 5 deaths from the same disease fifty miles north of *Naples*. *Leghorn, Italy.*—By telegram, September 25th: 3 cases and 1 death from cholera at *Pontremoli*, Province of Carrara. *Palermo, Italy.*—September 24th: 1,279 cases and 780 deaths from cholera to date. *Venice, Italy.*—By telegram September 22d: 5 cases of cholera on the 21st in towns on the banks of the Po. *Trieste, Austria.*—September 8th: 26 cases of small-pox; the disease increasing. *Zurich, Switzerland.*—September 5th: 4 deaths from small-pox. *St. Petersburg, Russia.*—August 29th: 8 deaths from small-pox. *Warsaw, Russia.*—September 5th: 3 deaths from small-pox. *Calcutta, India.*—August 15th: 16 deaths from cholera, and 3 from small-pox. *Columbo, Ceylon.*—August 3d: Cholera reported in Nativetown. *Shanghai, China.*—August 21st: Cholera continues among the Chinese in the settlement and in the city; 1 death among the shipping population. From August 17th to 27th, inclusive, there were in Spain 55,785 cases and 17,856 deaths from cholera. The total number of cases and deaths from March 4th to August 27th is 214,958 cases and 81,496 deaths.

Japanese Regulations against the Spread of Cholera from Nagasaki.—Imperial Decree No. 31.—It is hereby decreed that vessels arriving from localities infected with cholera shall be inspected according to the following regulations:

Regulations for the Inspection of Vessels arriving from Localities infected with Cholera.

1. All vessels arriving from localities infected with cholera shall be subject to medical inspection, and no vessel so arriving shall proceed to her destination or communicate with the shore or other vessels, or land her crew, passengers, or cargo, until a written permission so to do, signed by one of the inspecting officers, shall have been so granted as hereinafter provided.

2. When there are no cholera patients, or bodies of persons who may have died of the said disease, on board such vessels, the inspecting officers shall forthwith grant permission to such vessels to proceed to their destination and communicate with the shore or other vessels, and to land their crew, passengers, and cargo.

3. Vessels so arriving and having on board cholera patients, or the bodies of persons who may have died of the said disease, shall be required to anchor at a place designated by the inspecting officers at a safe distance from the land and other vessels.

The patients shall be sent to the Quarantine hospital or to their residences or other places which the inspecting officers may deem suitable. The dead bodies (if any) of persons who may have died of the said disease shall (at the option of persons interested, if any) be either burned at a place prepared by the local authorities for that purpose, or buried, after undergoing thorough disinfection, at such place as the local authorities may designate.

After final disposition of such patients and dead bodies (if any) shall have been made, the inspecting officers shall thoroughly disinfect the crew and passengers, and shall thereupon grant permission for them to land. The inspecting officer shall thoroughly disinfect said vessels and such portion of their cargoes as may be considered to be of an infectious character, and thereupon grant permission for them to proceed to their destination or communicate with the shore or other vessels and to land cargo.

4. Any person or persons who shall contravene or infringe the provisions of the foregoing regulations, or shall in any manner interfere with the execution of said provisions, shall be punished according to the criminal code.

5. The localities where these regulations shall be put in force, and the length of time for which they shall be continued in force, will be determined from time to time by the Minister of the Interior.

Dated 23d of the 6th month, 15th year Meiji.

By command of H. I. M. the Emperor.

(Signed) { Sanjo Sanetomi, *Prime Minister.*
{ Yamada Akiyoshi, *Minister of the Interior.*

Personal Items.—Among the passengers who sailed for Europe by the steamship Etruria, on Saturday last, was Dr. George M. Sternberg, of the army. Among those who arrived by the Servia, on Sunday, were Dr. W. S. Ely, of Rochester, and Dr. T. H. Burchard, of New York. Dr. William S. Halsted, of New York, sailed for Europe in the Werra on Wednesday.

The Surgeon-Generalship of the Marine-Hospital Service.—As we go to press, we learn that the President has decided not to accept Dr. Hamilton's resignation.

The German Faculties.—The "British Medical Journal" states that Dr. Penzoldt has been appointed to succeed Prof. Leube at Erlangen, and that Dr. Ludwig Stieda, of Dorpat, is to succeed Prof. Meckel in the chair of anatomy at Königsberg.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 20 to September 26, 1885:*

Promotions.

McParlin, T. A., Lieutenant-Colonel and Assistant Medical Purveyor. To be Surgeon, with rank of colonel, to date from September 16, 1885.

Irwin, B. J. D., Major and Surgeon. To be Assistant Medical Purveyor, with rank of lieutenant-colonel, to date from September 16, 1885.

Pope, B. F., Captain and Assistant Surgeon. To be Surgeon, with rank of major, to date from September 16, 1885.

Appointment.

Morris, Edward R. To be Assistant Surgeon, with rank of first lieutenant, to date from September 17, 1885.

Ainsworth, F. C., Captain and Assistant Surgeon. From Department of Texas to New York city, for duty as recorder of the Army Medical Examining Board. S. O. 214, A. G. O., September 18, 1885.

Adair, G. W., Captain and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 104, Department of Dakota, September 18, 1885.

Shannon, William C., Captain and Assistant Surgeon. Granted leave of absence for four months, to take effect about October 1st. S. O. 215, A. G. O., September 19, 1885.

Bushnell, George E., First Lieutenant and Assistant Surgeon. Ordered from Department of Dakota to Department of the East. S. O. 219, A. G. O., September 24, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the two weeks ending September 26, 1885.*

Murray, J. M., Passed Assistant Surgeon. Resignation accepted, to take effect January 1, 1886.

Ross, J. W., Surgeon. Assigned to special duty at New York.

Dungan, J. S., Medical Director. Waiting orders.

Marine-Hospital Service. — *Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the five weeks ended September 26, 1885.*

Vansant, John, Surgeon. To proceed to New Orleans, La. September 16, 1885.

Hutton, W. H. H., Surgeon. When relieved, to proceed to Mobile, Ala. September 16, 1885.

Long, W. H., Surgeon. Granted leave of absence for ten days, September 1, 1885. When relieved, to proceed to Detroit, Mich. September 19, 1885.

Fessenden, C. S. D., Surgeon. To proceed to Norfolk, Va. September 16, 1885.

Sawtelle, H. W., Surgeon. When relieved, to proceed to San Francisco, Cal. September 18, 1885.

Godfrey, John, Surgeon. When relieved, to proceed to Louisville, Ky. September 16, 1885.

Goldsborough, C. B., Passed Assistant Surgeon. When relieved, to proceed to St. Louis, Mo.

Austin, H. W., Surgeon. To proceed to Burlington, Vt., on special duty. September 23, 1885.

Society Meetings for the Coming Week:

Monday, *October 5th:* New York Academy of Sciences (Section in Biology); Medico-Chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Medical Society of Monmouth County, N. J. (Freehold); Chicago Medical Society.

Tuesday, *October 6th:* New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Broome (annual), Columbia (annual—Hudson), Orange (semi-annual—Goshen), and Schoharie (semi-annual), N. Y.; Medical Association of Northern New York (annual—Malone); Medical Societies of Hudson (Jersey City) and Union (quarterly) Counties, N. J.; Androscoggin County, Me., Medical Association (Lewiston); Chittenden County, Vt., Medical Society.

Wednesday, *October 7th:* Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot County, Me., Medical Society (Bangor); Philadelphia County Medical Society.

Thursday, *October 8th:* Harlem Medical Association of the City of New York; Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; New York Laryngological Society; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *October 9th:* Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y. (anniversary).

Saturday, *October 10th:* Obstetrical Society of Boston (private); Worcester, Mass., North District Medical Society.

Proceedings of Societies.

MEDICAL SOCIETY OF VIRGINIA.

Sixteenth Annual Meeting, held at Alleghany Springs, Tuesday, Wednesday, and Thursday, September 15, 16, and 17, 1885.

Dr. Bedford Brown in the Chair.

Tuesday's Proceedings.

Medical Societies: their Relations to the Public, was the title of the annual address to the public and to the profession, delivered by Dr. H. M. Clarkson, of Haymarket, Va.

Medicinal Properties of Alleghany Waters.—Dr. Isaac White, resident physician at Alleghany Springs, Va., presented a paper on this subject, and said that the geological formations in this section consisted mostly of magnesian limestone and argillaceous slates. Ores of iron, silver, lead, and zinc were near by. The water of the Springs had a temperature of 56° F., and the specific gravity was 1·00283; it had a saline taste and a faintly acid reaction. In giving the analysis, he incidentally remarked that the effects of baryta and strontia were somewhat similar to those of arsenic. He had not become such an enthusiast in regard to the Alleghany water as to claim for it specific properties for every disease, but the range of its efficacy was distinct and extensive. He recommended the water especially in dyspeptic cases, using the term "dyspeptic" in its generic sense. He believed the magnesian salts in this water were their great power. Frequently, when first taken, the water produced a strange feeling in the head—a giddiness which was often closely followed by decided headache. Erythema, and even eczema and sometimes boils, developed after using the water. A glassful, gradually increased to two glassfuls, might be taken before meals, but the dose must vary according to the wish for a tonic, diuretic, or cathartic effect.

The Report of the Virginia State Board of Medical Examiners was read by Dr. W. C. Dabney, of Charlottesville, President of the Board, who said that thirty-two candidates had passed satisfactory examinations since January 1, 1885, and had been licensed to practice in Virginia. Six had been rejected. All of the candidates were college graduates.

Wednesday's Proceedings.

The Annual Address was delivered by the president, Dr. S. K. Jackson, of Norfolk. He considered his elevation to the highest office in the gift of the society as an evidence of appreciation of his work in prophylaxis as applied to zymotic diseases. The hindrances to the rapid progress of the science of medicine, the most important factors in its recent development, and the most potent agencies to be invoked to secure its continued growth were also considered.

Scarlet Fever was the subject announced for general discussion, which was opened by Dr. Thomas J. Moore, of Richmond, who said that he adopted the customary divisions, such as scarlatina simplex, scarlatina anginosa, and scarlatina maligna. He gave graphic descriptions of each form, and traced the history of the disease from its earliest mention down to the present day. He discussed the origin of the fever, and laid much stress upon the germ theory. The success in cultivating and inoculating the special microbes of charbon, chicken cholera, murrain, and other diseases in the lower animals, with modification of symptoms and abatement in the severity of the

respective diseases, was described, and the hope expressed that corresponding advances in human parasitology might follow close in its wake. He stated that up to the present time the only germ that had filled all the necessary requirements, as found in man, through inoculation and otherwise, was the *spiro bacterium* of relapsing fever found by Obermeier and called after him. The parallelism between small-pox and charbon was alluded to, traveling, however, in opposite directions—the one from man to the lower animals, the other from the domestic animals to man; the special bacillus of the latter had been discovered; through cultivation and inoculation it fulfilled all the law required of it; like vaccination in small-pox, it produced, through inoculation of a remote culture from the virus of one of the lower animals, immunity in the human family; the peculiar microbe producing the former had not yet been determined; he hoped that it would come to light at no distant day. Further, he stated that there were two microbes described as giving origin to scarlatina—the *monas scarlatinosum* of Klebs, the *plox scindens* of Eklund, of Stockholm. Each was ingeniously and plausibly put forward as the true bacillus. Klebs did not indulge in the enthusiasm peculiar to his confidence, while Eklund endeavored to demonstrate the absolutism of his proposition.

Dr. Moore did not think that belladonna possessed prophylactic powers, and declared it to be an indifferent drug when used to mitigate symptoms during the process of the disease. For the reduction of temperature he preferred the ice-cap to the head, rubber bag over the front of the neck and covering the great vessels, conjoined with sponging; failing in this, he used wet sheet, then cold pack, and, as a last resort, the cold bath as described by Ziemssen. He never feared the depressing effects of cold water, as patients could always be relieved from impending congestion by free resort to alcoholic stimulation. His favorite internal antipyretic up to this time was quinine—administered by rectum or hypodermically where the stomach was irritable; he hoped much from resorcin, and urged his brethren to try it and give to the world their clinical experience. The drug was safe, certain in action, a germ-destroyer. As an unguent, especially where itching and burning were prominent symptoms, he knew nothing equal to a combination of glycerin, borax, and carbolic acid. He recommended sprays as the most efficacious manner of applying internal medication to the throat, and called especial attention to the value of hydrate of chloral, two to four grains to the ounce, as invaluable for antiseptic and anodyne powers. The doctor recommended the use of small doses of mercury for a few days as an adjuvant to diuresis, in the dropsy attending acute desquamative nephritis, where diuretics were not accomplishing the desired end. Failing with these, a resort to hydragogue cathartics was indispensable. Nutritious food from the commencement of an attack, and free stimulation in all cases where the vital powers were depressed, he regarded as indispensable.

Election of Officers.—At the afternoon session the following-named gentlemen were elected officers for the ensuing year: Dr. John S. Apperson, of Town House, President; Dr. T. B. Greer, of Rocky Mount, and Dr. H. M. D. Martin, of Fredericksburg, Vice-Presidents; Dr. Landon B. Edwards, of Richmond, Recording Secretary; Dr. R. T. Styll, of Richmond, Treasurer; Dr. Hugh T. Nelson, of Charlottesville, to deliver the "Address to the Public and to the Profession" in 1886; Dr. Thomas J. Moore, of Richmond, Examiner-at-large on the State Board of Medical Examiners; Dr. Hugh M. Taylor, of Richmond, Examiner from the Third District; Dr. Meade C. Kemper, of Norfolk, Examiner from the Second District; Dr. L. Ashton, of Falmouth, to open the discussion on "Puerpera Septicæmia" in 1886. The next session will be held in Fredericksburg, in November, 1886.

The Discussion on Scarlet Fever was continued by Dr. Bedford Brown, of Alexandria, who said that he had seen malignant cases with cold extremities and tongue with a body temperature of 107° F. He used:

℞ Acid. salicylat. ..... ℥ ij;
Tinct. aconit. radicis ..... gtt. xij;
Infus. digitalis ..... ℥ jss.;
Spts. ammon. aromat. ..... ℥ iij;
Syr. aurant. cort. ..... ℥ ss.;
Aquæ ..... ℥ j.

M. S. Teaspoonful for a child five years old every three hours.

This combination reduced fever more decidedly than any other antipyretics he had used; it acted also as a diaphoretic and diuretic. A tepid bath or a wet pack increased its action. Alcoholic stimulants benefited malignant cases, tending to collapse and coma, as also cases, on the other hand, having high fever, rapid pulse, and extreme restlessness. Such agents also generally arrested adenitis. In dangerous cases, frequent baths were too exhaustive. When extensive suppuration and pyæmia threatened, tincture of iron, Fowler's solution, and quinia sulphate acted well. To arrest acute nephritis and renal dropsy, he enveloped the body with a flaxseed-meal poultice covered with oil-silk. When the kidneys were engorged, the urine bloody, with dropsy of the chest and abdomen, a full dose of calomel, followed by compound powder of jalap, would often do good. Such cases bore purgation. But if the renal dropsy was attended with cool skin, great pallor, feeble pulse and great prostration, then frequent purgation was not well borne. In such cases he used lumbar poultices, digitalis, acetate of potash, with occasional saline cathartics. A morbid element in scarlatina often developed rheumatism; hence frequent cardiac complications. When these occurred he resorted to the active agents named in the foregoing prescription. Alkalies and salines should be used in renal complications. Dr. Brown had been disappointed with the diaphoretic action of pilocarpin. Potassium iodide was often useful in nephritic sequelæ of scarlet fever.

Dr. R. I. Hicks, of Casanova, Va., had never seen anything indicating relationship between scarlet fever and diphtheria, nor had he seen scarlatinal throat complications threaten life. Mopping the throat or gargling hot water would relieve the faucial troubles. He thought the best treatment of scarlet fever consisted in cold sponging the body, and the use of quinine and small doses of carbolate of iodine internally.

Dr. Alexander Harris, of Jeffersonton, Va., emphasized (1) the benefit of isolation, both to prevent and to cure scarlet fever; (2) sick-rooms with open fire-places; (3) the bed should be out from a corner of the room, and draughts of fresh air should keep the room ventilated; (4) the patient's and the bed clothing should be daily changed; (5) the popular disinfectants were not useful in permissible doses. Fire or water above 212° was the best germicide. Hence burn or boil all clothing that had been about the patient. (6) Always disinfect a house in which a zymotic disease had been treated, if even a year or two previous. Pour boiling water over the floors, in the cracks, on the walls, etc. Steam would be better.

Dr. C. F. Lewis, of Clifton Forge, Va., believed in the stimulating plan of treatment, and thought digitalis helped to relieve the swelling of the throat. Sometimes he used chlorate of potash and muriated tincture of iron. He was a strong advocate of such sanitary measures as Dr. Hicks and Dr. Harris had just mentioned. He fed liberally.

Dr. John F. Winn, of Richmond, agreed with the speakers as to their sanitary recommendations. He thought, in towns

especially, placards should be placed on doors of infected houses as warnings to comers-in. Public funerals in all cases of death by zymotic disease should be prohibited by law. In the sick-room, old cloths, etc., should be used, which might be destroyed by fire. The popular "disinfectant solution" of copperas was not a disinfectant, but was antiseptic. Four ounces of chloride of lime dissolved in a gallon of water was a good preparation to pour over the evacuations of typhoid patients. Corrosive sublimate in solution was also used. Let all articles that were to be used again be kept immersed in one or the other of these solutions for several hours. To disinfect a room, burn in it from two to four pounds of common sulphur, with closed doors. If the body after death was to be moved, it should be kept wrapped in cloths wet with Labarraque's solution—℥ iv to the gallon.

Dr. L. Lankford, of Bowers, Va., agreed with the speakers as to the importance of fresh air in the treatment of scarlet fever, and thought that malignancy would be rare if this were more insisted upon than it was. As an illustration, he mentioned the cases of two of his children. The younger was kept down-stairs in a warm room, with the doors closed, and malignancy developed; the other child was kept up-stairs, where there was no fire and where a window was kept open, and no malignant sign or symptom developed. The weather was cold.

Dr. J. Herbert Claiborne, of Petersburg, Va., spoke of a case in his practice in which the dermic inflammation was so intense that on the third day the skin came off in large patches all over the body. Some children played day after day in the room with the patient, and yet none of them contracted the disease. Shortly afterward some other children had the fever so mildly that they could not be retained in the house; but in a short while the disease developed in some of their playmates. An old lady living in the house with these mild cases had scarlet fever so severely that she came near dying. To disinfect a sick-room, not only the organic germs must be destroyed, but the spores also. A solution of corrosive sublimate (1 to 1,000) was required to kill the spores, or water at 280°. But the best disinfectant for a sick-room after all was pure fresh air. The doors and windows should be left open. Of course always disinfect articles of clothing, etc. He thought Squibb's solution of chlorinated soda—℥ ij to the gallon of water—was the most perfect insecticide in the market, and it was cheap enough to be within the reach of all.

Dr. William L. Robinson, of Danville, Va., believed that a great deal of good resulted from proper medicinal treatment. He reduced the fever by using a full bath at 95°, which he allowed to cool down to 85° while the patient was in it. Before taking him out of the bath he gave a weak toddy, and rubbed the body over with camphorated oil before he was put to bed. He depended very much upon the free use of lithia water as a drink. If the nose got stopped up so as to compel mouth-breathing, the child waked up often from cat-naps with screams. For this condition he used the steam atomizer—two grains of chloral hydrate in an ounce of water. This kept the nose moist. Large doses of calomel and jalap should be used if kidney complications supervene. In one case of œdema of the lungs the hypodermic use of pilocarpin saved the patient.

Dr. Winn stated that a recent correspondent in the "Journal of the American Medical Association" placed his diphtheritic patients on house-tops or on the porches, and said that all got well. The more fresh air, the better were the results of treatment.

Dr. W. W. Parker, of Richmond, Va., had often been disheartened at the results of treatment of scarlet fever. Many cases, it is true, got well without any special treatment; but, until of late years, other cases did not get well under any plan. Now, however, he had better results, and he thought the best remedy for malignant cases was alcohol in free doses. He kept his patients hot. He obtained the suggestion from the good effects of alcohol in typhoid fever. Applications of turpentine were as good for the sore throat as carbolic acid. Keep the child in the house, according to the weather. In the summer the patient might go out in ten days; but in winter wait three or four weeks.

Dr. M. A. Wilson, of New River Depot, Va., had used Bartholow's tincture-of-belladonna prescription, to antagonize that condition of the throat which caused exudation, with great satisfaction.

Dr. Hugh T. Nelson, of Charlottesville, Va., thought patients often succumbed to accumulations of heat around the nerve-centers; hence the necessity for diaphoretics and heart stimulants. Afterward tonics should be used.

Dr. S. K. Jackson, Dr. R. S. Lewis, of Culpepper, Dr. W. L. Broaddus, of Newtown, Dr. John Grammer, of Halifax Court-House, and Dr. W. D. Cooper, of Morrisville—all spoke in the highest terms of Watson's chlorine treatment as described in his work on "Practice of Physic."

The Report on Chemistry, Materia Medica, and Therapeutics was made by Dr. M. G. Ellzey, of Washington, D. C., who first considered the position of chemistry in medical schools. The report advocated the demand for proficiency in elementary chemistry in medical students before matriculating, and then teaching them practical chemistry, as urinalysis, toxicology, etc. In materia medica and therapeutics cocaine and antipyrin were alluded to. No germicide could be safely applied to an absorbing surface. In climatology, Dr. Ellzey thought the Appalachian portion of Virginia the best of sanitariums for summer and fall. For the year round the climate of southern North Carolina and northern South Carolina was the best. The average amount of carbonic acid in a European atmosphere was about 4 to 10,000, whereas at Washington, D. C., it was 3 to 10,000 parts. The pyrogallic-acid tests of the percentage of oxygen in the air at Washington showed a close coincidence with European air—about 20·70 per cent. for out-door air. He thought a rich harvest awaited climatological-therapeutical studies in the near future.

The Report on Advances in Obstetrics and Diseases of Women and Children was presented by the chairman of the committee, Dr. Smelt W. Dickinson, of Marion, Va. He called attention to the changes in practice during the year regarding antiseptic midwifery. Intra-uterine post-partum injections with even weak solutions of corrosive mercury were, he thought, dangerous. The parts should be kept clean. The important thing was to render aseptic everything that entered the vagina—the hands, sponges, instruments, etc. The readiest way to effect post-partum drainage was to place the patient upon the chamber-pot, if her strength allowed, when she wanted to urinate, etc. He thought the contagium of puerperal fever was of a material nature, capable of being washed away or destroyed by antiseptic injections. If the discharges became offensive and the body temperature rose above 100° F. without plain cause, resort should be immediately had to antiseptic washes. In answer to the question, How long before a doctor in attendance upon a puerperal-fever patient might safely attend another delivery? Dr. Dickinson said the weight of opinion was that he might safely do so at once *provided* he thoroughly antisepticized himself and clothing. Extra-uterine pregnancy might be treated by killing the fœtus by electricity and then performing laparotomy. Combined version in placenta prævia was now the approved plan, and was thus executed: The vagina was tamponed so as to obtain sufficient dilatability. The patient was then anæsthetized; the hand was passed into the vagina and two

fingers inserted through the presenting placenta and the fœtus drawn to one side, while the other hand, on the abdomen, pressed the child so as to carry its buttocks down until a foot could be reached. The foot was drawn through the cervix so that the breech might act as a tampon on the lower segment of the uterus. Then spontaneous delivery was awaited, or for sufficient dilatability of the cervix to permit delivery. Credé and Weber preferred absorbent cotton as a daily dressing for the cord, which, they claimed, prevented umbilical inflammation. Ethyl-bromide promised well as an obstetric anæsthetic. Cocaine was *sub judice*. Obstetric forceps were invaluable. Abortion should be produced when danger threatened. The temperature of the *lying-in room* should be well regulated. Swinging the body was advocated as a substitute for artificial respiration.

Of diseases of women, neurasthenia was the most common, and all that Dr. Weir Mitchell had said about it—both as to cause and treatment—was indorsed. Operative interference with lacerations of the cervix uteri was now opposed, as the lacerations healed well if left to themselves. Alexander's operation for backward uterine displacements was described. Dr. Goodell preferred rapid dilatation of the cervix uteri for dysmenorrhœa of an organic nature, and also for nervous dysmenorrhœa.

In diseases of children, he remarked upon the advantage of large doses of carbonate of ammonia for scarlatina. Dr. Huffard, of Smyth County, Va., depended on the carbonate later in the disease, when languid capillary circulation set in. Bismuth subnitrate was recommended to be powdered over the sore tongue which usually occurred about the fifth day—just as in cancrum oris. Trypsin in spray form every fifteen minutes or more, if the patient's strength would permit the operations, was a solvent of diphtheritic membrane. *Chlorate of potash* should be avoided in febrile diseases where the blood was alkaline, as in diphtheria, nephritic affections with scanty urine, in uræmia, etc. Incomplete closure of the ductus venosus was thought to be the cause of icterus neonatorum. Dr. Marion Sims's view that trismus nascentium was due to "an inward displacement of the occipital bone" was supported by Dr. Hartigan, of Washington, D. C.

(*To be concluded.*)

AMERICAN GYNÆCOLOGICAL SOCIETY.

Tenth Annual Meeting, held at Washington, Tuesday, Wednesday, and Thursday, September 22, 23, and 24, 1885.

(*Concluded from page 357.*)

The President, Dr. William T. Howard, of Baltimore, in the Chair.

Wednesday's Proceedings.

The President's Annual Address.—The President read his annual address. It was entitled "Two Rare Cases in Abdominal Surgery."

Case I.—S. H., a negress, aged twenty-four years, married, presented herself at the dispensary of the University of Maryland April 20, 1882. She was seen by the clinical assistant and the following notes were made: Menstruation appeared at the age of fourteen, and had been regular and normal. She was the mother of five children, the youngest of which was two months old. She had never had a miscarriage. Some days after delivery she noticed an enlargement in the lower portion of the abdomen, which gradually extended in the middle line until it reached the umbilicus, and was attended with bearing-down pains and frequent micturition. On examination, fluctuation was found well marked all over the abdomen, with decided resonance about the umbilicus. There was dullness on percussion and there was bulging in both flanks. Six weeks later she returned to the dispensary, and at this time the resonance at the umbilicus had disappeared and the umbilicus projected. The author saw her for the first time two weeks after this observation was made. She was then quite sick, the temperature being 102° F., the pulse 132, and the respiration 32. Examination showed the presence of fluid in the pleural sac. There were also some crackling râles. The abdomen was as large as at the seventh month of pregnancy and was remarkably protuberant in the center. There was complete dullness over the entire abdomen, not changed by change of position. There was no evidence of a solid tumor, but it had every appearance of a simple unilocular cyst. Vaginal examination showed the uterus well in front of the tumor, and the sound gave a measurement of two inches and three quarters. The question which arose was as to the nature of this tumor. Was it ovarian? The extreme infrequency of ovarian tumors in the negro race was against this view. The rapid growth of the tumor was also opposed to it. The next affection considered was fibro-cystic tumor of the uterus. This was exceedingly rare. The speaker had seen but one such case in the negro. In that case the cyst was filled with pus. The patient was operated upon with a fatal result. Such tumors were rare before the age of thirty-five. They usually developed slowly. There was no menstrual disturbance in this case. For these reasons, fibro-cystic tumor was excluded. Was it a parovarian cyst? These usually developed even more slowly than ovarian cysts. They were usually flaccid, contained a thin liquid, were comparatively rare, and did not affect the general health. This was therefore excluded. It was certainly not a case of simple ascites, but was it a case of encysted dropsy of the peritonæum, so called, resulting from simple peritonitis? This was an extremely rare affection, and in the early stages there were symptoms of constitutional disturbance; the abdomen was not prominent and often it was flaccid. Encysted dropsy was excluded. Finally, on June 20th, he aspirated the cyst under antiseptic precautions. The fluid which escaped was of a light straw-color and coagulated as speedily as blood. After aspiration, large masses were readily felt through the abdominal wall. The character of the fluid corresponded with that which was said to characterize fibro-cystic tumors of the uterus. The speaker had, however, seen other cases which showed that the character of the fluid was not pathognomonic. In one case of abdominal tumor, fluid was removed which did not coagulate even after being kept for many days. The abdomen was subsequently opened and a fibro-cystic tumor found. In a case of supposed ascites in a man, aspiration was performed and the fluid removed coagulated quite rapidly.

After the cyst was aspirated the patient did well for three days, when acute peritonitis supervened and she died on the seventh day. At the autopsy a mass as large as a child's head was found in the abdomen. This consisted of omentum, the transverse colon, and small intestine bound together by inflammatory exudation. The inflamed peritonæum was invaded everywhere with miliary tubercles. There was no ovarian or uterine disease. There was some tubercular ulceration of the small intestine; the other abdominal organs were not affected. The pleura was also invaded with scattered miliary tubercles. In both lungs there were some tubercles.

This, then, was a case of encysted tubercular peritonitis simulating ovarian or parovarian cyst. The failure to recognize the true condition was ascribed to want of attention to the previous history of the case and the non-recognition of the fact that there had been free fluid in the peritoneal cavity at the first visit.

The speaker then referred to the few similar cases which

had been reported. In these cases the disease had appeared as a rule under the age of twenty-five years. It had progressed rapidly, the length of time varying from six weeks to eight months.

Case II.—F. R., aged twenty-four, was admitted to the hospital in July, 1883. She professed to belong to the colored race, but looked much like a white woman. She had been married a year, but had never been pregnant. There was no evidence of uterine disease. The abdomen was much enlarged, measuring forty-seven inches just below the umbilicus. Vaginal examination showed the uterus pushed forward by a sac containing fluid. There was apparently an immense unilocular sac. This had been first noticed seven or eight years before. The increase in size had been gradual and unaccompanied with pain. As to diagnosis, ascites was dismissed both on account of the physical signs and the absence of any cause to account for such a condition. The length of time which the affection had lasted was against its ovarian origin. There were, however, exceptional cases in which an ovarian tumor might be present for a number of years, even as many as twenty-four, without requiring operation. The age of the patient, the length of time which the cyst had been present, the marked fluctuation, and the flaccid nature of the tumor, were in favor of a parovarian cyst. There was one point against this diagnosis, and that was that, although the cyst was flaccid, it could not be compressed below the umbilicus. Fibro-cystic tumor was readily excluded. The history of the case was against the existence of encysted peritonitis. The balance of evidence seemed to be in favor of an ovarian or parovarian cyst.

On July 13th the operation was performed. It was done largely with the view of exploration. The peritonæum was found much thickened and closely adherent to the sac. With difficulty the adhesions were separated for a short distance, and the cyst presented the appearance of an ovarian cyst. A trocar was introduced and forty pounds of a greenish, viscid fluid were removed. An endeavor was made to enucleate the cyst, but the adhesions were so extensive that this could not be accomplished. The cyst was then incised to the extent of the abdominal opening, and, on looking into it, it appeared to occupy the whole abdominal cavity, stretching tightly over the spinal column. A small portion of the wall of the cyst was removed, a drainage-tube introduced, and the opening closed with stitches. Peritonitis ensued and the patient died. A post-mortem was made, but, owing to the speaker's unavoidable absence, was not sufficiently full to throw any more light upon the case than had been obtained at the operation. The nature of the cyst therefore remained unsettled.

Dr. T. A. Emmet, of New York, said that the older he got, and the more experience he had, the more uncertain he was about diagnosis. When a woman had an abdominal tumor he favored opening the abdomen to make the diagnosis, because she had something which must come out. As to rapidity of development, it could not be depended upon. He had seen parovarian cysts develop in six weeks; he had also seen cases which had lasted twenty-three years. About two years ago he saw a case in which he could not make a diagnosis. The abdomen was opened and just such a cavity as had been described was found. It seemed as though a cyst had at some time ruptured and its contents had become encysted. The cavity was left open and frequently washed out. In six weeks its size had greatly diminished. Unfortunately, the patient died at this time from strangulation of the small intestine.

Dr. William Goodell, of Philadelphia, said that he had removed tumors the nature of which he did not know to this day. In one case he worked for forty-five minutes before finding out what the tumor was. It turned out to be two ovarian tumors which had coalesced, including the uterus between them. He felt more and more the necessity of performing the exploratory operation, for without this it was impossible to make a correct diagnosis in many cases. To illustrate the difficulties of diagnosis, he reported a case seen some time ago. A lady presented herself with a solid tumor of the abdomen. There were also metrorrhagia and menorrhagia. He diagnosticated fibroid tumor of the uterus, but the growth was so mobile as to suggest the possibility of a fibroid tumor of the ovary, and it was so noted at the time. An operation was not recommended. The lady went North, and her sufferings became so great that she consulted a distinguished gynæcologist, desiring an operation. The operation was performed, and a large fibroid of the ovary removed.

Dr. T. A. Reamy, of Cincinnati, wished to put on record another case in which a fatal result followed aspiration in tubercular peritonitis. The patient was a man, but the enlargement presented all the characteristics of an ovarian cyst. Death took place the second day after the removal of the fluid.

The President thought that in the majority of cases a correct diagnosis could be made. The fact that he was able in these cases to eliminate so many of the ordinary conditions which gave rise to tumors showed that we had the means of making the diagnosis generally. The object of the paper was to give an accurate account of these cases in order that it might assist others in cases of obscure abdominal tumors.

The Care of the Perinæum during Labor.—Dr. Reamy read a paper with this title. He referred to the various opinions which had been expressed on this subject. There was a general agreement as to the importance of preserving the perinæum. In certain cases, however, from anatomical and pathological conditions, laceration was almost inevitable. The author then spoke of the various methods which had been proposed, dividing them into two general classes—those which aimed to support the perinæum, and those which were used with the object of retarding the progress of the head. There was one class of authors, numerically small, who believed that the perinæum should be let alone.

The method about to be described he had adopted several years ago, and it had given him much satisfaction. He was persuaded that he had saved many perinea by its use. It was recommended for primiparæ and others where the structures were greatly imperiled. During the early part of the second stage the patient was allowed to assume any position she preferred, but, when the head began to distend the perinæum, she was placed across the bed with the limbs in the lithotomy position with the exception that the knees were kept close together. This was important. The limbs were held in that position by two assistants. A piece of muslin or a towel, ten inches wide and forty or fifty inches long, was carried around the buttocks of the patient and over the hemisphere produced by the bulging perinæum, with the upper edge on a level with the fourchette, and the ends were given to the assistants, who were instructed to make traction during the pains in the manner that the accoucheur might direct. The bandage must be applied smoothly. The force might be exerted in any required direction. Care must be taken, however, that the pressure was equally distributed and that the assistants did not simply pull on the middle or posterior part of the bandage while the anterior portion was left lax. In order to show that this procedure was based on good anatomical grounds, the speaker next referred to the anatomy of the perinæum, illustrating his remarks with diagrams. According to the old descriptions of the anatomy of this region, it was considered that the muscular fibers decussated in the part between the vagina and the rectum. Recent observations showed that this was not the case, but that the

fibers simply met, and a laceration of the perinæum divided no muscular fibers transversely, with the exception of those of the transversi perinæi. The fibers were simply separated. When the sphincter ani was divided, its fibers were of course divided transversely. The perinæum was prevented from laceration by the protection afforded by the tissue below and the integument. The bandage used in the way described afforded a supplementary perinæum as it were. By keeping the limbs in the position indicated we enabled nature to supply tissue for the relaxation of the perinæum. When the perinæum bulged the sulci at the sides disappeared, and the perinæum with the advancing head formed almost a hemisphere. The towel was in contact with every part of this hemisphere. The advance of the head might be retarded by making traction on the towel. Where it was accessible a narrow bed might be used with advantage, the assistants taking their positions near the head of the patient. The use of this bandage avoided any tendency to exciting expulsive efforts from reflex irritation of the perinæum as was sometimes seen where the fingers were used. It was comfortable to the patient and did not cause more exposure than other methods. The bandage might be kept on until the shoulders were born, thus avoiding rupture from this cause. In order that this method should be successful, it was important that every detail should be carried out with painstaking care. Should a rupture occur, the immediate operation should be resorted to.

Dr. M. D. Mann, of Buffalo, said that the method seemed a good one in a certain proportion of cases, but he had seen some cases where it would have been of no avail. The worst ruptures occurred in cases where, at the acme of the final expulsive pain, the woman had torn herself from the accoucheur. In such cases the use of chloroform would of course obviate the difficulty. Another objection to the method was that it required more assistance than could always be secured.

Dr. J. R. Chadwick, of Boston, thought the term "supporting the perinæum" a misnomer. What was meant was retardation of the child's head until the tissues could be sufficiently stretched to permit its passage. He always insured the slow exit of the head and did not permit it to escape during a pain. The method which he employed was to have the patient on her side, and then pass one arm over the thigh. Then, by interlocking the fingers, any desired amount of pressure could be made.

Dr. Ellwood Wilson, of Philadelphia, had tried every method suggested for the support of the perinæum, with the exception of the one just described by Dr. Reamy. His usual plan was simply to instruct the woman to keep her mouth open during a pain and pant.

Dr. Reamy, in reply to the statement of Dr. Chadwick, that supporting the perinæum was a misnomer, said that the word support meant protection or succor, and had been used in this sense. The number of assistants required had been objected to, but the importance of preventing rupture of the perinæum in the first labor was so great that, even if two or three skilled assistants were required, they should be employed. With this method the patient could not get away. An objection to the method referred to by Dr. Chadwick was that the pressure was not made over the perinæum, but over the head, and extension might be produced, causing the head to come into a bad relation to the axis of the outlet. In cases in which the head had been permitted to remain pressing on the perinæum for some time, the tissues were in a state of beginning necrosis and exceedingly friable. Even in such a case the use of the towel or bandage lessened the perils of the perinæum, and it would often be saved where otherwise it would have been torn. It could not be supported with the hand under such circumstances. If it was desired, the forceps might be applied with the bandage in position.

A Case of Cæsarean Section.—Dr. Edward W. Jenks, of Detroit, described the following case, which he had seen in consultation. The patient, aged twenty-seven, had given birth to one child five years previously without special difficulty. Two years later she received a fracture of the ilium from a building falling on her. She was taken in labor at three o'clock in the morning. The physician in attendance, finding some difficulty, tried to apply the forceps. He got one blade on without difficulty, but could not, after several trials, introduce the second blade. He sent for assistance, and the attempt to apply the forceps was again made without success. The cause of difficulty was a projecting shelf of bone at the seat of fracture. Another physician was called in and the forceps was again tried. It was then decided to perform craniotomy, which was done, but still the head could not be made to descend. Dr. Jenks was then sent for. He tried to apply the forceps to make sure that it could not be applied, and, failing, tried the cephalotribe with no better success. It was then decided to perform abdominal section. This was performed at two o'clock that night, twenty-four hours after labor began. The woman appeared to be in good condition. The placenta was found attached directly under the incision and there was alarming hæmorrhage, which, however, was quickly checked by the rapid extraction of the fœtus. The edges of the uterine incision were brought together by silk sutures and the abdominal wound was closed. The patient did well until three days after the operation, when she suddenly died. It was subsequently learned that the nurse had, in disobedience to orders, temporarily left the room, and that in her absence the patient got out of bed. She complained of feeling something give way, experienced severe pain, and died in a few hours.

Dr. A. J. C. Skene, of Brooklyn, remarked that in such cases the chances of the patient were lessened by undue efforts at delivery with the forceps. He thought that this would have been a good case for the performance of laparo-elytrotomy. It was impossible to sacrifice the child by that operation if it was performed in good time. He could hardly imagine any case where craniotomy should be performed, except possibly where the head wassoengaged in a small inferior strait that it could be extracted in no other way. Even then he was not certain that the Cæsarean section would not be the best operation.

Dr. Jenks said the operation of laparo-elytrotomy was discussed, but it did not seem to be an easy operation under the circumstances. If it had not been for the unfortunate accident in this case, the woman would probably have recovered.

The Use of Tarnier's Forceps.—Dr. Ellwood Wilson read a paper on this subject at the meeting in 1881. He had offered a number of objections to the use of this forceps. His objections had been based on theoretical grounds. The object of the present communication was to report nine cases in which he had used the forceps with decided advantage to the patient. He had therefore modified his views as before expressed. A detailed account of the nine cases in which the forceps had been used was then given. The instrument used had been Dr. Howard's modification of Tarnier's forceps.

Dr. Mann had used the Tarnier forceps for the past two years in a number of cases with, in the main, satisfactory results. In one case of deformed pelvis in which the Tarnier forceps was applied, the child was injured by it. The outer edge of one orbit had been crushed in, destroying the eye. The child was living at the time of birth, but subsequently died.

The President said that, so far as he knew, he was the first to use the Tarnier forceps successfully in America. In cases of occipito-posterior positions, the application of other forceps interfered with the rotation of the head, but with the Tarnier forceps the head was free to rotate.

Thursday's Proceedings.

A Modification of Emmet's Cervix Operation in certain Cases, with a Case.—Dr. R. Stansbury Sutton, of Pittsburgh, read a paper in which he stated that, while the operation was original so far as he was concerned, he did not profess to be the only one who had performed it. Cicatricial tissue was found to a greater or less extent in every case of lacerated cervix which had lasted for any length of time. This was especially apt to be the case where nitrate of silver had been used in the treatment. The hardened tissue might be present in both lips, or it might be limited to one lip. The patient whose case was reported was operated on June 5, 1885. She was the mother of several children. There was a double maceration of the cervix. The tissue of the anterior lip was hardened and hypertrophied, and the lip was convex from side to side and also from before backward, so that by the ordinary method of operation correct coaptation could not be effected. The tissue of the anterior lip was as hard as cartilage. Ordinary denudation of the posterior lip was sufficient, and this was made, leaving the strip of mucous membrane somewhat wider than usual. The cicatricial mass involving the anterior lip was removed from border to border, completely denuding this portion of the cervix. The parts were then brought together in the usual way, and the result was excellent. The cervical canal readily admitted a sound, and the woman menstruated without difficulty. The speaker thought that there were cases in which nothing short of the complete removal of the cicatricial tissue would be sufficient.

Dr. Goodell had resorted to this device on more than one occasion, and also to another plan on a few occasions. That was to outline the strip of mucous membrane to be left, and to dissect it from the tissues below, leaving it united at its base. The indurated tissue had then been removed and the flaps brought together. The result had been good.

Dr. Skene remarked that this was not cicatricial tissue; it was a true sclerosis—a hyperplastic, indurated tissue. This was, however, simply a question as to name. Much could be done to get rid of this tissue by preparatory treatment. But this often required too much time, and then such an operation as that proposed by Dr. Sutton came in. His plan had been to do a preliminary operation, consisting in removing a transverse wedge-shaped piece from one or both lips of the cervix, as the case might require, and then bringing the surfaces together with silk stitches. After the first day the patient could go about, and the sutures were removed in the course of a week or ten days. After the size of the cervix was reduced the ordinary operation was performed. He had done both operations at one sitting, but preferred to do them separately. One objection to the method of Dr. Sutton was that it left cicatricial tissue.

Dr. George J. Engelmann, of St. Louis, said that in old and severe cases it was impossible to retain the strip of mucous membrane. He therefore removed it. He had done this on both lips, and on some occasions had complete union, but the passage of a probe served to keep a canal open. For the last few years he had paid no attention whatsoever to this central strip. To prevent union he inserted a single piece of the carbolized-silk thread which was used in closing the opening. A probe passed a few times after the removal of the sutures would dilate the canal. The result of this operation had been good. The union, the involution, and the restoration of the health of the patient had been perfect. This operation had been done only in severe cases, and, so far as he knew, none of these patients had conceived.

Dr. Mann had tried the method described by Dr. Sutton. In only one case had it been necessary to denude both surfaces. To insure a patulous canal, he introduced a piece of small drainage-tube. The patient did well.

Dr. W. H. Baker, of Boston, thought the retention of the mucous membrane of importance. The method of Dr. Sutton, by leaving cicatricial tissue on one side of the canal, would tend to make the canal tortuous. As a rule, if the patient was properly prepared, it would not be necessary to remove this hypertrophied tissue. If this was not done, Emmet's operation could still be performed in the way described by Dr. Skene. He preferred to do both operations at the same time. It was then not necessary to introduce a suture to bring the transverse incision together. Great care should be exercised in the introduction of substances between the two flaps.

The President remarked that a few weeks before the death of Dr. Sims he had seen Dr. Harry Sims perform this operation in the presence of his father. He inserted a glass tube which fitted so loosely that it had to be retained with a plug of cotton.

Dr. Skene thought that if the denudation was practiced on both sides stenosis would certainly follow.

Inflammation of the Parotid Glands following Operations on the Female Genital Organs.—Dr. Goodell read a paper with this title. He referred first to the close relation existing between the salivary organs and the genital organs of the adult, as shown in mumps and other conditions. Parotid bubo seemed particularly apt to follow ovariotomy where septicæmia had taken place. He had seen parotid bubo once in 153 ovariotomies. This was in a greatly emaciated woman, from whom a tumor weighing eighty pounds had been removed. The patient had been twice tapped; once six weeks before the operation. The second tapping was followed by septic poison, and the operation was performed as a last resort. The patient did well until the ninth day, when the left parotid gland began to swell. It suppurated and was opened. The patient finally died on the twenty-second day after the operation.

There was a transference of irritation to the parotid glands in which there was no evidence of septic poisoning. Of this the author had seen three instances: twice after ovariotomy and once after oöphorectomy. In these cases the parotid complication did not influence the progress of the case. Not one of these ended fatally. He regarded the affection of the glands as sympathetic and not symptomatic. Within a short time he had operated on a lacerated cervix. The operation was followed by free hæmorrhage, and in the second week the parotid glands began to swell. This was succeeded by hysterical trismus, which lasted for some time. The patient recovered.

Dr. Sutton, out of twelve ovariotomies, had lost one patient, and she died with the complication referred to in the paper. The case did well until convalescence was reached, when one parotid gland began to swell. This was followed by swelling of the other gland. The temperature varied one or two degrees from the normal. There was slight diarrhœa, but no tympany, and no soreness. A number of rose-colored spots were found about the second week over the abdomen and arm. In the third week she became much worse. The glands diminished in size, but the temperature ran up and she died. He considered the case as septicæmic. Others considered it a well-marked instance of typhoid fever.

Dr. J. Taber Johnson, of Washington, had seen this complication in one case of ovariotomy, the patient dying on the sixth day.

Dr. Mann referred to three cases which he had seen. The first was a case of ovariotomy. There were distinct symptoms of septicæmia, and the patient died before the glands suppurated. The second case was one in which he had removed all the uterus above the internal os, and also the ovaries. At the

end of the first week one gland became swollen. There was little fever. The patient made a good recovery. The third case was that of a boy who had received a penetrating wound of the abdomen. Enlargement of the glands followed, but he made a good recovery.

Dr. EMMET added two cases. Once the condition followed an operation for lacerated cervix, the patient recovering. Once it followed an operation on a small vesico-vaginal fistula, the patient dying.

Dr. BAKER had seen the complication follow Tait's operation, but the patient recovered.

Dr. REAMY had had two cases, one after Tait's operation. The patient died the seventh day after operation. The second was a case of supra-vaginal hysterectomy in which the uterus and both ovaries were removed. The left gland became much enlarged, but did not suppurate. The patient recovered.

Peristalsis of the Genital Tract, and a New Theory to explain Relaxation of the Vaginal Outlet during Labor.—Dr. JAMES R. CHADWICK, of Boston, read a paper with this title. Some time ago the speaker was called to see a primipara in labor. He found the os slightly dilated and the vaginal outlet quite rigid. Returning two hours later, he found the outlet much relaxed, although the head had not escaped from the uterus. On another occasion a woman with a bleeding fibroid tumor consulted him. The examination revealed quite a small outlet. Ergot was given to check the bleeding. After that the outlet was found much relaxed; this had occurred coincidently with the occurrence of uterine contractions and the forcing down of the tumor. Further investigation of this subject had led him to the conclusion that there was a peristaltic action of the lower portion of the genital canal as well as of the Fallopian tubes, and that it was to this that the relaxation of the outlet was largely due.

Facial Paralysis in the Infant from the Use of the Obstetric Forceps.—Dr. THEOPHILUS PARVIN, of Philadelphia, read a paper on this subject. The following case was described: A well-proportioned woman, aged thirty years, had been in labor thirty-two hours, the first stage lasting twenty-four hours. The only difficulty appeared to be want of strength in the uterine contractions. The forceps was therefore applied, and the child extracted. The following day it was observed that one side of the face was paralyzed. This was especially noticeable when the child cried. There was no evidence of bruising from the forceps. The paralysis disappeared in ten days without treatment. The literature of this affection was then summarized.

Dr. ELLWOOD WILSON had met with this accident a number of times. Recovery, as a rule, had occurred spontaneously.

Dr. GOODELL had seen such cases, and in every instance the paralysis had been on the right side. He attributed this to the predominance of the left occipito-anterior and the right occipito-posterior positions. Under such circumstances, one blade of the forceps would make pressure on the nerve.

Dr. SKENE considered the differential diagnosis between facial paralysis from injury and facial paralysis from apoplexy to be of importance. Usually the diagnosis was readily made, but difficulty occurred when there was facial paralysis from injury, associated with paralysis of the arm caused by violence in delivery. He had recently seen such a case in consultation. In this case it was of great importance to complete the labor quickly, and the shoulder had been injured in delivery, so that there were facial paralysis and paralysis of the arm on the same side. At first there was no trace of contusion, but in a short time ecchymosis appeared and a favorable prognosis was given, which was verified.

Dr. W. L. RICHARDSON, of Boston, said that in most of the cases he had seen the paralysis had been on the right side. It sometimes occurred where the forceps was applied to the after-coming head.

The following papers were read by title: "The Genu-Pectoral Posture in the Prolonged Nausea and Vomiting of Pregnancy, with Cases," by Dr. H. F. Campbell, Augusta, Ga.; "A Study of an Unusual Type of Puerperal Fever," by Dr. Fordyce Barker, of New York.

A resolution expressing the sympathy of the society with Dr. Albert H. Smith, of Philadelphia, in his sickness, was offered and adopted.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Meeting of September 10, 1885.

The Vice-President, Dr. J. HENRY C. SIMES, in the Chair.

Secondary Epithelioma.—Dr. GEORGE DOCK exhibited to the society a patient suffering from this disease and related the following history:

The case occurred in the practice of Dr. W. W. Keen, at St. Mary's Hospital, to whom Dr. Dock acknowledged his indebtedness for the opportunity of recording it.

Mary C., aged seventy years, married, born in Ireland, applied for treatment November 29, 1884. Her personal and family histories seemed to be unusually good. No traces of constitutional disease could be found. She used alcoholic liquors in moderation, and had smoked a clay pipe for the greater part of her life. Filling the right submaxillary region and extending up over the inferior maxilla was a tumor, the distinct outlines of which included a space about three inches in diameter. The lower part was very prominent, standing out as a flattened node one inch and a half in diameter and about three fourths of an inch high, the whole height of the tumor being one inch and a half. The growth was hard and immovable on the lower jaw; the surface was smooth and red, changing to a dull purple on the nodular elevation. On the summit of this growth was an opening leading upward and inward three quarters of an inch. The skin around the opening was everted and the surface of the crater-like cavity was covered with large and small granulations which exuded a thin, gray, offensive pus. The neighboring lymph-glands were not enlarged. The general condition was good.

The patient stated that the growth first appeared, six months before admission to the hospital, as a "kernel" below the jaw. She applied various poultices and salves to it. The tumor grew rapidly for the following four months, when it opened, discharging a large amount of pus; after that there was no apparent increase in size. The patient could assign no cause for the tumor except a scald, received about one year before on the lower lip near the angle of the mouth on the right side. This was followed by an ulcer, which was removed at the Episcopal Hospital in February, 1884, about two months before the appearance of the enlarged gland. Dr. J. M. Bradford, late resident physician at the Episcopal Hospital, stated that the ulcer was noted as epithelioma.

On December 3, 1884, Dr. Keen removed the tumor, together with a margin of healthy skin and the submaxillary salivary gland. The external plate of the inferior maxillary appearing roughened, it was cut away. The cavity of the mouth was not opened. By the use of hare-lip pins and sutures, the edges of the large wound, four inches and a half in diameter, were approximated almost perfectly. The dressings at first were carbolized; afterward iodoform was used. In the fourth week after the operation a small, red, indurated, sometimes painful spot appeared in the skin just posterior to the wound. A few days later the patient was discharged.

Microscopic sections, made through various parts of the

growth, showed the structure of squamous epithelioma everywhere. The salivary gland was invaded. No trace of the lymph-gland could be found, and the supposition was that it had ulcerated away completely.

The patient was lost sight of until the beginning of May, 1885. She stated that after leaving the hospital the small swelling alluded to increased rapidly in size, and in a few weeks was larger than the one removed. She used no irritating measures, but the tumor broke down and ulcerated away, leaving a large granulating surface. Examination revealed an ulcer on the side of the neck extending from one inch to the right of the median line to beyond the angle of the jaw, irregularly circular in outline and containing islands of epithelium. There was a small opening into the cavity of the mouth midway between the angle and the symphysis of the jaw and just inside of the inferior border of that bone. The symphysis was drawn to the right about half an inch. There was a hard, tender swelling on the gum above the inner edge of the opening, covered with small, dark-red nodules. In June the inferior maxilla was still more atrophied and had separated at the point of swelling and opening before mentioned. The adjacent ends of bone and gum were covered with a small fungous growth.

The process of atrophy and new growth is still continuing. The left alveolar process approaches the median line of the oral cavity, and the point of the chin is on a line dropped from the outer angle of the right eye. The ulcer on the neck is healing, but the new growth in the mouth is rapidly enlarging, so that the tongue can not be extruded. There are no enlarged lymph-glands, but within a few days the patient has complained of pain in a gland in the subclavian region. The general condition is very poor; the patient lives on liquid food and takes morphia to produce sleep.

An Enlarged Prostate.—Dr. Guy Hinsdale exhibited a specimen which had recently been presented to the Mütter Museum of the College of Physicians by Dr. J. L. Stewart, of Erie, Pa., and was removed from a man aged seventy-five years, who, sixteen years previously, had first come under Dr. Stewart's observation.

At that time he was a strong, well-developed man, who had never been sick before in his life, but was then suffering from retention of urine, which had existed for seventy-two hours. It was found to be impossible to introduce a catheter, owing to an enlarged prostate estimated to be larger than a hen's egg. Circumstances rendered it necessary to force an instrument through the gland, and five pounds and a half of urine were drawn off. A train of most unpleasant symptoms followed, and for weeks there was profuse suppuration with complete incontinence and great prostration. After about thirty days, improvement began and continued to complete recovery. Three months afterward the patient seemed perfectly well.

Attacks of cystitis and retention became frequent, and for sixteen years only once did an interval of over three months pass without an attack, the usual time being about twenty days. During this time Dr. Stewart introduced the catheter 1,194 times. Pain was intense during the later years, when four or five ounces of urine had collected in the bladder. Meantime the prostate continued to increase in size, and in November, 1884, was believed to be of the size of a large orange. On the night of the 27th of May, 1885, the patient had his last attack. Dr. Stewart not being at hand, two other physicians did not succeed in introducing an instrument. Just before 9 A. M. of the following day the man was attacked with the most excruciating pain, followed by a severe chill. At this time it is believed by his medical attendants that rupture of the bladder occurred, and the early date of this accident was accounted for as being the result of the contracted condition of the bladder. From this time there was no acute pain, but there was a severe aching followed by prostration. At 9.30 A. M. the bladder was aspirated, one ounce of urine coming away. Dr. Stewart catheterized him on the third day, drawing about a tablespoonful of urine. The patient died on the morning of the fourth day. His mind was clear and his voice strong to the last.

The post-mortem examination was not made by Dr. Stewart personally. It was stated that there was a rupture of the anterior part of the bladder near the fundus, and that the cavity of the abdomen was filled with urine. The specimens were not removed in such a way as to make this evident.

The specimen, as presented, consisted of the prostate gland laid open by a cut in the vertical line and having attached to it the bladder, the walls of which had been cut in several directions. These walls were thick and had apparently undergone fatty degeneration, as had also the kidneys which accompanied the specimen, the pelves of which were thickly overlaid with fat. The long diameter of the prostate, after being in alcohol for three months, was three inches; the shorter diameter two inches and three quarters; the third lobe was one inch long, and through it the catheter passed and still remained in position. The bladder-walls, when replaced, indicated a very small internal capacity.

Dr. J. M. Barton stated that but one case of rupture of the bladder from over-distension had come under his observation. It occurred in a German, who had an impermeable stricture of eight years' duration; no urine whatever passed; the contents of the bladder were removed several times by aspiration, while attempts were being made with filiform and other bougies to pass the stricture. As these failed, perineal section was suggested to the patient and his friends, but refused, and the doctor was told that they would send for him when they needed him. Three days later Dr. Barton was sent for; he proceeded to the house accompanied by Dr. S. W. Gross. The man was in a dying condition; the bladder tumor, which before was very prominent, had disappeared. Aspiration over the pubes, and a trocar inserted by way of the rectum, both failed to reach any urine.

On post-mortem examination, a small rent was found in the upper part of the bladder, but the specimen could not be secured.

In old cases of prostatic obstruction Dr. Barton had several times found, on post-mortem examination, that the patient had thrust the instrument through the "third" lobe; in one case several such openings had been made and had kindly healed.

Cancer of the Stomach.—The Committee on Morbid Growths reported regarding Dr. Mitchell's specimen, exhibited at the last meeting in June, as follows:

(*a*) *Stomach.*—Microscopic sections across the wall of the stomach showed an active proliferation of the epithelium of the mucous membrane, pushing its way into the wall, infiltrating it, and forming alveolar spaces. The wall was further infiltrated with young cells, which, for the most part, replaced the normal structure of the part. The process had probably been a chronic catarrh with great hypertrophy, passing gradually into a carcinomatous type.

(*b*) *Omental Nodules.*—Sections of these showed an indistinct alveolar structure filled with epithelial cells, and a small-celled infiltration of the adipose tissue. The appearances were those of a carcinoma, secondary, probably, to the growth in the stomach.

Hæmatocele of the Testicle.—The committee reported regarding Dr. Nancrede's specimen as follows:

Sections exhibited layers of more or less well-developed connective tissue, through which were scattered numerous young connective-tissue cells. No evidence of sarcoma tissue was

present. The growth should be classed as a chronic connective-tissue hypertrophy, and, as the sac contained blood, the specimen was of chronic hæmatocele.

Miscellany.

The International Medical Congress.—In addition to those heretofore mentioned in our columns, the following-named appointees are said to have declined to hold office under the new organization: President Gilman, of the Johns Hopkins University; Dr. E. Fletcher Ingals, of Chicago; and Dr. E. G. Loring, of New York.

The "Medical News" publishes the following resolutions lately passed by the Chester County, Pa., Medical Society:

"*Whereas*, The members of this society feel a lively interest in the prosperity of the American Medical Association and in the highest success of the Ninth International Medical Congress, and believe that when a mistake has been made it is better to correct it than to ignore it through a false pride of consistency; therefore

"*Resolved*, That it is the judgment of this society that, while the American Medical Association has a perfect right to enforce its code of ethics upon all associations subordinate to it, it has no such right as regards the International Medical Congress, a body with which it has no fixed connection and which does not undertake to regulate matters of professional ethics. That the attempt to organize the Congress solely from its own membership and that of subordinate associations was most unwise and inhospitable, and calculated to lessen the influence and usefulness of the American Medical Association.

"*Resolved*, That we hereby instruct our delegates to the next annual meeting of the American Medical Association to use all honorable endeavors to secure that the false step taken at New Orleans shall be retracted, and that those who led the association into the present folly shall not be intrusted with the arrangements for the International Medical Congress."

The "Louisville Medical News" says:

"On another page we quote from the Congress committee's authorized report the more important items of its doings at the recent called meeting in New York city. A careful inspection of the report shows that beyond a liberal alteration of the rule of membership, the separation of gynæcology from obstetrics, and the restoration of the section of dental and oral surgery to the place assigned it by the original committee, with fit elaboration of the rule relating to finances, no essential changes are made in the scheme of organization. The chief work of the committee seems to have been the re-arrangement of the lists of officers, committees, and councilmen, and the filling of the many gaps in the ranks made by the withdrawal of those who declined to serve under the new leaders.

"No concession was made to the wishes of the distinguished seceders and their many supporters among the profession at large, unless the retention of the name of Dr. Bowditch upon the list of vice-presidents be so construed. The only concession upon the other side was offered by Dr. S. C. Gordon, of Maine. This gentleman repented of his sin against the new committee, and, after confession, was graciously received and forgiven, but not conducted to a higher seat in the synagogue.

"It will also be noticed that the opinions of certain distinguished foreigners with reference to the committee's office and work were ignored *in toto*, not being accorded even the courtesy of a polite remonstrance. The committee has doubtless done just the work its manipulators set to its hands; but, whether its policy be voted wise or foolish, the *dénouement* will show that the breach between the opposing parties is widened beyond repair, and that the contending voices are dissonant beyond the hope of harmony.

"The distingnished guests who, soon after the June house-warming, stepped out and have since been standing in the rain, have not been asked to come in by the new proprietors; nor would they in the existing state of the house have accepted the invitation had it been extended. Their places have been or soon will be filled by others, worthy, indeed, but less renowned; and when the new list of officers and councilmen for the Ninth International Medical Congress shall be laid before the medical world, it will be destitute of many attractive features which characterized the original committee's issue in the early spring. Whether or not this strangely altered face will have charms of sufficient attractiveness to draw our foreign brethren across the sea remains to be seen; but, if the signs of the times be not grossly misleading, the Congress of 1887 will not meet on American soil."

"The Journal of the American Medical Association" says: "Perhaps the action of no organized body of men was ever before so extensively and persistently misrepresented as that of the American Medical Association at its meeting in New Orleans regarding the preliminary organization of the International Medical Congress of 1887. Instead of wasting time and space in enumerating and refuting these misrepresentations in detail, we will oppose to them all the following simple statement of historical facts:

"1. At the preceding annual meeting in Washington, May, 1884, on the recommendation of the president, Prof. Austin Flint, of New York, indorsed by the report of a special committee, of which Dr. J. S. Billings, of Washington, I. Minis Hays, of Philadelphia, and Lewis A. Sayre, of New York, were members, the association was induced to adopt resolutions presented by said special committee, authorizing the president of the association to appoint a committee of seven, of which he should be a member, which committee should attend the International Medical Congress to be held a few months later in Copenhagen, and in behalf of the *profession of the United States* extend an invitation for the next triennial meeting to be held in this country. If the invitation was accepted, the same series of resolutions conferred upon the same committee authority to add to its number and exercise all the powers of a committee of arrangements for effecting the preliminary organization of the proposed Congress, with an appropriation from the treasury of the association to defray necessary preliminary expenses. The committee thus authorized was appointed by the president and consisted of Dr. J. S. Billings, Dr. Austin Flint (*ex-officio*), Dr. I. Minis Hays, Dr. J. M. Browne, Dr. L. A. Sayre, Dr. Christopher Johnson, Dr. S. J. Engelmann, to which was added Dr. H. F. Campbell as president-elect of the association. The fact that this Committee of Invitation had been appointed by the American Medical Association, which by such appointment had made itself responsible for the acts of such committee in carrying out the instructions contained in the resolutions, was published in all the leading medical journals, and could not have been otherwise than well known in Europe. In due time the invitation was extended by the committee and formally accepted in open session of the Congress in Copenhagen. The committee returned home, invited sixteen other prominent members of the profession to unite with them, constituting a General Committee of twenty-five. This General Committee held one meeting in Washington, organized by the election of a president, vice-president, secretary-general, and treasurer. Rules were also adopted for the organization of the Congress, one of which made the officers of the committee also the general officers of the preliminary organization of the Congress. At the same meeting some of the officers of sections were appointed, and further details of the work were committed to an Executive Committee of five, subject to the approval of the General Committee. The Executive Committee, by conferences of its own and by correspondence with other members, so far completed the work of organization as to publish the results both in this country and Europe only a few weeks before the annual meeting of the association in New Orleans, the last week in April, 1885.

"2. At the meeting of the association in New Orleans, Dr. J. S. Billings, as the secretary-general of the proposed Congress, made a brief report of the doings of the committee and presented a printed copy of the rules and official organization adopted. The report was received and made the special order for consideration the following day. At the hour appointed, several members freely criticised the work of the committee, pointing out the fact that it had appropriated all the chief offices of the Congress to its own members, that it had centered an unduly large proportion of the officers of sections in two or three cities, instead of making them representative of the profession of the United States, in whose name the invitation had been given, and had given undue prominence to a particular portion of the profession in

New York, which was well known to have arrayed itself in opposition to the State and national organizations of the profession generally. The result of the discussion was the adoption of two resolutions by the association, both of which have been repeatedly published in the columns of this journal, the effect of which was clearly to make the Committee on Organization more national in character, or, in other words, more directly representative of the profession of the United States, by adding to the original committee of eight, one from the profession of each State and Territory, in the place of the additions previously made by the original committee, and to give the committee thus enlarged authority to review the work previously done by the Committee on Organization, and make such changes as the enlarged committee might think advisable. This was the sum total of the action of the American Medical Association concerning the organization of the Congress. The resolutions adopted contain not one word about codes of ethics, they displace no one of the original committee, they prescribe no rule either for the membership, government, or officering of the Congress, but simply enlarge the original committee in such a way as to make it more representative of the whole profession, and continue in the enlarged committee the same powers, substantially, as were conferred upon the original committee at the meeting in Washington.

"3. The committee as enlarged by the action of the association in New Orleans held its first meeting in Chicago, June 24 and 25, 1885, and organized simply as a committee of arrangements, its officers having no corresponding positions in the proposed Congress, as had been the case with the first organization of the committee. After as full an examination of the work previously done as the time would permit, the committee re-adopted nearly all the rules previously devised except those relating to the American membership and the Executive Committee of the Congress. The first of these it was proposed to amend in such a way as to unnecessarily restrict the membership, and all provision for the latter was overlooked. In consequence of these defects, the proper work of the committee was continued, and a second general meeting held in New York, September 3 and 4, 1885, during which the revision of the rules was completed, the vacancies in the general offices of the preliminary organization of the Congress filled, and an executive committee provided for, consisting of the president of the Congress, the secretary-general, the treasurer, the chairman of the finance committee, and the presidents of the several sections. The Committee of Arrangements thus deliberately completed the work assigned to it by the association, and delegated to the Executive Committee of the Congress full power to fill all future vacancies, complete all unfinished details of organization, increase to a limited extent the number of its own members, and manage all the affairs of the Congress in accordance with the rules adopted, without other restraint or interference from any source. The rules in detail, together with the general officers of the Congress, the presidents of sections, and the Executive Committee, were published in this journal for September 12, 1885.

"We have given the foregoing plain narrative of facts regarding the action of the American Medical Association and its Committee of Arrangements for providing a preliminary organization for the International Medical Congress of 1887, which would fairly represent the medical profession of the United States, and under rules as liberal, in relation to membership and in all other respects, as those adopted by previous Congresses, to show, first, how utterly groundless have been the charges and denunciations so persistently hurled at the association and its committee; and, second, that, notwithstanding all the persistent opposition of a few prominent members of the profession having control of three or four leading medical journals, the association, through its enlarged and representative committee, has fulfilled the obligations it incurred in inviting the Congress to hold its next meeting in the City of Washington in 1887, by effecting a preliminary organization on a national and liberal basis, with ample power to manage all the business and scientific interests of the Congress as independently as the interests of any previous Congress has been managed in Europe. The responsibility is now with the new Executive Committee and the true friends of the Congress everywhere. If the committee will take up its work promptly and push it harmoniously, it will receive ample support both at home and abroad, and the Congress will be as successful as the most enthusiastic could desire."

The "Medical Times and Gazette" says:

"A few days after the earliest news of the danger threatening the next International Medical Congress had been published in Europe ("Medical Times," July 11 and 18, 1885), the two most prominent officers of the London Congress, Sir James Paget and Sir William MacCormac, each wrote to an American friend to express their view of the situation—a view which coincided in all particulars with that previously given vent to in our columns. These letters were not merely an expression of individual opinion, but were the result of consultation with several of the most influential members of the London Congress. Sir James Paget, in giving his recollection of what took place at Copenhagen when the American invitation was accepted, writes: 'Certainly it was not supposed that the Congress would be regulated with any degree of exclusiveness by the members of one medical association, however numerous, and I think it quite as certain that, if this had been thought possible, the proposal that the next meeting should be held in the United States would not have been adopted.' 'I am sorry, also,' he adds, 'to feel sure that, if the Congress be not supported by the eminent men who have now declared that they will take no part in it, the members of the profession in this country who attend it will be very few.' Sir William MacCormac, in his account of what happened at Copenhagen, says: 'I am sure it was present to the mind of every one there that the invitation was one from the profession of America, and not from any section of it, or any particular medical society in it. Otherwise, I feel pretty certain Prof. Virchow's invitation to meet on the next occasion in Berlin would have been accepted.' In our last issue we published what may, we suppose, be called the official reply to Sir W. MacCormac's letter. In it, Dr. Davis, the editor of the 'Journal of the American Medical Association,' censures with some bitterness those Americans who have 'a morbid tendency to hang their laundry on the front street,' and complains that so much attention should have been given to 'this little misunderstanding' by European medical journals. Possibly some of the readers of those journals may sympathize with that complaint, but, as the welfare of the next International Medical Congress is not a matter solely of American interest, it seems to us to have been the bounden duty of individual men in Europe, and of the European medical press generally, to point out to what extent the organizers of the Washington Congress were departing from the established precedent, which, at any rate, has the argument of unbroken success in its favor. Dr. Davis complains that 'the outside world' animadverted on the conduct of the American Medical Association before hearing both sides of the question. It may be replied to that complaint, first, that the action of the association in disregarding the precedent of previous congresses, and monopolizing the conduct of the Washington meeting, was in itself a sufficiently accomplished fact to warrant any amount of European animadversion; secondly, that the subsequent action and arguments of the supporters of the association have served rather to weaken than to strengthen their case; and, thirdly, that it may be fairly assumed that the publication of European criticisms has had a measurable share in determining the new Committee of Organization to reconsider the whole question at issue during the present month, instead of deferring it, as originally intended, until next spring.

"We may remind our readers that two main objections have been raised to the action of the American association—first, that, contrary to precedent, the association put itself forward as the sole and exclusive organizer of the Congress; and, secondly, that, equally contrary to precedent, it determined that only its own members, or delegates from the societies in affiliation with it, should be allowed to take part in the Congress. We are glad to hear that the latter objection has been founded on a misconception, and that the conditions of membership were still under consideration, and were not to be finally settled until the 3d of this month. We hoped to have been able to give our readers information as to the result of the meeting at which this point was to come on for consideration, but up to the time of going to press we have received no report of the proceedings. We trust, however, that the more liberal views which have governed the admission of members at previous congresses will have prevailed, and, if so, it may, we think, be safely claimed that the opportune advice of Sir James Paget, Sir William MacCormac, and the European journals has had some share in the result.

"But the objection still remains that the American association, in taking charge of the Washington Congress, has introduced an innovation in the conduct of International Medical Congresses which is distinctly a matter for international criticism, and, in our deliberate opinion, for international condemnation. One of the most representative medical men in the United States, who had been looked to by the new Committee of Organization as a possible successor to Dr. Billings in the office of Secretary-General of the Congress, Dr. Packard, of Philadelphia, has stated it as his conviction 'that it is contrary to all precedent for the American Medical Association to assume any control of the management of the Congress, which is a body by itself, and the members of which will be in no sense the guests of the association, or subject to it.' 'Were I Secretary-General of the Congress,' he adds, 'I should not consider myself the appointee of the American Medical Association, nor responsible to it in any degree.' We believe that all the officers of past congresses will fully sympathize with Dr. Packard in this candid expression of opinion, even though it implies the condemnation of the action of the original organizing committee which first raised the whole question and gave itself over, bound hand and foot, to the American Medical Association, by admitting its responsibility to it. That the original committee acted with great lack of judgment, first, by a too lavish distribution of offices among themselves, and secondly by reporting to the association, is now, we believe, generally admitted. On this technical point no doubt the advocates of the association have the best of the argument. But they have as yet proved no vestige of a right on the part of the association to break through the rule of previous congresses, and to assume the sole management of the Congress of 1887. Dr. Davis's argument, that 'as there is only one body in England representative of the whole English or British profession, the British Medical Association, so there is only one in the United States which could under any possible circumstances represent the profession in the United States, viz., the American Medical Association,' is ludicrous rather than convincing to the English or British reader, especially when the wise self-effacement of our own association at the time of the London Congress is borne in mind.

"But the further action of the American association proves better than anything how wise has been the precedent of previous congresses, and how ill-advised the attempt to break through it. One of the first acts of the American Medical Association, when it got hold of the Congress, was to insist that only those in accord with the National Code of Ethics should become officers of the Washington meeting, and, as a result of this, many practitioners whose names are household words to us, and who are described by Dr. Noyes in a published letter as 'the brightest lights and best workers in the profession,' have been expelled from all official connection with the Congress. By that action the association at once broke the pledge deliberately given at Copenhagen, relit the old-code dispute, and attempted to score a point against the 'new-coders' by enlisting against them the European visitors to the Congress. The full and final results of this policy have yet to be seen, but its first fruits, in the form of an electioneering manifesto published by the association and sent to us by its representative, Dr. Shoemaker, are not particularly reassuring. This manifesto is headed, *more Americano*, 'PENNSYLVANIA SUSTAINS THE CODE OF ETHICS,' and then follows a long list of practitioners in that State, all of whom profess to heartily indorse the action of the association in raising the code question. We need hardly add that this single official leaflet will do more to deter respectable English practitioners from taking part in the Washington Congress than all 'the statements of certain medical journals and private parties in Philadelphia and New York,' of which Dr. Davis so bitterly complains in his letter to Sir W. MacCormac. In our opinion, the time has now come for the officers of past International Medical Congresses to meet together and decide that, unless the pledge given at Copenhagen is kept, and all attempts to embroil the Congress in ethical disputes are unconditionally given up, the acceptance of the invitation to meet at Washington should be rescinded, and arrangements made to hold the Congress of 1887 in a country where the medical profession possesses greater solidarity."

The "Medical Times and Gazette," of London, publishes the following letter addressed by Dr. N. S. Davis to Sir William MacCormac:

"Having just read in the 'Boston Medical and Surgical Journal,' of August 13th, your letter to Dr. J. Collins Warren regarding the International Medical Congress, I feel that it is incumbent upon me to reply to it personally, not only on the part of the medical profession of the United States, but also on the part of the American Medical Association; and also on account of your manifest misapprehension of the 'serious disagreement' of which you speak in your letter. *Imprimis*, I will say that everything that has as yet been said by the European press generally, and by the letters of individual men in Europe, bears the evidence of misapprehension and misinformation. Our foreign *confrères* have accepted, unreservedly, the statements of certain medical journals and private parties in Philadelphia and New York, who from the very first of this little misunderstanding (which should be a private affair until it is definitely settled in one way or the other) have endeavored to obstruct the Committee of Arrangements for the Ninth International Medical Congress. I have said that it should be a private affair until it is definitely settled. It is unfortunate that some Americans have a morbid tendency to hang their laundry on the front street, where each passer-by may tell at a glance the character and extent of his neighbor's wardrobe. But still, it ill becomes his neighbor to tell it to the world; still less does it become the outside world to animadvert on it before hearing both sides of the question. The profession in Europe seem to have heard of this matter from one side only, and, without being conversant with the facts, have hastily jumped to very illogical conclusions. As there is only one body in England representative of the whole English or British profession—the British Medical Association—so there is only one in the United States which could, under any possible circumstances, represent the profession in the United States—and that is the American Medical Association. From Maine to California, and from the British possessions on the north to Mexico on the south, every State and Territory is represented in that body. Now, you say in your letter that you are 'sure that it was present to the mind of every one there (Copenhagen) that the invitation (to have the Congress meet in Washington in 1887) was one from the profession of America, and not from any section of it, or any particular medical society in it.' To which it may be replied: The invitation was extended by Dr. Billings, and Dr. Billings had been appointed to extend the invitation. Who appointed him? Whence came his authority for assuring the Congress that it would receive a warm welcome in this country in 1887? He was one of a committee *appointed at* a meeting of the American Medical Association, *by* the president of the association, who acted *for* the association, and by the authority of the association. And the necessary funds for enabling this committee to perform their work were voted to it by the association; and they drew upon the treasurer of the association for the money. Further than this, the committee was known and recognized as the Committee of the American Medical Association on the Organization of the Ninth International Medical Congress. They themselves recognized the fact that they were the Committee of the American Medical Association, else why should they have reported to the association at its last meeting, in April, 1885? Can any one imagine a body of sane men reporting to another body to which they owe nothing, and to which they are in no way amenable? Yet, when the creator of that committee—the body to which it owed its very existence—saw fit, on just grounds, to revise a part of their work and to appoint additional members to the committee to aid in such revision, they boldly say that the association has nothing to do with it. The merest tyro in parliamentary law knows that the power which appoints a committee may refuse to accept any of the work and appoint a new committee if it see fit. That right is unquestionable, and unquestioned save by those who know not whereof they speak. The American Medical Association has invited the Congress to meet in Washington in 1887, and the invitation has been accepted. The American Medical Association is fully competent to make all necessary arrangements for that meeting on as liberal a basis as has characterized any of the preceding congresses. We only ask that our brethren in Europe will reserve their comments until the programme is completed and before them."

The editor of the "Times and Gazette" adds the following comment: "We have not space in the present number to deal fully with Dr. Davis's letter or with the other documents stating the case of the American Medical Association which have reached us. We may, how-

ever, point out here that the British Medical Association has never claimed to represent the whole English profession, though we believe its claim to do so, if it should ever be so ill-advised as to make it, would be much more valid than the claim put forward on behalf of the American Medical Association. Whatever Dr. Davis may say, the fact remains, as the officers of the London Congress have stated, that on no previous occasion has any medical body attempted to capture and run the International Congress as the American association is now attempting to do."

New York State Medical Association.—The first annual meeting of the Fifth District Branch will be held in Brooklyn, at the Mansion House, Hicks Street, at 11 A. M., on Tuesday, October 13, 1885. The following papers are expected to be read: "Suggestions in regard to the Causation and Treatment of Acute Coryza," by Dr. Austin Flint; "Further Observations on Diphtheria," by Dr. W. H. Thayer; "The Physician and the Pharmacist—their Relative Duties," by Dr. J. P. Garrish; Report of a "Case of a Railroad Accident," by Dr. W. Govan; Remarks on "The Milk Supply of Large Cities and the Improper Mode in which it is conducted," by Dr. H. A. Pooler; "Progress of Electrolysis in Surgery," by Dr. Robert Newman.

The Brooklyn Pathological Society.—The following programme for the season has been issued: October 8, 1885, "The Pathology of the Inflammatory Process," by Daniel Ayres, M. D., LL. D. October 15, 1885, "The Pathology of the Inflammatory Process" (continued), by Daniel Ayres, M. D., LL. D. October 22, 1885, "The Nervous Symptoms of So-called Lithæmia," by Landon Carter Gray, M. D. November 12, 1885, "Some Serious Sources of Error in studying the Course of Disease," by Robert G. Eccles, M. D. December 10, 1885, "On the Relations of Locomotor Ataxia to General Paresis," by E. C. Spitzka, M. D. January 14, 1886, "On Diseases of the Brain resulting from Affections of the Ear and Temporal Bone," by Arthur Mathewson, M. D. January 28, 1886, "The Relation of Modern Dietetics to the Causation of Disease," by E. H. Bartley, M. D. February 11, 1886, "The Rôle of Tubercular Infection in the Development of Surgical Diseases," by Lewis S. Pilcher, M. D. February 25, 1886, "On the Pathology of Surgical Infection," by A. H. P. Leuf, M. D. March 11, 1886, "On the Microscope in Diagnosis," by Frank Ferguson, M. D. March 25, 1886, "The Effects of Diseases of the Nasal Passages on the Lower Respiratory Tract," by Thomas R. French, M. D. April 8, 1886, "The Pathology of the Sympathetic Ganglia," by John C. Shaw, M. D. April 22, 1886, "On the Pathology of Tubercular Osteomyelitis, and its Bearing upon Treatment," by George R. Fowler, M. D. April 29, 1886, "Some Abnormalities of the Pulmonary Circulation," by Benjamin F. Westbrook, M. D. May 13, 1886, "The Pathology of the Lymphatic Glands in Children," by Henry N. Read, M. D. June 10, 1886, "The Pathology of the Puerperal Fevers," by Charles Jewett, M. D.

THERAPEUTICAL NOTES.

A Salicylate-of-Sodium Ointment.—Much of the efficacy of an unctuous preparation of salicylate of sodium depends on the way in which it is made. M. Pierre Vigier recommends the following method ("Gaz. hebdom. de méd. et de chir."):

Crystallized salicylate of sodium.....	2½ drachms;
Distilled water.....	75 grains:
Lard.....	10 drachms.

First spread the lard over the inside of a mortar, then dissolve the salicylate in the water, and add the solution little by little to the lard, triturating until the two are perfectly incorporated. The precaution of first smearing the inside of the mortar with the lard does away with the necessity of using oil of almonds, which otherwise is often found necessary.

The Treatment of Pulmonary Gangrene with Inhalations of Carbolic Acid.—M. Constantin Paul (*Ibid.*) reports seven cases in which this method of treatment was used with success. A one-to-seven watery solution is used in an inhaler so constructed as to insure the inhalation of all the vapor, while preventing the liquid from escaping. The first effect is to arrest the putrefaction of the tissues. After the sphacelated parts have been thrown off, the expectoration diminishes, fœtor ceases, the appetite revives, and recovery may take place in less than two months.

Euphorbia icterodoxa.—M. Landowsky (*Ibid.*) has studied the caustic and destructive action of the juice of the *Euphorbia icterodoxa*, a plant that grows in the neighborhood of Pernambuco, and is vulgarly called "alveloz." Although its caustic action is energetic, at the same time it produces an analgesia comparable to that caused by cocaine. The author has destroyed an epithelioma with it, but he failed in a case of cancroid. Besides its escharotic action, the juice has a digestive power like that of papain.

The Use of Tanghin in Nervous Diseases.—This ordeal poison of Madagascar, derived from the apocynaceous tree variously named by botanists *Cerbera venenifera*, *C. manghas*, *C. tanghin*, *Tanghinia venenifera*, and *T. veneniflua*, has been made the subject of experiment by M. C. E. Quinquaud (*Ibid.*). Its action on the central nervous system is specially characterized by an exaltation of the bulbo-spinal reflex activity. After a certain number of experiments on animals, M. Quinquaud administered an extract to man, in doses ranging between three quarters of a grain and a grain and a half, in various diseases, notably toxic paralyses, tremor, intestinal atony, and incontinence of urine. Satisfactory effects were obtained, but only on condition that the use of the drug was ceased as soon as the patients experienced headache, nausea, vomiting, and a certain amount of debility.

A Substitute for Adonis Vernalis.—V. Cervello ("Annal. di Chim. Med.-farm."; "Ctrlbl. f. d. ges. Therap.") considers the *Adonis cupaniana* of the Sicilian coast as capable of replacing the *A. vernalis* as a cardiac roborant in countries where the latter can not readily be obtained.

Urethane as a Hypnotic.—Dr. von Jaksch (Wien. med. Bl."; "Dtsch. Med.-Ztg.") describes urethane as the ethyl ether of carbamic acid, $NH_2CO_2C_2H_5$, a white, crystalline body, readily soluble in water, odorless, and tasting like saltpeter. In doses of from four to fifteen grains, it acts as a hypnotic, affecting chiefly the brain, without notably influencing the peripheral sensory apparatus; hence it is not an anodyne. Over all other pure hypnotics, however, it seems to have these advantages: It is very well borne; it causes absolutely no complicating effects; and the sleep it produces resembles natural sleep in every respect. The author thinks it will prove particularly serviceable among children and in cases of delirium tremens and mania.

Lantanine as a Febrifuge.—This alkaloid, extracted by Negrete from the verbenaceous plant *Lantana brasiliensis*, is recommended by Dr. E. Buiza, of Lima ("Cambio farmaceut."; "Arch. de Med. y Cirug. de los Niños"; "Courrier méd."; "Nouveaux remèdes"), as a substitute for quinine. It retards the circulation and lowers the temperature, and is tolerated by the most delicate stomachs. Intermittents that have proved rebellious to quinine have yielded to thirty grains of lantanine. As an antipyretic, it is given in doses of a grain and a half, from ten to twenty of which are administered in twenty-four hours. For intermittent fever, it should be given immediately after a paroxysm, and in ninety-five cases in a hundred the next paroxysm will not appear.

Ergotin in the Treatment of Landry's Paralysis.—Dr. Sorgenfrey, a Russian physician ("Neurol. Ctrlbl."; "Dtsch. Med.-Ztg."), relates the case of a patient, fifty-seven years old, who was attacked, about a week after exposure of his back to a drenching rain, with a sensation of heat, prostration, loss of appetite, and a sense of weight in the lower limbs. Weakness in locomotion culminated in perfect paralysis of all the limbs, dyspnœa, impeded speech, dysphagia, etc. The sensibility was normal. There was no pain. The cutaneous reflexes were present, but the patellar reflex was absent. The urine was normal; the bowels were constipated. No account is given of the electrical reaction of the muscles. Leeches to the anus, dry and wet cups to the lumbar region, cold compresses, and laxatives produced no effect, and death seemed imminent. As a last resort, the following was ordered:

Bonjean's ergotin.....	19 grains;
Cinnamon water.....	2 ounces.

A teaspoonful was given every hour, and the whole was used in the course of a night. The next morning the bulbar symptoms had disappeared, and within a week, without further medication, the patient was well.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON,

BY AMBROSE L. RANNEY, M.D., NEW YORK.

(*Concluded from page 284.*)

ELECTRICITY IN DISEASES OF THE CERVICAL SYMPATHETIC, THE VASO-MOTOR SYSTEM, AND ALLIED NEUROSES.

THE CERVICAL SYMPATHETIC is undoubtedly, in rare cases, the seat of isolated morbid changes; but, as Erb remarks, these cases "constitute pathological curiosities." The morbid conditions which have been detected embrace inflammation, compression, traumatism, rheumatic conditions, etc. Such conditions may create either irritation of the sympathetic system or paralysis of its functions, or both simultaneously in different parts of the body.

Irritation of the cervical sympathetic produces pallor of the face and neck upon the affected side, with a sense of coldness in the parts. The pupils are dilated, the temporal arteries exhibit increased tension, the power of accommodation and the reaction of the pupil to light are both impaired, the eyeballs protrude slightly, and the secretion of sweat is diminished.

Paralysis of the cervical sympathetic induces the opposite conditions. The skin is red and hot, the patient suffers from a sense of heat in the skin, the pupils are contracted and exhibit normal reactions to light and accommodation of vision; the eyeball does not protrude, there are often headache and vertigo, the secretion of tears and sweat is increased, and the pulsation of the carotids is excessive.

In the electrical treatment of these opposed conditions Erb recommends stabile applications of the anode (with a strong current) until a change in the pupil is observed, if the condition of irritation exists. The same author suggests the use of the cathode with a feeble current, frequent interruptions, and occasional reversal of the poles, if the paralytic state is present. He places the "indifferent" electrode upon the spine. He also suggests applications of the wire-brush, or labile galvanic currents, to the skin of the face and neck.

To the views of this author I would urge the advantage of trying the effects of static insulation and sparks directed to the neck and face.

ANGIONEUROSES OF THE SKIN may assume one of two forms, viz., *spasm* or *paralysis*. They are most frequently observed in connection with neurasthenia and in hysterical patients. The abnormal contraction or relaxation of the vessels may cause (1) modifications in the color and the general "feel" and sensibility of the skin; (2) subjective sensations of heat, tingling, formication, etc.; (3) disturbances of perspiration; (4) awkwardness of movement of the part (especially in the hands); and (5) many reflex symptoms referable to the viscera.

Unnatural conditions of the vessels of the skin (spasm or paralysis) are most frequently observed in the upper limb, less frequently in the lower limb, and least often in the face and neck. They may be excited by a variety of causes—such as fatigue, excitement, menstrual disturbances, malaria, exposure to cold, the effects of poisons, and direct irritation of the skin itself.

I have seen the skin (especially of the fingers) made as white as chalk in some cases, and in others rendered cyanotic, by *spasm of the vessels*. The muscles of the papillæ of the skin may participate in the spasm and produce the so-called "goose-flesh" appearance. Pain, tingling, formication, partial anæsthesia, and other disturbances of the sensory apparatus may occur as sequelæ to the vascular spasm.

Paralysis of the cutaneous vessels leads to directly opposite conditions. The skin may be made intermittently or permanently red, and feel unnaturally hot and extremely sensitive. Subjects so afflicted frequently suffer from insomnia, headache, disturbed heart-action, excessive perspiration, vertigo, and other visceral manifestations of irritability.

Respecting the electrical treatment of angiospasm and angioparalysis, the general rule may be given that weak or moderate applications of faradism or galvanism to the affected part act best upon dilated vessels, and stronger currents upon those affected with spasm.

Applications of static electricity are often very beneficial to neurasthenic and hysterical subjects. Personally, I believe this method of treatment surpasses any other in its effects upon this class, although it is well to alternate with galvanism and faradism when a case proves obstinate to treatment.

When any of the methods suggested are employed, it is well to subject both the vaso-motor centers and the nerve-trunks which supply the affected regions (as well as the parts directly) to the influence of electrical currents.

NEURASTHENIA.

By this term we mean the condition of *nervous exhaustion*. It may be manifested in a variety of ways. Its symptoms will depend upon the type which exists—cerebral exhaustion or spinal exhaustion—and also upon special idiosyncrasies peculiar to the patient. No two cases exhibit identical manifestations of nervous depression. Some patients who are suffering from cerebral neurasthenia manifest its effects in the voice, others in mental disturbances. The heart's action may be alone disturbed in some cases, the stomach may give out in others, some may complain alone of muscular troubles, some may notice its effects in the eyes, some are rendered sleepless, a few complain alone of skin disturbances, and so on throughout the different parts of the entire human organism.

You can understand how these apparently discordant facts may be reconciled when you consider the fact that, by means of the brain and spinal marrow and the nerves which unite these centers to the different parts of the body, we are enabled to see, hear, taste, smell, appreciate touch, swallow, breathe, and perform voluntary muscular acts. It is by means of our nerves alone that the heart beats; the

digestive processes go on, without our knowledge or control, through the same agencies; the blood-vessels contract and dilate in accordance with the demands for blood telegraphed to the nerve-center by different organs and tissues; and every process pertaining to life is thus automatically regulated. Now it is easy to see at once how a debility of so complicated an electric mechanism as the nerve-fibers and the nerve-cells of a living animal are, can upset all or any one of the individual functions enumerated. Many of our houses are furnished to-day with electric bells by means of wires distributed in the walls. In some houses we light the gas-jets, and even the rooms themselves, by means of the same subtle fluid. When the battery becomes weak, or when the wires are disarranged or broken, what may be the results? Some of the bells may cease to ring when the button is touched, while others work properly. Perhaps the electric light may fail in some rooms and burn with its accustomed brilliancy in others. The gas-jets may not be properly ignited. So it is with the nervous apparatus of man. From the same cause one patient may have nervous dyspepsia, another sleeplessness, a third sexual debility, a fourth weakness of the eye-muscles, a fifth disturbances of the skin. It is needless to multiply illustrations.

Cerebral neurasthenia (*brain exhaustion*) may be indicated by one or more of the following symptoms: Tenderness of the scalp; pains in the head; fleeting neuralgias; sleeplessness; vertigo; a tenderness and pallor of the gums; abnormal sensitiveness of the teeth; blanching of the hair; flushings of the face; dilatation of the pupils; idiosyncrasies in regard to food and external irritation; mental depression and melancholia; defects in memory; a morbid craving for alcohol; a decrease in intellectual capacity; a buzzing or ringing in the ears; specks before the vision; abnormal and imaginary impressions of taste or smell; morbid fears of various kinds; sick headache; dryness of the skin and the mucous surfaces; weakness of the muscles; numbness in the limbs; thickness of speech; and mental excitability, irascibility, or loss of emotional control.

These symptoms, in many cases, are but the manifestations of weakness. The electric batteries of the brain (those minute organs known as the "brain-cells") are feeble or uncertain in their action. They are incapable of performing the offices for which they were created. They are not diseased (in a medical sense), but they are weak and liable to become so sooner or later. I have known sufferers of this type to be precipitated into a condition of incurability by mental alarm, excited, in some instances, by an opinion of an unfavorable kind made by physicians respecting a prospect of recovery. Again, it is well known that insanity may arise as a consequence of the loss of sleep often experienced by these subjects, and by "brooding over their symptoms," whose significance they fail to properly understand. I recall several cases where a patient was with difficulty convinced that some special type of malady was not about to attack him, because in reading a medical work his attention had been called to the significance of some special symptom which he was sure he had personally experienced. If medical students, who possess vivid imaginations, can become (as they often do) victims to imaginary diseases whose symptoms they have been studying, is it to be wondered at that the weak and highly organized sufferers from neurasthenia are especially prone to become impressed by this form of delusion?

Spinal neurasthenia (*spinal exhaustion*) signifies an exhausted state of the cells which help to form the spinal cord. The cord itself is of about the size of an ordinary lead-pencil, and is sixteen inches in length (much shorter than the backbone). It is composed of millions of nerve-cells and distinct bundles of nerves. Some of these nerves pass through it to reach the brain above, while others become united to the spinal cells and pass no farther. The cells of both the brain and spinal cord are practically electric batteries; and the nerve-fibers are the wires by which they are connected with the different organs of the body, the muscles, skin, joints, and viscera. This wonderfully constructed organ is under the control of the brain, but is capable of exerting, under certain circumstances, a control over all acts which are termed "reflex acts," because they are, to a greater or less extent, independent of the will. It serves also as a means of conduction to the brain of our perceptions of pain, temperature, and touch, and of motor impulses sent out from the brain-cells to the muscles of the limbs and body.

Now, when the cells of the spinal cord become exhausted, the symptoms produced differ markedly from those already mentioned as indicative of brain-exhaustion. Among its chief manifestations may be mentioned the following: A general tenderness of the skin to touch or pressure; tenderness along the spine or over certain limited portions of the spine; irritability of the breasts, ovaries, and the womb in females; fleeting pains of a neuralgic type in various parts of the body; an extremely rapid or slow pulse, which fluctuates widely during periods of excitement or fatigue; attacks of palpitation of the heart; dryness of the skin, or in many cases the reverse, excessive perspiration of the hands and feet; sudden startings on going to sleep; muscular twitchings in one muscle or a group of muscles; chilliness and creeping sensations along the spine; numbness or abnormal sensations of heat in the skin of the body or limbs; itching of the skin; eruptions upon the skin, chiefly of the type of eczema; frequent gaping, yawning, or stretching; frequent seminal emissions; weakness of the bladder and rectum; and disturbances of the digestive functions.

The distinction between cerebral and spinal neurasthenia which has been shown to exist can not be made in each and every case, because various combinations of the symptoms of the two are often encountered in the same individual. A prominent author upon this type of diseases very aptly compares the nervous system of man to certain mountainous regions, since it causes so many echoes and reverberations. He says: "An irritation at one point may be transferred to any other point, following the paths of least resistance and making itself felt in those parts that are least able to resist molecular disturbances. Thus, for example, seminal emissions and spermatorrhœa, when they arise through abuse or through spinal cord disease, almost uniformly react on the brain—robbing the sufferer of courage

and manliness, exciting various phases of morbid fear, of which I shall speak, with aversion of the eyes and countenance."

I have known a decayed tooth to cause persistent earache, and in one case to cause the corresponding eyebrow to become white. In male children a tight foreskin not infrequently creates sufficient irritation of the sexual organs to induce spasms or paralysis of the lower limbs by an indirect effect upon the spinal cord. I have cured some patients, who have come to me for relief from persistent and excruciating attacks of neuralgia, by a correction of some defect in their eyes by means of glasses. The strain and irritation produced upon the brain by the involuntary efforts made by these patients to see objects with distinctness or to read and write had reacted upon the nervous system; and it would have continued so to react till death if the cause of the irritation had not been removed.

It may be well to consider a few of the more prominent manifestations of nervous exhaustion separately. Among these, sleeplessness, a defect in vision known as asthenopia, sexual weakness, headache, an unnatural dryness of the skin and mucous surfaces or profuse sweating of the hands, and morbid fears or melancholia, deserve special mention.

Insomnia.—Sleeplessness may assume different forms. Some of those afflicted have difficulty in getting asleep; some awake after a few hours of slumber and remain so until daylight; a few find themselves overpowered with a desire for sleep during their working hours, when their business will not admit of it, and at night can not obtain sleep except under narcotics. I have had patients who have told me that they spent most of their nights for years in writing to friends, riding in the horse-cars, or walking the streets for amusement because they could not sleep. It is safe to assert that persistent insomnia, extending over a period of weeks or months, indicates disease of some kind. In patients who have passed the age of fifty, or in younger persons who have indulged to excess in alcohol, it is often due to a type of kidney disease, to detect which repeated examinations of the urine are required. This form of trouble is known as the "granular" or "contracted kidney"; and insomnia, frequently combined with headache, is one of its most prominent symptoms. Obstinate sleeplessness is the cause of many a suicide, too often the starting-point of the opium and chloral habit, and surely the destroyer. I would caution you against allowing this symptom to remain uncontrolled for any length of time, and to avoid the use of all forms of narcotics as long as possible. The chains of intemperance are but silken threads when compared to those of the opium or chloral habit.

Asthenopia.—This type of defective vision can not be relieved by ordinary glasses, nor does it respond quickly to the customary suggestions of gymnastics, horseback-riding, etc. It is due to a peculiar weakness of the muscles which control the movements of the eyeballs, and it manifests itself chiefly as a sense of extreme weariness when the eyes are steadily employed for short periods of time. It is an indication of neurasthenia, and is of great diagnostic value. In severe cases it becomes necessary to divide the tendons of the stronger muscles of the eye, in order to relieve the weaker ones of a strain. It is common among near-sighted and far-sighted persons. I have seen patients who could not sew for five minutes at a time from this cause, and others who would be made sick by attending a theatre, picture gallery, or other places of amusement.

Headache.—Many attacks of this character are undoubtedly to be attributed to imprudences in eating, exposure, or fatigue. But I believe that many of those who are periodically afflicted in this way owe their suffering to a lack of tone in the muscular coat of the blood-vessels of the brain, consequent upon some of the causes of neurasthenia mentioned. I have seen a large number of instances where the *eyes were the cause of such headaches*, and where the adaptation of glasses has brought immediate relief. The medical profession are rapidly becoming enlightened upon this fruitful cause of pain. It is well also to examine the urine when persistent or periodical headache occurs, as it may be a symptom of kidney disease. Some neurologists believe that the so-called "sick headaches" are to be regarded as but a modified form of that condition which produces epilepsy. A volume might be written upon this symptom alone.

Dryness or Unnatural Moisture of the Skin.—Some nervous patients suffer from an unnatural dryness of the skin, the throat, and the nose. They are also liable to experience dyspeptic symptoms at the same time, which is probably due to similar changes in the lining of the stomach. This dryness may be accompanied also by an itching of the affected parts or an attack of eczema. A burning sensation is sometimes produced. I was once consulted by a patient who had for years been in the habit of incasing himself in flannel and putting on flannel stockings before he retired, in order to overcome a sense of burning in the skin which followed the contact of cotton or linen with any part of his body. I recall a case where the feet were once frost-bitten, and the patient has never since been able to walk upon a carpeted floor on account of a burning sensation which immediately follows. He takes off his shoes as the last step before retiring.

On the other hand, many patients afflicted with neurasthenia suffer from a profuse sweating of the palms of the hands. This is accompanied in some instances by a flushing and redness of the face, neck, and ears. The nails may become unnaturally soft or brittle.

Morbid Fears.—This peculiar manifestation of nervous exhaustion may assume one of several types. Attempts at classification of these morbid fears have been made by some authors, such as fear of lightning, of places, man and society, solitude, accident, etc., and special names have been applied by them to each of these types. Fears of this kind may be present without any other manifestation of mental impairment. They are usually uncontrollable, in spite of the fact that the patient may exhibit a knowledge that they are groundless and absurd. They seem to take full possession of a being, and to cause mental torture of an extreme kind.

Finally, melancholia is not an infrequent symptom of neurasthenia. It may be accompanied by paroxysms of laughing, weeping, and hysterical phenomena.

Now, in the treatment of neurasthenia, electricity is one

of our most effective agents. After the exciting cause has been discovered and the possibility of its continuance removed, we may safely begin the use of electricity with the brightest prospect of a radical cure. General faradization, central galvanization, and the use of franklinism are particularly of service. Of the latter I can speak in the highest terms. Neurasthenic patients often feel its beneficial effects immediately. It should be applied daily by the insulation method, the electric wind, or the static spark, as the circumstances of the case seem to indicate.

My remarks made in a previous lecture respecting massage and other adjuncts to electrical treatment are particularly applicable to this class of patients. No effort should be spared in your treatment to promote constitutional vigor by exercise, judicious feeding, good hygienic surroundings, and the like.

You, as physicians, will have to decide such matters for yourselves, and advise your patients respecting them with references to the symptoms which are to be combated. Do not trust too implicitly in electricity alone (valuable as it may be as a means of cure). Active employment will be necessary to a cure in some cases; absolute physical and mental rest will aid in others; some will require travel or a change of surroundings; the organs of the body will often demand special attention with a view of properly regulating their functions; and many other similar problems will have to be decided before a cure can be predicted by the aid of electrical agencies.

In bringing this course of lectures to a close, gentlemen, I can not but feel that much has been, of necessity, omitted by me which would be of benefit to you. A more complete course upon electro-physics, for example, would have been given had I not felt that text-books on physics would furnish you with the requisite knowledge when needed, and that the time allotted by me to the consideration of electricity could be better spent in dealing with the practical applications of this agent in the diagnosis and treatment of disease. In these respects even this course is far from complete. It is but a hasty sketch of the more important facts.

It is well for each of you to bear constantly in mind that electricity as a therapeutical agent is yet in its infancy. Facts are being daily brought to light, however, which will aid us in employing it upon the sick to better advantage, and in obtaining more uniform results. As fast as new discoveries are published they will naturally be subjected to tests by those laboring in this field, and, if their value is proved, they will in time become generally recognized and employed by the profession.

Perhaps some of this class of students may be among the number who are destined to promote the growth of this department of therapeutics by their inventive faculty, original research, or clinical observation. I trust that it may prove so.

If I have succeeded in awakening your interest sufficiently to induce any of you to pursue this line of study further with intelligence, and thus to give possible benefit to others, I shall feel amply repaid for the many hours of thought and manual labor that I have personally spent in trying to modify and improve existing electrical appliances.

Original Communications.

THE EARLY STAGES OF HUMAN DEVELOPMENT.

By CHARLES SEDGWICK MINOT, M. D.,
BOSTON.

Part II.—Embryos of the Third Week.

In the previous article ("N. Y. Med. Journal," Aug. 22, 1885, p. 197) it was shown that in the earliest known stages of man the ovum is normally, probably, a vesicle of some 3 to 4 mm. diameter, bearing short, simple chorionic villi, and having at one side in its interior a small heap of rounded cells, which mark out the so-called germinal area. In other placental mammals a corresponding stage occurs, and is followed in them by a stage characterized by the appearance of the so-called primitive streak and groove—temporary structures, which show, however, the axial line of the future embryo. This stage is again followed by a third, in which the medullary folds and groove arise; the former are two longitudinal ridges on the outer surface of the germinal area. These ridges begin in front of the primitive streak, and run back alongside it; in front the two ridges unite; the depressed space included between them is the medullary groove. The fourth stage (His's fourth and fifth) is characterized by the appearance of the first myotomes (protovertebræ) and the commencement of the closure of the medullary groove to form the medullary canal. The closure is effected by the groove growing deeper and narrower until the upper edges of the lateral ridges come in contact and finally coalesce.

We distinguish these four stages:

First. Stage of the germinative area.

Second. Stage of the primitive streak.

Third. Stage of the medullary groove.

Fourth. Stage of the myotomes.

The known specimens of the first stage have been already considered. No human ova of the second stage have yet been described. His suggests that Schwabe's embryo (7) and Bruch's (10) may have been in the third stage. Schwabe's embryo I consider much older, and have referred to it, accordingly, below. In regard to Bruch's ovum I will not venture an opinion, as his description is not a very available one. Of the fourth stage we have four specimens recorded, but, unfortunately, not one of them has been described adequately, according to the present standards. We proceed to their consideration.

3. The youngest known human embryos (fourth stage).

As just stated, the number of these is four. Their probable age is about fourteen days. The least advanced is His's embryo E (1, Heft i, p. 145), of which only His's sketches are available, the attempt to microtome the specimen not having been fortunate. The ovum was presumably normal; it measured 8·5 by 5·5 mm., and was entirely covered by short branching villi. For the convenience of the reader I have constructed from the author's sketches and descriptions the accompanying diagram. His states that

the chorionic vesicle bore at one point a thick stalk, *Al*, which ran to the posterior end of the embryo; the length

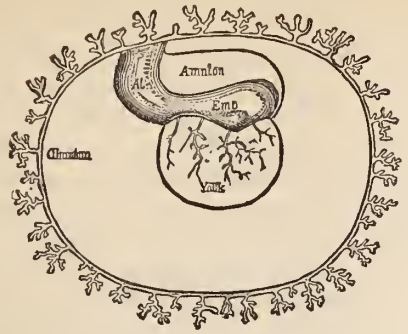


Fig. 1.—Diagram of His's Embryo E. Age 14 ? days; length about 2·3 mm. The embryo is not represented in quite its natural attitude; the proportion of the parts is not accurate; the villi of the chorion and the vessels on the yolk are purely diagrammatic as to their number and shape. *Emb*, embryo; *Al*, supposed stalk of the allantois.

of the embryo from the anterior extremity to the base of the stalk was 2·6 mm. The head end of the embryo was somewhat thickened, and apparently showed the medullary groove still open; that is, the tube of the central nervous system was not yet closed. The small, round yolk-sac had a broad connection with the ventral surface of the embryo. The amnion sprang from the allantois and passed over the head of the embryo. The disposition of the caudal extremity was not made out. There were no limbs, gill-clefts, nor organs of any kind discernible—not even a protuberance between the head and yolk-sac, such as marks the position of the heart in older embryos.

Allen Thomson (2) published an excellent article on young human ova in 1839. He gives a very good critical review of what previous authors had written, and describes himself three embryos, which have become classical, for the figures and descriptions given of them by Thomson have been copied again and again. They are especially known by the reproductions in Kölliker's embryologies and in Quain's Anatomy. Two of these embryos (numbered i and ii by Thomson) belong in the group we are now considering. I can not, however, admit at present that either of them is certainly fully normal, though, perhaps, they are only slightly malformed.

In number i (see Kölliker's "Grundriss," 1884, Fig. 112, and "Entwickelungsgeschichte," 1879, Fig. 225) the yolk-sac was abnormally dilated and the characteristics of the embryo were not ascertained. His (1, Heft ii, 35, 36) has shown that probably the embryo proper was not observed, and that what Thomson called the embryo was really only the amnion, springing from the allantois-stalk and passing over the embryo. Kölliker questions the accuracy of this interpretation, but upon what ground is not evident, for, so far as I can see, it accords perfectly with our present knowledge. The embryo in question was presumably little advanced beyond His's embryo E, Fig. 1, but had an abnormally hypertrophied yolk-sac. As no sufficient description of the embryo exists, and as it is quite certain that the specimen was more or less abnormal, it can not be longer regarded as a fair representative of a young ovum.

Much more valuable is the account of Thomson's second ovum, which he had better opportunities of studying. The original description has been supplemented by His (1, Heft ii, 34, 35), who has examined Thomson's original drawings and called attention to an important error in the engraving in Thomson's plate. Kölliker, however, still reproduces the incorrect figure in the second edition of his "Grundriss," Fig. 114. An erroneous figure is also reproduced in Ecker's "Icones," Taf. xxv, Fig. 3. The chorionic vesicle measured 0·60 by 0·45 of an inch, and was covered with branching villi. The contained embryo was very small; according to Kölliker, only 2·5 mm. The embryo rested upon the round yolk-sac of 2·2 mm. The embryo consisted of two thick longitudinal ridges (Fig. 2, A), which curved round in front so as to become continuous with one another, and *were broken off posteriorly*—an important fact noted by His (*cf. sup.*). These ridges are presumably the medullary

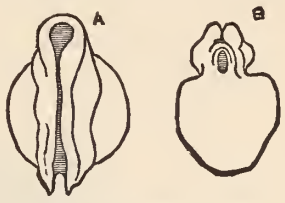


Fig. 2.—Thomson's Second Ovum. A, embryo from above; B, embryo from behind.

folds. At the hind end of the embryo was a tear, making a hole into the hollow yolk-sac. As His suggests, this is probably where the allantois was inserted and broken off. No amnion was observed, and the nature of the connection of the embryo with the chorion was not ascertained. What we learn from this embryo is something more definite than is afforded by His's observations as to the size and disposition of the medullary ridges and the hollowness of the yolk-sac. The evident hypertrophy of the yolk-sac enforces caution as to accepting the embryo as normal; but it is not rare to find in abortions a small typical embryo with an enormously dilated chorion, so that it is not impossible that the embryo in the present case was quite normal.

The fourth embryo of this group, His's SR (1, Heft i, 140–144), measured 2·2 mm. in length, and was probably fourteen days old. The chorion was 9 by 8 mm. in diameter. It shows considerable advance of development beyond the three embryos above considered. The neck of the yolk-sac is already somewhat contracted, or, in other words, the connection between the embryo and the yolk-sac is no longer so broad and long as it was. The head is considerably enlarged; between it and the anterior wall of the yolk-sac is a large thickening corresponding to the heart. From the under side of the caudal extremity runs off the stalk of the allantois, which is still short and thick; the amnion lies quite close to the embryo; the medullary ridges are still separated by an open, though deep, and relatively narrow groove; myotomes (protovertebræ, *auct.**) are present, but their

* It must be remembered that the term protovertebræ is an entire misnomer, and is inherited from the time when the primitive muscular segments (myotomes) were mistaken for the commencements of the vertebræ. Kölliker has maintained that they participate in the forma-

number was not ascertained. When the embryo is viewed in profile, the middle of the back shows a marked concavity, which has been noticed in other older embryos, and is, probably, an artificial distortion. We shall have to return to this matter. Small openings were visible on the inner surface of the chorion. These I take to be the openings to the still hollow villi, such as have been seen in both younger and older ova. His attempted to obtain sections of his specimen, but, when cut, the sections fell into fragments.

Summary.—The development of the chorion and amnion in man is exceedingly precocious. The youngest embryos known are in the neighborhood of 2·2 mm. in length. (Thomson gives the length of his embryo i as 2·5 mm., but the criticisms made above render it plain that this measure probably refers to the length of the amnion plus the allantois-stalk; the embryo not seen by Thomson was presumably shorter.) The embryo has a broad attachment to the yolk-sac, which in diameter nearly equals the length of the embryo and is already furnished with blood-vessels. The most conspicuous character of the embryo is the presence of two very thick dorsal ridges—medullary folds—running the whole length of the embryo and inclosing the medullary groove—central nervous system to be—between them; the cephalic extremity is somewhat thickened; from the ventral side of the caudal extremity springs the short and thick allantois-stalk, the opposite end of which is inserted into the chorion. The amnion completely incloses the embryo and is attached on the one hand to the allantois-stalk, on the other to the embryo nearly parallel to the junction of the embryo and the yolk-sac.

The next change involves not merely the growth of the embryo, but also the thickening of its cephalic end, the development of the great heart protuberance between the yolk-sack and the head, the concave flexion of the back, and the deepening of the medullary groove, which, however, still remains open.

The chorion forms a relatively large vesicle, its average diameter being about 8 mm., but the four specimens vary from 5·7 to 15 mm. The chorion bears villi over its whole surface; the villi are considerably branched. Probably the villi are formed chiefly if not solely by epithelium, and probably also there is a layer of connective tissue, very likely already vascular, which lines the chorion but does not extend into the villi.

There are many still unsolved problems as to the early development of man. It will be observed that not a single one of the ova hitherto noticed has been adequately investigated, and that no specimens have yet been studied at all showing the first appearance of the embryo, the origin of the amnion, or of the allantois, or of the yolk-sac; and, finally, that of all the earliest stages our knowledge is extremely imperfect. It is therefore much to be hoped that all who obtain available specimens will carefully preserve them and intrust them to a competent investigator. From the above considerations it is also evident that the summary just given can be only tentative.

tion of the vertebræ, but even this view is entirely erroneous. The term protovertebræ ought to be immediately banished for ever.

4. ORIGIN OF THE ALLANTOIS.

It will be remembered that in birds the allantois very early becomes a free sac. It has been supposed by some writers that the allantois of man grew out in the same manner. Haeckel even went so far as to prophesy that when a human embryo of the right stage should be obtained it would be found to have a free allantois. Very shortly after W. Krause (3) published a description of an embryo with free allantois which he stated was human. Both Haeckel and Krause were, however, mistaken, the former through hasty and unfounded speculation, the latter from an error as to the identity of his embryo. Krause's embryo was, I think it may be said certainly, not human, probably not even mammalian, but avian. Krause still maintains that it is human; it agrees in all essential particulars with a chick, and disagrees utterly in shape with all known normal human embryos. The discussion as to this specimen was long and animated, but has now little interest except historically. In the literature cited at the close of this article I have given the reference to Krause's original article, and under the same head (3) references to the discussion.

To explain the origin of the human allantois we have only the following hypothesis of His, no direct observations being available. In an earlier stage the embryo is supposed to form over the germinal area upon the surface of the blastodermic or chorionic vesicle; below it lies the yolk-sac (see the accompanying diagram, Fig. 3, A, *V*); on all sides

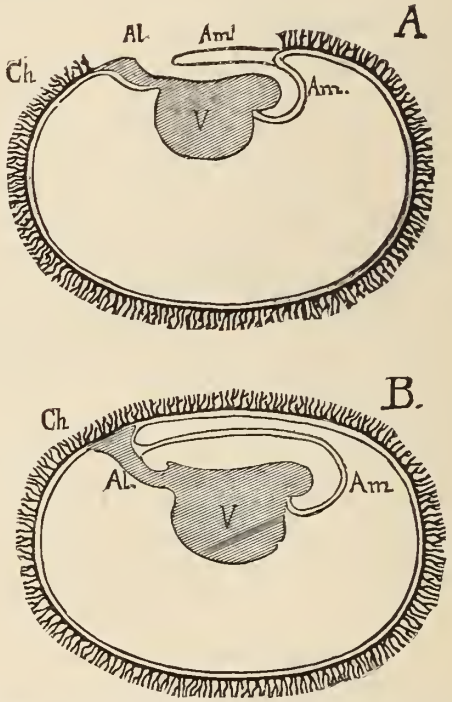


Fig. 3.—Diagrams to show the Formation of the Human Amnion. A, first stage; B, second stage; *Am*, amnion; *Al*, allantois; *Ch*, chorion, the villi of which are drawn smaller and more numerous than they are in nature; *V*, yolk-sac.

the tissue of the embryo passes over into the chorion, *Ch*; posteriorly the connection between the embryo and the chorion is marked by a thickened band (probably of mesodermic cells originally part of the hind end of the primitive streak); this thickened band persists and becomes the allan-

tois-stalk; around the head of the embryo a fold is formed, *Am*, the beginning of the amnion; this fold grows back farther and farther over the embryo as indicated by the dotted line, *Am'*, Fig. 3, A; finally the tip of the fold reaches the allantois-stalk, and, uniting with it, produces the arrangement shown in Fig. 3, B, which is the same as Fig. 1, and is known from actual observation.

This account may be accepted as hypothetically correct. I think it probable that the allantois first arises as a heap or mound of cells, pre-anal and ventral in position, and having a very small, short, nearly cylindrical cavity, which in its turn arises as a diverticulum of the hind gut, and is, therefore, lined with entoderm. This is the manner in which the allantois starts apparently in all amniota in regard to which observations on this point are available; general analogy leads us to expect that in man also the course of development is similar. But since in man there is no caudal amnion, nothing intervenes, so far as we know at present, between the allantoic outgrowth of the embryo and the chorion; hence it seems the primitive connection is maintained, and there is never a free allantois save that it forms at first for a short time a small more or less independent protuberance.

A word as to the homologies of the allantois. Its proximal portion becomes, as is well known, the bladder of the adult. It has been maintained by Balfour ("Comparative Embryology," ii, p. 256), and it is the generally accepted opinion, that the allantois is evolved as a modification of the bladder. This view I believe to be erroneous; the bladder of amphibia is a *dorsal* diverticulum of the intestine, and can not be homologized with the amniote bladder, which is a *ventral* diverticulum. The amphibia (and ganoids) have, too, a long-known embryonic structure, which is a ventral diverticulum of the intestine and extends into a considerable accumulation of mesodermic cells below the blastopore (anus). This diverticulum I hold to be a rudimentary allantois, and, in fact, it precisely agrees, even as to details, with the commencing allantois of amniote vertebrates. This obliges us to consider the allantois as primitive, and the bladder of the *Amniota* as a secondary deriva-

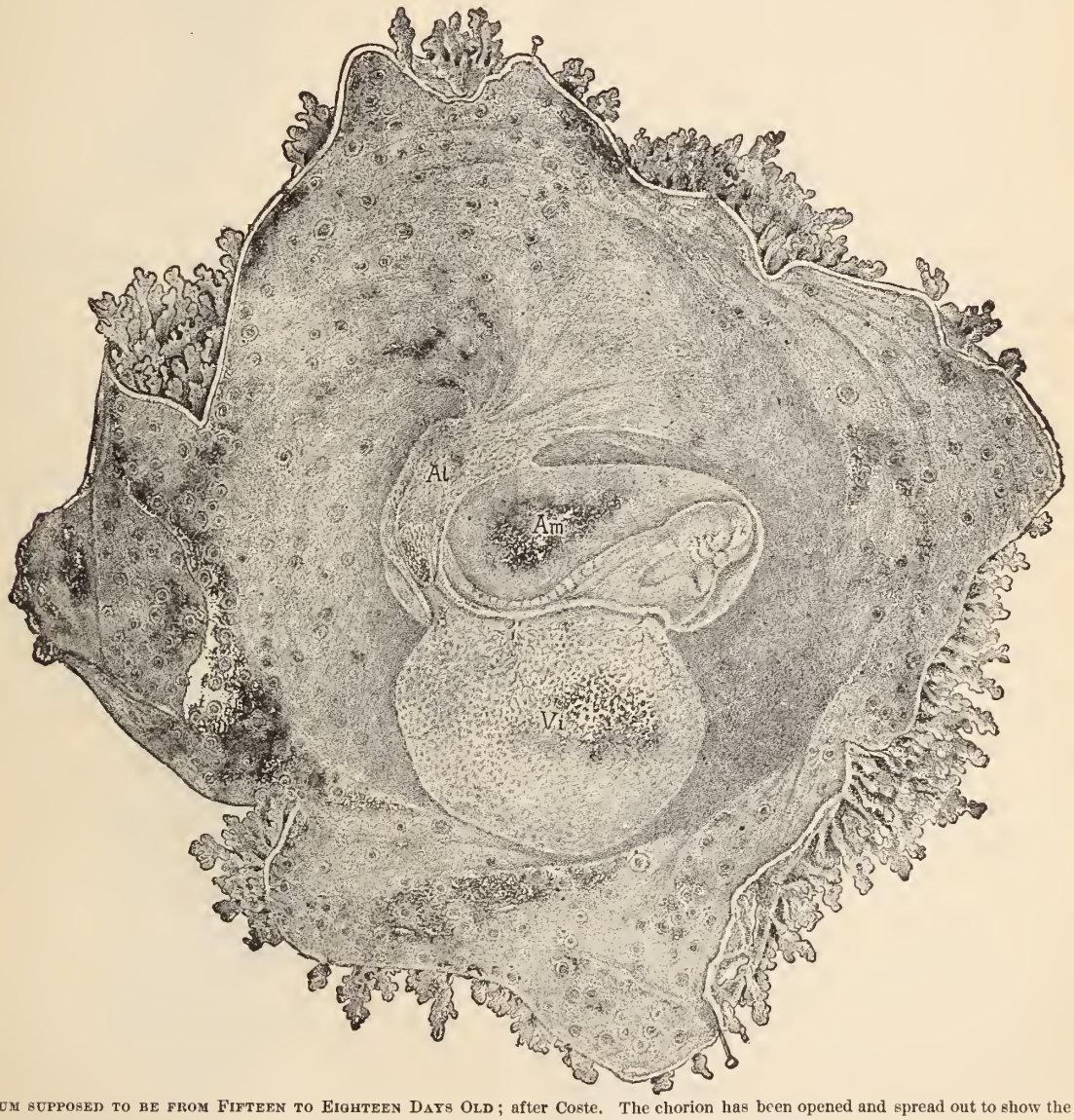


FIG. 4.—OVUM SUPPOSED TO BE FROM FIFTEEN TO EIGHTEEN DAYS OLD; after Coste. The chorion has been opened and spread out to show the embryo and its annexa. *Al*, allantois-stalk; *Am*, amnion surrounding the embryo.

tive of the allantois, precisely the reverse of Balfour's theory. The homology drawn also renders it probable that the allantois arose very early, since we find traces of it in the ganoid fishes. In this case it will no longer be strictly accurate to regard *Allantoidea* and *Amniota* as synonymous terms, as they are now used. On the contrary, it appears that the *allantois is a much older structure than the amnion, and the bladder of the Amniota is a modified allantois and not homologous with the bladder of the Ichthyopsida.*

5. EMBRYOS OF THE FIFTH STAGE.

Formation of the Gill-Clefts.—We now reach a series of embryos, several of which have been well studied and beautifully drawn. Two of them belong to the stage now under consideration—namely, the youngest embryo described by Coste in his great work, and His's embryo L. Both descriptions are satisfactory, save that in regard to the dimensions of Coste's embryo no certainty can be had. Coste's private collection is, I believe, now in the College of France, but upon search this particular specimen could not be found, so that His's inquiries to ascertain its actual length were resultless. Kölliker states that it was 4·4 mm. long, but his authority for the statement is not given; the measure was probably taken from Coste's figure marked "*grandeur naturelle.*" Since embryos of this length are far more developed than Coste's, it is probable that Coste's data as to the magnification of his figures are inaccurate. If we assume the embryo to have been really about 2·5 mm. long, it will then agree, except as to the great length of the rump, very closely with what we know otherwise of such young embryos.

I give the accompanying figures, which are careful copies from the original plates published by Coste (4, Espèce humaine, Pl. II), whose illustrations, made by his assistant, Gerbe, have never been surpassed for beauty and life-like accuracy. The embryo in question was inclosed in a villous chorion, Fig. 4, and was provided with a large vitelline sac, *Vi*, having a very broad connection with the embryo and covered with a network of vessels, in which was a fluid not yet red. A thick allantois-stalk, *Al*, can be seen running from the under side of the embryo's tail to the chorion; from the anterior side of the stalk springs the amnion, *Am*, completely inclosing the embryo. It is important to notice that in this, as in still older embryos, the disposition of the amnion is essentially the same as in the earliest stages (*v. sup.*); the line of attachment of the amnion is down the sides of the allantois and around the embryo about on a line with the top of the yolk. As regards the embryo, it is drawn slightly canted on to its left side; its back is concave; the head end is thickest, and shows three gill-arches, hence there were probably two branchial clefts; behind and below the gill-clefts can be seen the heart, already a bent tube, shining through; behind the arches again, but on the dorsal side, the light-looking œsophagus is distinguishable; in the figure a wedge-shaped shadow intervenes between the straight œsophagus and the bent heart; the heart causes a conspicuous bulging of the body between the head and the yolk-sac; the caudal extremity is thick and rounded, and curves upward.

Fig. 5 is a ventral view of the same embryo after most of the yolk-sac has been cut off; its walls, *Spl* (splanchnopleure), are seen to pass over without any break into those of the intestinal cavity. In the central line the chorda

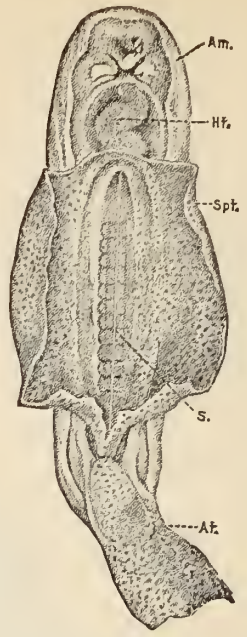


Fig. 5.—Embryo supposed to be from Fifteen to Eighteen Days Old; after Coste. Ventral view; the vitelline sac has been removed. *Am*, amnion; *Ht*, heart; *Spl*, splanchnopleure, extending beyond the embryo to form the yolk-sac; *S*, chorda dorsalis with a row of myotomes on each side; *Al*, stalk of the allantois.

dorsalis, *s*, can be perceived through the translucent dorsal wall of the intestinal cavity; it is flanked on each side by the row of square muscular segments (myotomes). We see the large allantois, *Al*, behind, and in front the tubular heart, *Ht*, with a decided flexure to the right of the embryo; the anterior end of the heart makes an opposite bend, separating off a limb, which becomes the *bulbus aortæ.*

The chorion consisted of two membranes, one of which passes continuously over the inner surface of the chorion, while the other outer membrane alone forms the hollow villi, Figs. 4 and 6; hence, in looking at the inside of the

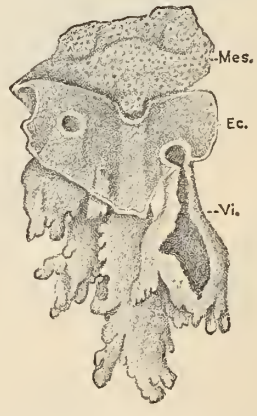


Fig. 6.—Fragment of the Chorion of Fig. 4, highly magnified. *Ec*, epithelial layer; *Mes*, connective-tissue layer; *Vi*, chorionic villi, formed wholly of epithelium.

chorion, we see numerous round openings which do not penetrate the inner membrane. Fortunately we learn from

Kölliker ("Entwickelungsgeschichte," 1879, p. 309), who had an opportunity in 1861 to examine this chorion, that the outer membrane was epithelial, with cells of the same character as in the epithelium of older vascularized villi,* and that the inner layer consisted of developing connective tissue and carried fine blood-vessels. It thus appears that Coste was the first to observe the rôle of the epithelium in the growth of the villi, which was discussed in the previous article.

(To be concluded.)

HYDRONAPHTHOL;
A NEW ANTISEPTIC.

By GEORGE R. FOWLER, M. D.,
SURGEON TO ST. MARY'S GENERAL HOSPITAL, BROOKLYN.

(Continued from page 375.)

In order to satisfy myself as to the solubility of this compound, observations having in view the determining of this point with some degree of accuracy gave the following: In hot water it will dissolve in the proportion of one part in a hundred, and a residue of an oily or tarry substance occurs, which latter, upon boiling the solution, melts and floats about on the surface. If the water be only warmed to a temperature of 70° C., the residue is found at the bottom of the flask. Upon filtering the solution and allowing the filtrate to cool to 17° C., the excess of hydronaphthol crystallizes, leaving a solution of the strength of 1 to 800. By reducing the temperature still lower, or by vigorous shaking, a further quantity is thrown down, leaving a solution of the strength of 1 to 1,100, which latter remains permanent.

It dissolves in cold water to the extent of one part of the hydronaphthol to two thousand parts of water. To effect this, however, it is necessary that it should remain in contact with the water, or be occasionally agitated. The clear filtrate from this solution has the characteristic taste of hydronaphthol and possesses antiseptic properties.

To test for the presence of the hydronaphthol in solution, add a few drops of the solution of the subacetate of lead, when a white precipitate will be thrown down. Or the addition of chloride of sodium to the solution will cause its separation in a fine white precipitate, giving the liquid a milky appearance.

The tarry material which floats about in a melted condition upon the surface of the hot solution is probably alpha-naphthol, an impurity which will, no doubt, be gotten rid of in the course of a further experience in the manufacture of the compound. It does not interfere with the antiseptic qualities of the solution, nor does it do other harm, as far as is at present ascertained.

In order to ascertain to what extent hydronaphthol could be relied upon to prevent the occurrence of putrefactive changes in animal tissues and fluids, the following preliminary observations were made:

First, three solutions were prepared for use, the first containing 1 gramme of hydronaphthal in 1,000 grammes of warm water, the second containing 1 gramme in 1,500 grammes of water, and in the third 1 gramme in 2,000 grammes of water. In all of these solutions fresh animal tissue (beef) was placed, and, to afford a control test, a piece of the same beef was placed in a similar flask containing pure water, and all of the tests were exposed to a temperature of about 21° C. in an ordinary room, and as nearly as possible to the same general conditions, with the following results: At the end of twenty-four hours the flask containing the beef and water only showed signs of decomposition, and in the course of another twenty-four hours had broken down completely. The other three flasks, after one hundred and twenty hours' exposure, were found to have undergone no change, and were in a perfect state of preservation.

As beef solution is the medium generally employed for the purpose of testing the power of antiseptic substances, the following experiments were made: The beef solution was first filtered while hot, and then solutions of hydronaphthol made in this vehicle. In the first 1 gramme of hydronaphthol was dissolved in 1,000 grammes of the warm beef solution, in the second 1 gramme was dissolved in 1,500 grammes, and in the third 1 gramme was dissolved in 2,000 grammes. A control test was likewise prepared in the same manner, but without the addition of the antiseptic. These were all placed under the same conditions, as to temperature, etc., as in the preceding experiments, with the following results: At the end of twenty-four hours the control test began to exhibit some turbidity, and before forty-eight hours had elapsed indubitable signs of advanced decomposition were present. All three of the solutions containing the hydronaphthol, however, at the end of one hundred and twenty hours, were found in their normal condition.

The addition of 1 part of the antiseptic to 1,000 parts of fresh urine has maintained the latter in a perfect state of preservation for four months, and probably will continue to do so indefinitely. Solutions of glue and gelatin, so prone to decomposition, have been preserved by the addition of the antiseptic in the proportion of one twentieth of one per cent. throughout the warm summer months, and in the same proportions the formation of mold or mildew was prevented in such moist organic compounds as mucilage, starch and glue pastes, dyewood and other extracts.

The results of these observations encouraged me to seek still further light upon the subject of the antiseptic properties of hydronaphthol, and to ascertain to what extent its preservative powers could be carried, and to likewise determine if these depended upon a germicidal action on the one hand, or upon a simple inhibition of the growth of bacteria on the other. With this end in view, I sought the assistance of Dr. G. M. Sternberg, the well-known authority upon disinfectants and antiseptics. That gentleman was about to sail for Europe to be gone for a period of six months or longer, but proffered me the services of his first assistant, Dr. Abbott, at the laboratory of the Johns Hopkins University, in Baltimore. These I gladly accepted at once, and during the past three weeks experiments having the

* "Hierbei zeigte sich, dass die Zotten und die sie tragende Haut ganz und gar aus epithelartigen Zellen, von derselben Beschaffenheit, wie die des Epithels der späteren gefässhaltigen Chorionzotten bestehen."—Kölliker, *l. c.*

object of determining the following points have been carried on: First, its germicide value on broken-down beef-stock containing pathogenic spore-bearing organisms, micrococci, and putrefactive bacteria; second, its value in destroying pure cultures of anthrax and pure cultures of pathogenic micrococci; and, third, its value as an antiseptic (the prevention of development without killing the organisms).

In the first place, the insolubility of the hydronaphthol was found to be an insuperable bar to any germicidal action in its normal solution (0·1 per cent.). A mixture was therefore made of 1 gramme to 100 c. c. of water (1·0 per cent.), this being about ten times above saturation. This mixture was tried on putrefied beef-tea containing putrefactive and pathogenic organisms and spores, on anthrax pure, on subtilis pure, and on pure cultures of pathogenic micrococci. To these it was added in equal proportions—that is to say, ten cubic centimetres of the substance to be disinfected and the same quantity of the one-per-cent. mixture of hydronaphthol were added together. This gave five tenths of one per cent. (0·5 per cent.) of the hydronaphthol present, being five times above saturation. A drop of the fluid containing the organism was, after two hours' exposure, introduced into the flasks containing sterilized solution of beef peptones, the culture medium generally used in disinfectant experiments, and, after the standard length of time of exposure in the incubator (two hours), in all the tubes the respective organisms were found to be present. This showed that when the substance was present in a mixture five times above saturation it was not germicidal to these organisms and spores. These experiments seemed to at once settle the question as to its germicidal powers.

In order to test its power as an antiseptic, the following experiments were made: Eleven flasks were prepared, each containing 100 c. c. of solution of beef peptone, to which hydronaphthol was added in the following proportions: 1 to 100, 1 to 500, 1 to 800, 1 to 1,000, 1 to 2,000, 1 to 4,000, 1 to 6,000, 1 to 8,000, 1 to 10,000, 1 to 16,000, and a flask in which none of the antiseptic was placed. These were inoculated with two drops of decomposed beef-tea, and placed in the incubator. The flask put up for comparison, and which contained none of the hydronaphthol, broke down completely in twenty-four hours. The other flasks, from the strongest up to the 1-to-6,000 solution, and including the latter, after one hundred and twenty hours' exposure in the incubator, resisted the development of decomposition, the first failure taking place in the 1-to-8,000 flask.

The following is a summary of these experiments:

1. As a germicide it failed to disinfect decomposed beef-tea containing pathogenic organisms and spores when present in 0·5 per cent. 2. It failed to prove germicidal to pure anthrax, pure subtilis, and pure micrococci, in the same strength. 3. As an antiseptic it proved to be active in arresting the development of the bacteria in the proportion of 1 to 6,000, and failed only when the 1-to-8,000 solution was reached.

That the value of an antiseptic agent does not necessarily depend upon its germicidal powers is a well-established fact;* it is further well known that some agents of well known germicidal power are inapplicable as antiseptics. To the class of agents which prevent or arrest putrefactive changes, without necessarily destroying the organism upon which these changes depend, but rather whose potency is attributable to their influence in holding in check their development, Lister has given the name of "inhibitory" agents, or antiseptics having an "inhibitory action."†

The importance of this distinction can not be overrated, for it has been the custom in the past to use the words "germicidal," "disinfectant," and "antiseptic" in a loose manner, and, in some instances, as synonymous terms. The impropriety of this is at once obvious, and it is now growing to be the custom to speak of such substances as are both germicidal and antiseptic as simply germicides or disinfectants; while those which are antiseptic without possessing the power of killing organisms endowed with a peculiarly tenacious hold upon life, such as those of anthrax and pathogenic micrococci, are called simply antiseptics. For the present, this distinction will perhaps be the best attainable, with our present want of knowledge of the life-history of these lower organisms. For instance, Sternberg‡ asserts, and there can be no reason for questioning the opinion of this authority, that "the vital resistance of bacterial organisms to chemical reagents differs, within certain limits, for different species." Hence, unless some standard of vitality, so to speak, were established, different observers would use the distinctive terms "disinfectant," "germicidal," and "antiseptic" with different meanings, and no end of confusion would result. It is perhaps best, therefore, that the term germicide or disinfectant should be limited to such agents as will destroy reproductive spores, inasmuch as these possess powers of resistance far in excess of bacterial organisms in which active development takes place by the process known as "multiplication by fission."

Taking, therefore, the reproductive spores, such as those of the anthrax bacilli, as the standard for the test of strength of a germicide, very few of the agents supposed to be active germicides are found to be efficient in solutions which would be safe to employ in practical surgical work. The most notable exception to this will be found in corrosive sublimate, and, as elsewhere shown, this agent is not a stable antiseptic. But, when the next most popular antiseptic, carbolic acid, is brought forward for comparison, its impracticability for general use as a germicide will be at once apparent when the statement is made, upon the authority of Koch,# that, for the certain destruction of the spores of the anthrax bacilli, an aqueous solution of carbolic acid of the strength of 1 to 10 is necessary. This, for purposes of application in wound treatment, is manifestly impracticable.

The well recognized rule‖—that "*The effect which a substance introduced into a wound as an antiseptic may have on the exposed surfaces of the wound must be taken into consid-*

* Koch, "Mittheilungen des Kaiserlichen Gesundheitsamtes," Band i, Berlin, 1881.

† "British Medical Journal," October 25, 1884, p. 804.

‡ "American Journal of the Medical Sciences," April, 1883, p. 343.

"Mittheilungen des Kaiserlichen Gesundheitsamtes," etc., p. 236.

‖ Pilcher, "The Treatment of Wounds," New York, 1883.

eration in choosing one for use, as well as its effect upon the germ supposed to be present"—has a direct bearing upon the question at issue.

Of all the substances which are at present known to have an inhibitory action upon bacteria, and hence are in the true sense antiseptic, with the sole exception of corrosive sublimate, hydronaphthol is the most powerful. By reference to the following table, adapted from Sternberg by Pilcher,* showing the comparative value of the agents named in their power to arrest the development of the micrococcus from pus, this claim will find undeniable corroboration. According to Sternberg, the other organisms of this class, bacteria termo, etc., are inhibited by about the same strength of antiseptic as that necessary for pus micrococci, and therefore this table may be cited for purposes of comparison:

TABLE OF MINIMUM STRENGTHS OF ANTISEPTIC AGENTS REQUIRED TO INHIBIT GERM-DEVELOPMENT.

Antiseptic agent.	Efficient in the proportion of one part to
Mercuric bichloride	35,000
Iodine	4,000
Sulphuric acid	1,800
Carbolic acid	500
Salicylic acid and sodium biborate, equal parts	200
Boric acid	200
Ferric sulphate	200
Sodium biborate	100
Alcohol	10

According to the experiments above detailed, hydronaphthol is efficient in the proportion of between 1 to 6,000 and 1 to 8,000, and in the table just quoted would occupy the position next to mercuric bichloride. In other words, as an antiseptic it is about one fifth as powerful as the mercuric bichloride; from one and a half times to double the strength of iodine; four times as strong as sulphuric acid; *at least twelve times as efficient as carbolic acid; thirty times as potent as salicylic acid*, when sodium biborate is added to the latter (for the purpose of increasing its solubility) in the proportion of equal parts of each; *thirty times as powerful as both boric acid and ferric sulphate;* sixty times as strong as sodium biborate, and *six hundred times as strong as alcohol.*

In making solutions for surgical use, it is my custom to add a sufficient quantity to a teacupful of hot water to supersaturate the same; this produces a milky mixture. Sufficient water at the ordinary temperature is then added to this to make it a clear solution. Or powders of seven grains and a half each, or compressed tablets containing the same quantity, may be at once dissolved in a pint of warm water. The latter would constitute a convenient and portable form for use in private practice. In my hospital service, the irrigator jars are kept about two thirds full of the solution, having an excess of the hydronaphthol at the bottom. By adding a quantity of hot water to the solution just before it is required for use, a super-saturated solution is at once obtained. After the solution has been for a few days in contact with the excess at the bottom of the jar, the latter precaution may be found to be unnecessary. The saturated solution may be used for washing the site of operation, the surgeon's hands and those of his assistants after scrubbing with mercuric bichloride solution in case of suspected infection; for saturating towels for the purpose of isolating the field of operation; as a bath for the instruments; for washing the sponges and for irrigating the wound.

In the preparation of silk and catgut it would be safest, especially in the case of the latter, to first immerse the gut, wound upon glass or hard-rubber spools, in Kümmel's solution of mercuric bichloride (one half of one per cent.) for twelve hours, and then preserve it permanently in a one-per-cent. alcoholic solution of hydronaphthol. Silk may be boiled in the first-named watery solution of sublimate and kept, for protection, in the hydronaphthol alcoholic solution as used for the gut. This method of sterilizing catgut and silk I prefer to all others as being the safest. It has been asserted by its originator that it will afford perfect protection against infection, even though the gut be made from an animal dead of anthrax. I am particular in making this statement here in order to qualify a remark concerning the sterilizing of gut by means of hydronaphthol, made in the first portion of this article. I also prefer to trust to the well-known germicidal power of a freshly prepared solution of sublimate in the first preparation of sponges, as well as their subsequent purification after an operation, where they are used more than once. But they can be kept with advantage in the hydronaphthol solution, after sterilizing, until needed for use. So also with horsehair for sutures and drains, and rubber drainage-tubes; after sterilizing in mercuric-bichloride solution, the hydronaphthol solution, from its reliability and absence of tendency to decompose, will be found far preferable for purposes of permanent preservation. I am led to emphasize this statement by the fact that it has happened to me recently to find sponges, placed in a 1-to-1,000 solution of corrosive sublimate—which latter at first was certainly germicidal—after a few weeks developing a most sickening, putrid odor, and to afford other evidences of having undergone putrefactive changes, even showing a well-marked growth of mold upon the surface of the solution in the screw-capped fruit-jar in which they had been placed. This can only be attributed to the want of stability of the bichloride solution and the decomposition of the sublimate in the solution into the submuriate, a very feeble as well as insoluble disinfectant. This can not happen in the hydronaphthol solution, as the latter remains without change for an indefinite time (so far as can at present be ascertained), as well as preserves, against putrefactive changes, organic substances of whatever nature, particularly if these have been previously subjected to the germicidal action or sterilization of such a potent agent as a freshly prepared solution of corrosive sublimate.

When a spray is used, a solution of the strength of one per cent. in alcohol may be used in the reservoir of the atomizer. This, when mingled with the steam from the boiler of the instrument, can be diffused in the atmosphere with advantage where it is considered that a spray adds to the thoroughness of the antiseptic measures.

The softness of the crystals of hydronaphthol and the

* Pilcher, "The Treatment of Wounds," New York, 1883.

facility with which they cling to the meshes of gauze, cotton, jute, etc., render the substance peculiarly well adapted for incorporation in these materials for the purpose of rendering them permanently antiseptic for surgical purposes. Messrs. Seabury & Johnson, of New York, have made, at my request, gauze and cotton dressing containing twenty per cent. of the antiseptic, and I can testify to their efficiency and reliability.

Cushion dressings of wood-flour, paper-wool, and sawdust are used in my hospital service almost exclusively; these can be readily saturated with a warm solution of hydronaphthol in water of the strength of 1 to 500, in which also mercuric bichloride is dissolved in the same proportion. The bichloride in this solution will be sufficiently germicidal to destroy any possible source of infection, and the hydronaphthol will furnish the permanent antiseptic. No chloride of sodium need be added to the solution for the purpose of preventing the decomposition of the corrosive sublimate, as the latter will be sufficiently stable to perform its office of sterilizing the dressing, and, when this is accomplished, it is of no further use, and, in fact, will soon be converted into calomel.

After saturating the wood-flour, sawdust, or paper-wool with the above-named solution, the two former should be spread out to dry in a place free from dust. If an alcoholic or benzole solution be used, drying will go on rapidly and but slight risk be encountered of the materials becoming again infected by any possible floating germs in the air. In the case of paper-wool, the drying may be facilitated by running the material through a clothes-wringer. Should the sawdust or wood-flour dry in lumps, as it is apt to do when the watery solution is used for impregnating, these may be readily broken up by rubbing them through a common flour-sieve. When an alcoholic or benzole solution is used for the purpose, no such after-treatment of the wood-flour or sawdust is necessary.*

It is sometimes thought to be good practice to dust along the line of incision some absorbent powder possessing antiseptic properties. For this purpose I have found carbonate of magnesia, having triturated with it the hydronaphthol in the proportion of 2 to 100, a very desirable and efficient substitute for iodoform.

(*To be continued.*)

TWO CASES OF NEGLECTED EAR DISEASE IN INFANTS, RESULTING IN DEATH.†

By SAMUEL SEXTON, M. D.,

AURAL SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY.

Grave and even fatal ear disease in early life is of much more frequent occurrence, probably, than is generally suspected. Inflammation of the middle-ear tract may thus arise from head catarrh or other cause and rapidly extend itself to the dura mater without the warning usually given by the occurrence of a discharge from the external auditory canal. Or the discharge, once established, may suddenly cease because of the closure of the outlet through the drum-head, the secretions escaping *via* the Eustachian tube, which is proportionately very large in infancy. The causes of special danger will be alluded to farther on.

In the two following cases, occurring in very young infants, however, early evidence was not wanting, even to the inexperienced, of serious aural trouble, and death was due to their neglect and ill-directed treatment.

Case I.—*Otitis Media Purulenta; Polypus; Facial Paralysis; Pachymeningitis; Death.*—N. N., of Jewish parentage, aged six months, was brought to my clinic at the New York Eye and Ear Infirmary, in March, 1884, with the following history: When three months old he was exposed to a draught coming through an open window while traveling in a railway carriage. A few days afterward a circum-auricular swelling was observed to take place, which was, by order of the attending physician, poulticed with chamomile flowers, hops, and Indian meal for three weeks continuously. The purulent matter which had been collecting was then liberated with a lancet. After discharging a week the opening was allowed to close, but subsequently it was again opened and dressed with a tent and some antiseptic salve. The ear and wound were syringed three times a day with an aqueous solution of one drachm of carbolic acid to the pint—the solution passing freely through from the wound into the canal. This treatment had been persisted in until the date of coming to the infirmary. The child's mother thinks two considerable-sized sequestra were removed by the syringing about four weeks ago. The discharge, it is alleged, varies from time to time, and is now absent. The child nurses well and sleeps fairly well.

Examination.—The lumen of the external auditory canal is obstructed with pus, the removal of which brings to view a large polypoid growth which fills the canal.

There is partial right facial paralysis.

March 13th.—Discharge from the ear and sinus more free to-day, but the child is restless. The polypus was removed by Sexton's snare. It was found to be of much greater size than had been expected, filling the tympanum and canal almost to the meatus externus. It was about half an inch in length and somewhat nodulated. There was free hæmorrhage after avulsion, which was, however, soon arrested by instillations of hot water.

The treatment consisted in gentle cleansing with warm water as required, afterward dressing the parts with calendula and boric acid. Internally the calcium sulphide in small doses was given several times daily.

15th.—There is diminution in the quantity of the discharge, which is less purulent. General appearance is better, and the restlessness which existed before the operation is less.

I did not again see the patient; his mother, however, came several months after to the infirmary to report his death. She said that the next day after his last visit he became more restless, had a cough, and raised mucus. Vomiting occurred after nursing or taking food or medicine, and continued until death, which took place on April 5th. The child ceased to nurse three days before death, and for two days no discharge from either the meatus or sinus was observed. He had *convulsions* for two weeks, at the beginning of which "his face became straight again" (double facial paralysis), and at the end there was strabismus. These symptoms, taken together with the previous history, point to pachymeningitis. It seems probable that the

* The addition of a small proportion of glycerin to the solutions used for impregnating the wood-flour and sawdust will prevent the tendency of the latter to fly about when handled.

† Read by title at the annual meeting of the American Otological Society, July 14, 1885.

rapid recurrence of the polypoid growth, blocking up the outlets and preventing drainage, may have hastened the result. The physician who attended the patient at home certified that he died of "pneumonia, convulsions, and dentition."

The apparent absence of suffering during the early part of the progress of the disease is noteworthy. There was no autopsy.

The polypus removed was examined by Dr. Frank Ferguson, and found to be a myxo-fibroma. The following are the notes of the examination:

The tumor is covered throughout by mucous membrane, excepting at the points of attachment. Covering this mucous membrane, near the points of attachment, are laminated cylindrical cells. In the same region the mucous membrane is arranged in large papillæ, which can be seen with the naked eye. Elsewhere the surface of the tumor is smooth and covered by flat epithelium. Beneath the mucous membrane are large numbers of round cells. The center of the tumor is composed of fibrillated and granular material, numerous small round cells, and mucous corpuscles. The vascular supply is abundant.

Case II.—*Otitis Media Purulenta, complicated with Lymphadenoma of the Neck, resulting in Caries of the Atrium, Attic, Antrum, Tympanic and Auditory Plates; Facial Paralysis, Purulent Meningitis; Death; Autopsy.*—Albert S., a mulatto, aged seven months. The patient was brought to the New York Eye and Ear Infirmary in June, 1885, with the following history:

Three months previous to this date a small swelling appeared in front of the left tragus, coincident with a purulent discharge from the left ear. The swelling extended downward, rapidly enlarging, forming a large, irregular mass, occupying the whole of the left side of the neck. One month ago the otorrhœa ceased almost entirely, and at the same time the child was taken to a city dispensary and placed under local and general medicinal treatment for the glandular tumor. During this period of treatment the tumor fluctuated in size, a discharge appeared in the right ear, and the child became very restless and irritable, sleeping poorly, attacks of vomiting alternating with diarrhœa; and left facial paralysis was noticed for the first time.

Examination, June 1st.—The left meatus was occluded by granulation tissue, which was removed, giving vent to a large quantity of very offensive purulent matter. The canal was dilated, the posterior and inferior walls presenting an ulcerated granular surface, the drum-head was entirely destroyed, and the tympanum presented a large cavity caused by the necrotic destruction of portions of the *annulus tympanicus* and temporal plate, the inner wall of the attic and atrium, the antrum and auditory plate. In a word, the bony walls of the large pathological cavity thus exposed to view were denuded in every direction; the ossicles were absent, with the exception of the stapes, which could be seen lying loosely upon the upper and posterior part of the inner wall. The right meatus was filled with granulation tissue which sprouted from the walls of the canal, the drum-head was destroyed, and denuded bone could be detected with the probe in any portion of the tympanum. On the left side of the neck there were a number of lymphadenomata aggregated together, forming a large, irregular tumor, limited above by the inferior attachment of the auricle, and below by the level of the thyroid gland. No fluctuation could be detected in any portion of the mass. There was complete left facial paralysis.

Treatment.—Small and frequently repeated doses of the tincture of aconite and calcium sulphide were given, the canals being cleansed and powdered boric acid insufflated once daily. During the next eight days the patient's condition improved somewhat.

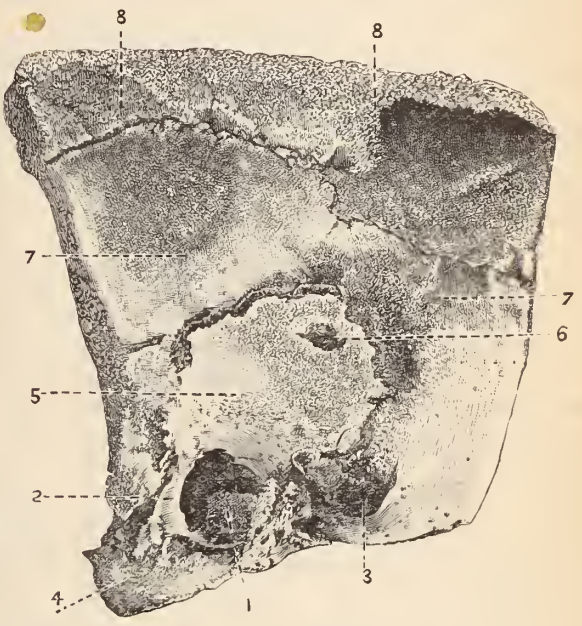
June 8th.—Restless and irritable, with some febrile movement; temperature 102°; vomiting frequently. Discharge from ears free.

10th.—The patient became drowsy and stupid, and had general convulsions. Coma supervened, and he died June 12th.

Autopsy.—The dura mater is healthy, with the exception of that portion covering the superior surface of the left petrous bone, which is much thickened from the deposit of neoplastic tissue, and at points presents isolated centers of ossification.

There is purulent meningitis of the convexity, the deposit of lymph being more particularly noticeable along the margins of the longitudinal fissure and on the under surface of the anterior and posterior cerebral lobes. The cortical substance is quite soft, and there is considerable accumulation of greenish offensive matter in the subarachnoidean cavity. No connection could be traced between the ear and glandular enlargement on the neck.

The accompanying wood-cut, somewhat enlarged, shows the outer surface of the left temporal bone after the specimen had been prepared. The absence of the osseous portion of the external auditory canal at this age brings the inner wall of the tympanum, which is very large, well into view; 1 is the promontory of the inner wall, and just above it is the foramen rotundum from which the stapes has escaped. The inner wall of the attic was gone, exposing the horizontal semicircular canal. The walls of the antrum and the adjacent cellules were eroded away and the entire auditory plate was honey-combed. The auditory plate, 5, which was scarcely united to the squamous and mastoid portions, was undergoing sequestration, entirely denuded, and a sinus, 6, afforded communication between the antrum and an abscess beneath the periosteum.



The annulus tympanicus composing the anterior wall of the external auditory canal is shown at 2; it is roughened all around, as is the tympanic plate itself. The rudimentary mastoid process is seen at 3; the under surface of the petrous bone at 4. The squamous portion is shown at 7, 7; the parietal bone at 8, 8.

On the inner surface of the specimen, not shown in the cut, is seen an extensive opening along the line of the petro-squamosal suture through which, probably, the inflammatory process extended to the dura.

It is probable that in this case the inflammation extended itself from the tympanum along underneath the auditory plate into the antrum, while a periostitis externa manifested itself on the outer surface.

Remarks.—In reviewing Case I, it seems remarkable that so little nervous irritability existed during the progress of the case, although the ear was deeply attacked. With the exception of the last two or three weeks, the child suffered but little, and, so far as pain was concerned, it may not have seemed important to the ordinary observer.

To the retention of secretions, the formation of which was actively promoted by the three weeks' persistent poulticing, and perhaps also to the vigorous syringing, was doubtless largely due the gravity of this case.

Although the treatment of a case in this advanced stage is somewhat expectant, yet it is generally best to administer frequently small doses of pulsatilla or aconite during the active progress of the disease in order to allay nervous irritability.

Acute aural inflammation in children often gives rise to symptoms well calculated to puzzle the general practitioner; and hence its presence is liable to be unsuspected; thus, in Case I, the alleged cause of death as reported to the Bureau of Vital Statistics did not include the aural trouble.

When the proportionately large area of the middle-ear tract in children is considered, one need not experience any surprise at the frequency of its invasion by disease. The tympanum, antrum, and Eustachian tube thus comprise a very much exposed region which occupies a dangerous proximity to the dura mater—being separated by an extremely thin plate of bone, often imperfectly closed by osseous tissue especially along the line of the petro-squamosal suture. Free vascular communication is afforded through this thin partition between the middle ear and the dura, and, in any inflammatory process in either, the other is extremely liable to be affected.

The important knowledge to be obtained by observing the phenomena manifesting themselves in the ear in children is not available always without an expert examination; and this becomes a much more difficult matter when exterior manifestations are wanting, since deafness and distressing autophonia, etc., can not always be explained by children, and never by very young infants, and pain in such cases may be relegated to another region. Although recovery may take place when the aural symptoms are not recognized, yet deafness may remain.

Too much stress can not be placed on the advisability of avoiding a meddlesome and heroic plan of treatment, often practiced that "something may be done."

In these neglected cases it is well to remember that the danger does not lie in an invasion of the mastoid cellules, since the mastoid process exists in a rudimentary state only before the age of puberty, but in an extension of the inflammatory process to the antrum, caries of the bone being consecutive thereto. An independent but coincident attack of periostitis externa may indeed take place. Where the latter occurs alone, recovery is usually much more rapid, since, under proper treatment, reabsorption of pus takes place, or it is evacuated by the knife.

Sometimes large sequestra, consisting of portions of the auditory or tympanic plate, or of portions of bone containing the cochlea or semicircular canals, are removed after sequestration in these cases, especially in broken down or scrofulous subjects. It is surprising to witness the rapidity with which recovery often takes place after the detachment of very large pieces of temporal bone. Officious surgical meddling in these cases can but be most injurious, since it is not wise to attempt to separate sequestrating from healthy bone until Nature has completed her share of the process. We have our hands full, generally, in the effort to maintain proper drainage. I have of late found strands of antiseptic catgut, as prepared by Mr. Am Ende, of Hoboken, introduced into either the sinus which usually exists behind the auricle, or into the external auditory canal, a very effective means of drainage. Beyond this, and dressings consisting of boric acid and calendula locally, I have found it a good plan to let the ear alone and treat the patient.

I am indebted to my assistants, Dr. William A. Bartlett and Dr. Robert Barclay, for the admirable care which these patients received while under observation. To them I am also indebted for the notes of the post-mortem of Case II, which was under Dr. Bartlett's charge.

A CASE OF MELANO-SARCOMA OF THE NOSE CURED BY GALVANO-CAUTERIZATION.*

By R. P. LINCOLN, M. D.,
NEW YORK.

In November, 1884, Mrs. L. presented herself for consultation, and supplied the following history:

In August, 1882, she first noticed an obstruction to free respiration in the right nostril, and about the same time was annoyed by a continual muco-purulent, blood-stained discharge from the same nostril. There was also matter of a similar appearance which was expectorated, and which evidently came from the posterior nares.

Her general health at this time was good, and there was little or no pain.

It was not till the following winter that this nostril became completely occluded, when operative interference was decided upon.

Dr. D. Hayes Agnew, of Philadelphia, removed the growth April 2, 1883. After a microscopic examination, he announced its character as "cancerous." After a period of about two months a repetition of the former symptoms manifested themselves; these continued to increase until November following, when Dr. Agnew repeated his first operation.

A few months of uncertainty succeeded the second operation, but frequently recurring hæmorrhages and renewed difficulty in breathing gave assurance of a recurrence of the tumor until February, 1884, when the growth seemed to increase very rapidly. At this time the patient placed herself under the care of a physician in Rome, in this State, a man of much repute among the people, who used, in the words of the patient, "plasters and pastes" for about two months, when he confessed his inability to remove the trouble. Notwithstanding this treatment, the tumor continued to grow.

---

* Read before the American Laryngological Association, June 25, 1885.

On examining the patient, I found the right side of the nose, extending well up to the inner canthus of the eye of the corresponding side, enlarged, the fullness amounting to about four times the size of the left side of the nose.

The lower half of its ala was wanting, the remaining border being puckered, somewhat contracted, and of a purple color, which gradually faded until the integument was of normal appearance half way up this side of the nose. There protruded from this nostril, about half an inch, a dark-colored, fleshy mass completely filling it; this was attached to the outer margin of the nostril as well as to its floor. A plum-colored discharge was constantly flowing from the nostril, and the lightest touch of the mass with a probe was followed by dark grumous blood. A further careful exploration showed the tumor to grow from the lower and middle turbinated bones, and from the floor of the nostril for a distance of two inches and a half. The septum was free.

A rhinoscopic examination disclosed the tumor protruding into the post-nasal cavity and occupying about half of it. I proposed a removal of the growth with the galvano-cautery écraseur and a subsequent cauterization of points of attachments as offering the best chance of relief.

November 18, 1884, the patient submitted to operation, Dr. Delavan and Dr. Goodwillie being present and kindly giving their assistance. The patient being etherized, I passed the platinum-wire loop of the galvano-cautery écraseur about the tumor at its attachments and thus separated it.

Immediately afterward the seat of the growth was thoroughly cauterized. The loss of blood was inconsiderable. For a week after the operation a solution of bicarbonate of sodium and carbolic acid was injected into the nostril many times a day; after this an ointment containing two grains of iodoform to an ounce of vaseline was applied to the healing surface three times a day.

Two weeks after the operation the patient was permitted to go to her home in Pennsylvania, with no diseased point discoverable and with perfectly free respiration through the nostril.

May 27, 1885.—The patient returned at intervals of one or two months, the last time on this date, for observation. No further treatment has been necessary, as the parts are perfectly healthy. The integument, formerly discolored, has assumed a normal appearance. The remaining deformity is hardly noticeable, far less than the most hopeful would have expected.

I present herewith a specimen of the tumor mounted for microscopic examination, together with a report of the microscopic appearance, both of which were made by my friend Dr. Frank Ferguson.

His report I quote:

"The cut surface is dark, with small areas of dark gray and flesh-colored tissue. Under the microscope the portion of the tumor which is flesh-colored is composed of round and ovoid cells of medium size. The cells are close to each other and distinctly nucleated. The darker portions of the tumor are hæmorrhages. The areas of dark gray are composed of large flat cells deeply pigmented. The cells are supported by a stroma of fibrillated and granular material. There are numerous large vessels seen throughout the tumor, some of them with thick walls; also a few gland-ducts, probably the remains of glands belonging to the tissue in which the growth originated.

"There are numerous hæmorrhages throughout the entire tumor, in some places large, in other places punctate. Prognosis *grave*."

Note.—Information received from the patient October 1st showed that there were no indications of a return of the disease.

Book Notices.

A Treatise on Nervous Diseases; their Symptoms and Treatment. A Text-book for Students and Practitioners. By Samuel G. Webber, M. D., Clinical Instructor in Nervous Diseases, Harvard Medical School, etc. New York: D. Appleton & Co., 1885. Pp. ix–415.

There has long existed a demand for a concise and definite statement of the elements of neuro-pathology and therapeutics. The student about to begin the study of neurological medicine is confronted by a literature of ominous extent, in the mazes of which he is ill-prepared to tread without the aid of personal tutelage. In Germany this condition of affairs has been recognized, as a number of little text-books bear witness; but in this country and England the want has been but inadequately met. We have very complete treatises, it is true, as well as monographs of no mean value; and yet the fact remains that, until the advent of the little book before us, the profession has been without a concise statement of the elements of neuro pathology.

In the face of this obvious deficiency, Dr. Webber's little book comes to us as a welcome addition to our library. To those who are unable to attend the special clinics of a large city, and who are, nevertheless, desirous of acquiring a knowledge of the principles of neuro-diagnosis, it will undoubtedly render good service. As an introduction to a course of special reading it is also well adapted. Thus, in the beginning of the book will be found a brief statement of the practical points of cerebral anatomy and physiology; and this theoretical portion of the volume is immediately followed by a section of considerable extent treating of the analysis of symptoms. We then come to the chapters on special cerebral diseases. These are handled in a terse manner, the author giving what he considers are the essentials of diagnosis and therapeutics.

The chapters on the diseases of the spinal cord are written in the same practical spirit, and, like those on cerebral pathology, are preceded by a concise statement of the essential anatomical and physiological questions involved.

In the latter half of the volume the diseases of the peripheral and sympathetic nerves receive attention.

None of the subjects brought forward are treated of exhaustively; nor can the author be justly taken to task for superficiality, since his very object is conciseness. Enough that he has fulfilled his task in a manner which leaves nothing to be desired.

We have no hesitation in recommending this admirable little book to students and practitioners alike.

BOOKS AND PAMPHLETS RECEIVED.

Medical Communications of the Massachusetts Medical Society, Vol. xiii, No. 5, 1885. Boston: Printed by David Clapp & Son, 35 Bedford Street, 1885. Pp. 321–501. And Proceedings of the Councillors. Pp. 85–113.

Proceedings of the Connecticut Medical Society, 1885. Ninety-fourth Annual Convention, held at Hartford, May 27th and 28th. New Series, Vol. iii, No. 2. Published by the Society, S. B. St. John, M. D., Secretary. Hartford, Conn.: Press of Case, Lockwood, and Brainard Company, 1885. Pp. 3–239.

Vaginal Hysterectomy for Cancer. By A. Reeves Jackson, A. M., M. D., Professor of Gynæcology in the College of Physicians and Surgeons of Chicago, etc. Read in the Section of Obstetrics and Gynæcology at the Thirty-sixth Annual Meeting of the American Medical Association. [Reprinted from the "Journal of the American Medical Association."]

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, OCTOBER 10, 1885.

THE AMERICAN MEDICAL ASSOCIATION'S NEW COMMITTEE'S SUB-COMMITTEE.

It seems that what was said to be sauce for the goose is not considered to be sauce for the gander. In April the Lacedæmonian cry went up that the committee that was originally intrusted with the organization of the Ninth International Medical Congress was merely authorized to carry out the will of the American Medical Association, and that its work was in every respect subject to the revision of the association. This cry carried the day, and the New Orleans meeting proceeded to revise the committee's arrangements with a vengeance—with what results, the country is but too well aware. The association's pet committee, however — those gentlemen who were chosen to supersede the legitimate body—soon found that there was no further occasion for the responsibility alleged by the New Orleans meeting; or, rather, it is a sub-committee that has made that discovery.

Our readers will remember that the reconstructed committee held a meeting in New York on the 3d and 4th of September, at which a sub-committee, styled an executive committee, was constituted, and that the further prosecution of the work of patching up the organization of the Congress was given into the hands of this sub-committee. The "Journal of the American Medical Association" now informs the world that the executive committee held a meeting in New York on the 24th of September, at which, "more than a quorum" being present, it perfected its organization by electing Dr. Henry H. Smith, of Philadelphia, chairman, and Dr. Frederic S. Dennis, of New York, associate secretary-general, after which, "to prevent all further misunderstanding, both at home and abroad," it unanimously adopted the following remarkable resolution: "*Resolved*, That this executive committee enters upon the management of the affairs of the Ninth International Medical Congress with the understanding that, in accordance with rule No. 10, its powers are not restricted except by the rules and regulations adopted September 3, 1885, by the committee of arrangements appointed by the American Medical Association in April, 1885; and that the actions of this executive committee are final, not being subject to revision, amendment, or alteration by either the committee of arrangements or the American Medical Association."

Indeed! Is this "understanding" supported on an opinion by Speaker Randall? And if, in this instance, not only is the so-called "committee of arrangements" not subject to oversight by the organization that appointed it, but even a sub-committee is answerable neither to it nor to its creator—nor, in fact, to any power on earth—we would like to know how Mr. Randall likes the tricks and the manners of the coterie whom he so kindly accommodated with his opinion in the early part of the summer.

For our part, we are perfectly well satisfied. We have all along maintained that the original committee ceased to be a committee of the American Medical Association the moment its invitation was accepted at Copenhagen, and that at the same moment it became, by adoption, a committee of the Congress, responsible to it, and to it alone. As a legitimate corollary of that position, we have held that the original committee was under no sort of obligation to report to the New Orleans meeting. We are able to say now that such indeed was the conviction of the truly representative men in the old committee, but that they were seduced into a course of conduct that was urged upon them as being in the interest of conciliation, whereas no real conciliation was ever intended by the seducers. The sub-committee is now quite of our way of thinking—*mutatis mutandis;* and we wish it joy.

MINOR PARAGRAPHS.

THE PROPOSED NEW NATIONAL MEDICAL ASSOCIATION.

We would call attention to a letter, signed "Subscriber," which we publish in another column, and beg to assure our readers that the writer of the letter is a gentleman who has paid a good deal of attention to matters connected with medical organizations, and has on more than one occasion given evidence of a willingness to sacrifice his own favorite projects when convinced that the welfare of the profession would be better served by the substitution of other measures. It will be seen that the plan he now brings forward gives abundant scope for the settlement of details in a leisurely way, which is certainly wise and conservative. The point on which most solicitude ought to be felt seems to us to be the manner of constituting men members of the association. That is the rock on which the American Medical Association has struck. At first, its members were the representative men of the profession, but, as fresh delegations were eligible year after year, a less and less representative set was chosen, until finally the organization became utterly unworthy of its early history, and ceased to enjoy the confidence of the profession.

TULIT ALTER HONORES.

In a review of the first volume of Pepper's "System of Medicine," the "Lancet," of London, says:

"Variola, Vaccinia, and Varicella have been intrusted to the pen of Dr. James Nevins Hyde." . . . "The writer's article on Vaccinia strikes us as one of the most candid and lucid that have been written upon this much-discussed topic. He is not so blind as to refuse to grant that vaccination sometimes fails to protect, but he rightfully declaims against the tendency to irrational generalization which sees in this fact the condemnation of the practice. His statement appears to us as particularly fair—viz., that 'vaccination almost invariably protects against small-pox for the time being; generally for a long term of years; sometimes for a lifetime. Often the protection is absolute; as a rule it is very nearly so; in rare instances it is trifling.' Again, in dealing with the complications of vaccination, he takes up a very candid position with regard to the risks of erysipelas, of vaccinal syphilis, etc. He declares in favor of bovine over humanized virus after a full discussion of the arguments on either side, saying that 'in barely one particular—that of promptness of action—can humanized virus justly be credited with any superiority, while in every other essential respect it is inferior, so far

as any difference is to be observed.' At the same time he does not admit that there is any proof of the deterioration of the Jennerian vaccine."

Praise and blame deserved but withheld are about even in most men's lives. We trust, therefore, that we shall not be looked upon as actuated wholly by considerations of *meum* and *tuum* if we state that, of the three articles mentioned by the "Lancet," the one on Vaccinia was written, not by our excellent friend Dr. Hyde, but by the editor of this journal.

THE STATE OF NEW YORK AND THE CANADIAN SMALL-POX EPIDEMIC.

Last winter the accidental Governor of the State of New York, who is now a candidate for re-election, distinguished himself by, *inter alia*, pandering to the rage for a penny-wise and pound-foolish economy by refusing to sign a bill appropriating the inconsiderable sum of fifteen thousand dollars for the use of the State Board of Health in case of emergency. At the time, we pointed out the criminal foolishness of the Governor's course. The emergency is now upon us, for there is every reason to apprehend that the Canadian outbreak of small-pox will cross the frontier unless the most energetic precautions are taken. Unless the people of the State are willing to submit to the inconvenience of an extraordinary session of the Legislature, we know not how they can be defended, save at the far greater expense of sucking Government pap—an expense to their honor that will not tally well with their past record. Already the apprehension felt in Buffalo, together with the rumors of outbreaks at Rouse's Point and other localities, can not be viewed otherwise than as disquieting.

A DANGER TO THE ARMY MUSEUM AND LIBRARY.

Some anxiety has been expressed—although not publicly, so far as we know—lest the operation of the general order limiting the time for which officers of the army could be stationed in Washington should involve the removal of Dr. Billings from the further prosecution of the grand work upon which he has spent so many years. That work is still far from being finished, and we can not see how the public interests could fail to suffer by Dr. Billings's transfer to another field of duty. It is not to be wondered at, therefore, that the possibility of such an occurrence should be looked upon with alarm. There can be no doubt, however, that it can be avoided without violation of the spirit of the order, and we are convinced that there can be little less doubt that the Government will take good care that it is avoided. We look, then, to see Dr. Billings continued in the sphere which he has so adorned, and we are sure that such a course is earnestly desired by the profession.

NEWS ITEMS, ETC.

The New York Quarantine Service.—The service in the Lower Bay was discontinued on the 1st of October, a month earlier than usual, owing mainly, it is said, to the comparative freedom of Havana and other tropical ports from yellow fever.

The Health of the State of New York.—The State Board of Health's "Monthly Bulletin" for the month of August shows a reported mortality of 7,284, which is considerably lower than that for July. But this, it is explained, is partly accounted for by the failure to receive reports from Buffalo, Long Island City, and a number of large villages. The percentage of infant mortality was 46·73. Zymotic diseases caused 337·31 deaths in every 1,000, diarrhœal diseases 236, consumption 128·87, and acute respiratory diseases 57·52. The board has issued a most useful circular on the prevention of small-pox, setting forth the laws on the subject, and giving information as to the general management of an outbreak.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 6, 1885:

DISEASES.	Week ending Sept. 29.		Week ending Oct. 6.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	39	16	46	8
Scarlet fever	15	2	19	2
Cerebro-spinal meningitis	2	2	1	1
Measles	4	0	3	1
Diphtheria	39	19	28	8
Small-pox	3	3	6	0

Precautions against Small-pox.—The Board of Health of Fall River, Mass., has accepted an offer from the New Hampshire State Board of Health, which proposes to issue tickets of inspection to all persons from the infected Canadian districts who pass through the State *en route* for Fall River. The tickets will indicate whether the holders have been vaccinated; and, if a passenger from Canada can not produce a ticket, the inference will be that he has thrown it away, and he will accordingly be quarantined, unless he can account for its absence. The medical inspector at Fall River will vaccinate all who need it, and the most rigorous measures will be enforced to prevent the introduction of the disease into the city.

The Contagious Pleuro-pneumonia of Cattle is reported to have been wholly suppressed in Illinois, and the Governor of that State will therefore shortly take steps toward securing a discontinuance of the quarantine measures adopted in other States.

The Management of the Montreal Small-pox Epidemic having been offered to Dr. Edwin M. Snow, of Providence, Rhode Island, that gentleman is reported to have accepted the offer conditionally.

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, September 30th: *Montreal, Canada.*—For the week ending September 29th: 297 deaths from small-pox occurred in Montreal during the week. From September 26th to 29th, inclusive, there were 48 deaths from small-pox in the towns adjoining the city. The official reports give the following record of deaths from the disease in Montreal to September 23d: In April, 6; May, 10; June, 13; July, 46; August, 239; September 1st to 22d, inclusive, 524. Total to that date, 838. The disease has spread with great rapidity during September. During the first five days the deaths were 77; for the week ending 12th, 128; six days and a half ending 18th, 184; September 19th to 22d, inclusive, four days, 135. *Three Rivers, Canada.*—For the week ending September 26th: 5 cases and 1 death from small-pox; disease spreading through the villages in the consular district. *Toronto, Canada.*—September 30th: No new cases reported. *Havana, Cuba.*—For the two weeks ending September 24th: 47 cases and 20 deaths from yellow fever. *Cardenas, Cuba.*—September 19th: Free from epidemic diseases. *Matanzas, Cuba.*—September 23d: Intermittent fever prevalent. *San Domingo.*—September 14th: Free from epidemic diseases. *London, England.*—For the week ending September 14th: 9 deaths from small-pox, including 6 of London residents who died outside of the registration district. *Paris, France.*—For the week ending September 12th: 7 deaths from small-pox; 34 cases treated in hospital. *Bordeaux, France.*

—For the week ending September 19th: 4 deaths from small-pox. *Barcelona, Spain.*—September 1st to 10th: 623 cases and 302 deaths from cholera; disease assuming a milder form. *Cadiz, Spain.*—September 12th: Total mortality 155, average 40; excess attributed to cholera. *Santander, Spain.*—September 19th: Cholera decreasing. *Gibraltar, Spain.*—By telegram September 30th: Authorities to-day issue clean bills of health. *Valencia, Spain.*—September 5th: Cholera decreasing; no new cases in the village during the week. *Genoa, Italy.*—September 13th: 1 death from small-pox. *Venice, Italy.*—For the week ending August 29th: 6 deaths from small-pox. *Palermo, Italy.*—September 18th: Consul reports cholera increasing, and states that about forty thousand of the inhabitants have fled from the city. *Trieste, Austria.*—For the week ending September 12th: 13 cases and 4 deaths from small-pox. *Antwerp, Belgium.*—For the week ending September 12th: 4 cases of small-pox. *St. Petersburg, Russia.*—For the week ending September 12th: 1 death from small-pox. *Warsaw, Russia.*—For the week ending September 12th: 2 deaths from small-pox. *Calcutta, India.*—For the week ending August 22d: 14 deaths from cholera. *Colombo, Ceylon.*—For the week ending August 22d: 44 cases and 18 deaths from cholera *Guaymas, Mexico.*—September 23d: Consul reports yellow fever increasing and becoming more virulent; 138 cases and 36 deaths from the disease since September 1st; it has also appeared at *Hermosillo. Mazatlan, Mexico.*—September 15th: Consul reports yellow fever present in sporadic cases; statistics of deaths can not be obtained; authorities continue to issue clean bills of health. During August 28th, 29th, and 31st, and September 1st and 2d (the report for August 30th has not yet been received), there were in Spain 17,147 cases of cholera and 5,466 deaths. The total number of cases and deaths from March 4th to September 2d is 232,105 cases and 86,692 deaths.

Personal Items.—The "Medical Times," of Philadelphia, announces that Dr. George M. Sternberg, of the army, has been elected an honorary member of the Royal Academy of Medicine, of Rome; also that the following changes in the residences of Philadelphia physicians have been made: Dr. Roberts Bartholow to 1525 and 1527 Locust Street, Dr. Theophilus Parvin to 1718 Walnut Street, Dr. Charles K. Mills to 1909 Chestnut Street, and Dr. B. F. Baer to 2010 Chestnut Street, and that Dr. J. M. Holland has taken an office at No. 1914 Rittenhouse Square. Professor McCall Anderson sailed from New York by the Servia, Dr. Charles E. Sajous, of Philadelphia, by the Westernland, and Dr. W. L. Ranney, of New York, by the Adriatic, last week. The list of arrivals from abroad during the same week included the names of Dr. Major, of Montreal, Dr. G. H. Lyman, of Boston, and Dr. G. G. Wheelock, of New York. Our readers will be glad to learn that Dr. Fordyce Barker has so far recovered his health as to be able to make a visit to Boston.

An Attempt to "Boycott" a Physician is reported from Elizabeth, New Jersey. According to the newspaper accounts, a Roman Catholic priest denounced the physician from the pulpit as an apostate, and warned his parishioners against employing him, threatening them with a refusal to perform the offices of the Church in their behalf in case they disobeyed the warning.

The Johns Hopkins University School of Medicine.—The Baltimore correspondent of the Philadelphia "Medical Times" states that it is rumored that Professor Matthew Hay, of Edinburgh, has been elected professor of pharmacology.

A Museum of the Vegetable Materia Medica.—We learn that Messrs. Parke, Davis, & Co., of Detroit and New York, are prepared to furnish students with a very complete set of specimens of the crude vegetable drugs, arranged within a moderate compass, with each specimen numbered to correspond with a printed list. The value of such a collection to students of materia medica can not well be over-estimated, and the price asked ($10) is so low as to bring it within the reach of all.

An Honor to a Physician.—The "Union médicale" states that, on the recommendation of the director of the Bourboule Spring, the municipal authorities of the place have decided to name one of the principal streets for the late Dr. Noël Gueneau de Mussy, who took a prominent part in bringing the virtues of the Bourboule waters into notice.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 27 to October 3, 1885:*

McParlin, T. A., Colonel and Surgeon. Directed to transfer his duties and the public funds for which he is accountable, as Assistant Medical Purveyor, to Captain Henry Johnson, Medical Storekeeper, who will, in addition to his present duties, temporarily perform the duties of Assistant Medical Purveyor, New York city. S. O. 223, A. G. O., September 29, 1885.

Caldwell, D. G., Major and Surgeon. Ordered from Fort Laramie, Wyoming, to Fort D. A. Russell, Wyoming. S. O. 97, Department of the Platte, September 28, 1885.

Bartholf, J. H., Captain and Assistant Surgeon. Ordered from Fort Ringgold, Texas, to Fort McIntosh, Texas, for duty as Post Surgeon. S. O. 125, Department of Texas, September 28, 1885.

Brechemin, Louis, Captain and Assistant Surgeon. Ordered from Fort D. A. Russell, Wyoming, to Fort Laramie, Wyoming. S. O. 97, Department of the Platte, September 28, 1885.

Macauley, C. N. B., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort A. Lincoln, Dakota Territory, and ordered for duty at Camp Poplar River, Montana Territory. S. O. 105, Department of Dakota, September 21, 1885.

Knudler, William L., First Lieutenant and Assistant Surgeon. When relieved from duty at Camp Poplar River, Montana Territory, by Assistant Surgeon Macauley, to report to commanding officer, Fort Snelling, Minnesota, for duty. S. O. 105, Department of Dakota, September 21, 1885.

Wales, P. G., First Lieutenant and Assistant Surgeon. Relieved from temporary duty at Boisé Barracks, and ordered for duty at Fort Cœur d'Alène, Idaho. S. O. 160, Department of Colorado, September 21, 1885.

Ewing, C. B., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Stanton, New Mexico, and ordered for duty at Fort Leavenworth, Kansas. S. O. 147, Department of the Missouri, September 25, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending October 3, 1885.*

Jones, William H., Surgeon. Ordered to Navy-Yard, League Island, Pa., October 15th, as the relief of Medical Inspector M. Bradley.

Bradley, Michael, Medical Inspector. Detached from Navy-Yard, League Island, Pa., October 15th, and placed on waiting orders.

Owens, Thomas, Assistant Surgeon. Ordered to Naval Station, New London, Conn., as the relief of Surgeon William A. Corwin.

Corwin, William A., Surgeon. Detached from Naval Station, New London, Conn., and ordered to the U. S. Steamer Adams, October 31st.

MAGRUDER, A. F., Surgeon. Ordered to the U. S. Steamer Yantic, without delay, as the relief of Surgeon H. L. Law.

LAW, H. L., Surgeon. Detached from the U. S. Steamer Yantic, and wait orders.

SIMON, W. J., Surgeon. Detached from the Naval Academy, October 1st, and wait orders.

DRENNAN, M. C., Surgeon. Detached from the Naval Academy, October 1st, and wait orders.

CABELL, ARTHUR G., Passed Assistant Surgeon. Assigned to the U. S. Steamer Adams, October 31st.

Marine-Hospital Service. — *Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ended October 3, 1885.*

BAILHACHE, P. H., Surgeon. Detailed as chairman of board for the physical examination of officers of the Revenue-Marine Service. September 28, 1885.

VANSANT, JOHN, Surgeon. Order to New Orleans, La., revoked. To proceed to St. Louis, Mo. October 2, 1885.

PURVIANCE, GEORGE, Surgeon. To proceed to Louisville, Ky., as inspector. October 1, 1885.

GASSAWAY, J. M., Surgeon. Detailed as chairman of board for the physical examination of officers of the Revenue-Marine Service. October 3, 1885.

GODFREY, JOHN, Surgeon. Order of September 16th amended. To proceed without delay to Louisville, Ky. September 28, 1885.

GOLDSBOROUGH, C. B., Passed Assistant Surgeon. Order of September 16th amended. When relieved, to proceed to Chicago, Ill. October 1, 1885.

IRWIN, FAIRFAX, Passed Assistant Surgeon. Detailed as recorder of board for the physical examination of officers of the Revenue-Marine Service. September 28, 1885. To examine physically and instruct crews of the Life-Saving Service, Third District, in the method of restoring the apparently drowned. October 3, 1885.

BANKS, C. E., Passed Assistant Surgeon. Detailed as recorder of board for the physical examination of officers of the Revenue-Marine Service. October 3, 1885.

Society Meetings for the Coming Week:

MONDAY, *October 12th:* New York Ophthalmological Society (private); New York Medico-Historical Society (private); New York Academy of Sciences (section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

TUESDAY, *October 13th:* New York Medical Union (private); New York Surgical Society; Medical Societies of the Counties of Rensselaer, Chenango (tri-annual), Greene (semi-annual, Cairo), Jefferson (quarterly, Watertown), Oneida (quarterly, Utica), and Tioga (Owego), N. Y.; Newark, N. J., and Trenton, N. J., Medical Associations (private); Medical Societies of Bergen and Cumberland (semi-annual) Counties, N. J.; Medical Society of Litchfield County, Conn. (annual).

WEDNESDAY, *October 14th:* New York Pathological Society; American Microscopical Society of the City of New York; New York Medico-Legal Society; Medical Society of the County of Cayuga, N. Y.; Tri-States Medical Association (Port Jervis, N. Y.); Pittsfield, Mass., Medical Association (private); Franklin (quarterly, Greenfield), Hampshire (quarterly, Northampton), Middlesex South (Cambridge), and Plymouth (special), Mass., District Medical Societies; Vermont State Medical Society (annual, Montpelier); Philadelphia County Medical Society (conversational).

THURSDAY, *October 15th:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

FRIDAY, *October 16th:* Chicago Gynæcological Society (annual).

SATURDAY, *October 17th:* Clinical Society of the New York Post-Graduate Medical School and Hospital.

OBITUARY NOTES.

John Light Atlee, M. D., of Lancaster, Pa., died at his home in that city on Thursday, October 1st, in the eighty-sixth year of his age. He was born in Lancaster, November 2, 1799, and received his medical degree from the Medical Department of the University of Pennsylvania in 1820. He was one of the founders of the Medical Society of the State of Pennsylvania, and was chosen president of the society in 1857. He was also one of the original members of the American Medical Association, of which he was president in 1882. In 1877 he was elected an honorary fellow of the American Gynæcological Society. On the union of Franklin and Marshall colleges, he was appointed to the professorship of anatomy and physiology, which he held until 1869. During the greater part of his long career he held a number of positions of trust not connected with medicine, and was specially interested in the public schools of Lancaster. In connection with his brother, the late Dr. Washington L. Atlee, he was for many years widely known as a successful ovariotomist, and he is said to have been the first surgeon to remove both ovaries successfully at one operation. Many of the physicians of New York have a lively remembrance of the genial personal attributes of Dr. Atlee as revealed to them at a reception given in his honor by the late Dr. Marion Sims a few years ago, and his loss will be keenly felt by the profession of the whole country.

Richard McSherry, M. D., of Baltimore, Md., died at his home in that city on Wednesday, October 7th, at the age of sixty-nine years. He was born in Martinsburg, Va., received his early education at Georgetown College, and was graduated from the Medical Department of the University of Pennsylvania in 1841. He was immediately appointed to the medical corps of the army, and served under General Taylor in the Seminole War, resigning his commission in 1843. In the same year he was appointed an assistant surgeon in the navy, in which he served until 1851, when he resigned and settled in Baltimore. In 1862 he was appointed to the chair of Materia Medica in the Medical Department of the University of Maryland, and in 1865 to that of the Principles and Practice of Medicine in the same institution. He was a member of the Medico-Chirurgical Faculty of Maryland and of the Baltimore Academy of Medicine, of which he was one of the Founders and its first president. He was a writer of considerable repute, and the author of several medical works.

Letters to the Editor.

A NEW NATIONAL MEDICAL ASSOCIATION.

To the Editor of the New York Medical Journal:

SIR: As many are of the opinion that the usefulness of the American Medical Association is at an end, and that in all probability its future meetings will be characterized by acrimonious debates on medical polity to the detriment of its scientific interests, the time appears ripe for the organization of a new national medical association.

I would suggest, therefore, that it be organized in the following manner: Let each State medical society at its meeting in 1886 appoint two persons to represent it on a General Committee of Organization.

Early in 1887 this General Committee should be called together, the call for its meeting to be issued by the representatives earliest appointed acting as temporary chairman and secretary, and whose functions as chairman and secretary shall cease on the organization of the committee.

The duty of the General Committee shall be to prepare a plan for the permanent organization of the profession, the plan evolved by the General Committee to be submitted to the several State societies in 1888. If it should meet the approval of the majority of the State societies, the General Committee should issue a call for the general meeting of the National Association in 1889, which, when organized, terminates the labors and functions of the General Committee.

If the foregoing propositions appear to be open to serious objection, it is to be hoped that the objections will be formulated at an early day in order that they may be modified if generally thought desirable. It is further hoped that the medical press of the country will bring this matter before their constituencies with such commentary as seems to them wise.

Respectfully yours,

Subscriber.

COCAINE IN THE TREATMENT OF OPIUM ADDICTION.

314 State Street, Brooklyn,
Saturday, *September 26, 1885.*

To the Editor of the New York Medical Journal:

Sir: The able and valuable paper by Dr. Bauduy on "Cocaine in Melancholia," in your journal of to-day, contains a statement or two that we can not pass without comment and dissent.

Speaking of cocaine in the treatment of chronic alcohol- and opium taking, he says: "It not only replaces alcohol and morphine, but it generates a positive disgust for those agents. They can be withdrawn completely and at once without the slightest suffering or injury, and the cocaine itself may be gradually dispensed with, thus eventuating in perfect recovery."

This assertion as regards morphine is so at variance with my experience—based upon several years' exclusive professional attention to the treatment of opium habitués, and embracing case after case in which cocaine, in one-grain doses, subcutaneously, has again and again been given—that I am compelled to express my belief that Dr. Bauduy is *greatly mistaken.* His claim is entirely too sweeping, being, in effect, *specific* virtue for cocaine in opium addiction, which, I assert, it—or any other drug—does not possess. That coca—or its alkaloid—is of great value in this disorder I willingly admit, regarding it the most effective tonic-stimulant at command, but only as an *adjunct;* for opium addiction presents such *varied* reflex irritation on abrupt or rapid withdrawal of the habitual narcotic that its effective treatment can not be compassed by any *one* drug of which we know.

Such being my belief, it seems to me quite unwarrantable to assert that with cocaine a long-used opiate "can be withdrawn completely and at once without the slightest suffering." I do not believe it, and challenge proof to the contrary. It is too much like the asserted statement of Fleischl, that, with cocaine in the treatment of alcoholism and morphinism, inebriate asylums are a thing of the past—an assertion so astounding that it can be credited only to the vagaries of a visionary enthusiast.

Dr. B. cites *one* instance. A single swallow scarcely makes a summer. Let us have *cases* and details.

On another point our experience differs. He mentions a patient "for many years a hopeless victim." The morphine was at once withdrawn; one grain to one grain and a half of cocaine, hypodermically, given twice daily; craving for morphine immediately ceased, and all the usual sequelæ of withdrawal failed to appear.

No such remarkable result has ever followed my giving of cocaine, for invariably the effect has subsided in from two to three hours, my latest observation on this point having been made to-day. In this connection a paper on this topic by Dr. J. F. Whittaker, of Cincinnati, in the "Medical News" of August 8th, is of interest, his experience according with mine as to the transient effect of cocaine, and his opinion of its value being: "I am convinced that cocaine alone is not a perfect antidote or substitute for morphine."

Regarding the danger of a coca "habit," the opinions of these gentlemen are directly opposite, Dr. B. claiming it "a certainty," Dr. W. asserting "the fear of a cocaine 'habit' is quite ungrounded."

Personally, I think it possible, one such case having been under my care—a patient who used one pound of fluid extract of coca every two days. The gentleman recovered.

Dr. Bauduy's enthusiasm regarding cocaine may be the legitimate outcome of his experience with it in various disorders, but, in placing before the profession the conclusions he has reached, I respectfully submit that the one regarding its use in opium addiction belongs among those "not sufficiently matured by time and experience."

J. B. Mattison.

PUERPERAL DIPHTHERIA.

168 West Twenty-third Street, *September 30, 1885.*

To the Editor of the New York Medical Journal:

Sir: In your otherwise excellent report of my paper, read before the American Gynæcological Society, two errors have occurred, which you would oblige me by correcting—the more so as one of them might be of practical importance. "The patient complained of pain in the epigastrium" should read *The patient complained of pain in the hypogastric region.* The suppositories I have used contained a hundred grains of iodoform.

Yours truly,

H. J. Garrigues.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of October 1, 1885.

The President, Dr. A. Jacobi, in the Chair.

The President's Address was published in our last issue.

Obscure Cases of Weak Heart.—Dr. R. Van Santvoord read a paper on this subject, in which he said that weakness of the cardiac muscle, occurring independently of valvular lesion, was recognized as an important pathological factor in a large number of morbid conditions. It was a chief source of danger in acute febrile diseases; it occurred as a result of continued anæmia, and of alcoholism and other toxic conditions. Failing cardiac compensation was often the cause of death in chronic Bright's disease. The right ventricle was frequently affected in lung diseases which interfered with the pulmonary circulation. Degeneration of the cardiac muscle might result from inflammation in the course of general diseases, or as a result of lesions of the coronary vessels. Strain might weaken the heart. At the

autopsy there might be found granular, fatty, fibroid, or waxy degeneration. The heart structure might be found normal, although the history during life pointed to cardiac failure as the cause of death. In many of these conditions the diagnosis could easily be made, but in others the connection between the symptoms and the cardiac failure was obscure and liable to be overlooked.

Dr. Van Santvoord then proceeded to relate four histories of obscure cases of weak heart, and to study the significance of the symptoms which were present. The first case was that of a slightly corpulent man of forty-two years, who was apparently in robust health. He drank but little. Sleepiness was the symptom of which he complained—he fell asleep frequently during the day; and he was forgetful, and complained of headache. There was slight dyspnœa on ascending stairs. The only evidence of organic cardiac derangement was that the sounds, especially the first, were rather weak, and reduplication of the second sound was to be heard at the base of the heart. The symptoms dated back two years, when the patient had a severe attack of pneumonia. The diagnosis of weak heart following pneumonia was made. The treatment consisted in the administration of tincture of digitalis and tincture of nux vomica, the latter for indigestion. After two weeks the heart sounds became louder, but the patient was not apparently improved. Five grains of citrate of caffeine after meals were given in the place of digitalis, and one thirtieth of a grain of strychnine instead of nux vomica. The heart sounds soon became louder, and the disagreeable symptoms disappeared. When he was last seen, twenty-three weeks after the beginning of the treatment, the patient was in a comfortable condition, though slightly short of breath. There was persistence of reduplication of the second sound of the heart, heard at the end of inspiration and the beginning of expiration.

The second case was that of a stock-broker, aged thirty-eight years, who had had a number of slight attacks of gout, and several of whose relatives were gouty. He had been worried about business, and had drank freely. He had been short of breath; had had albumin in the urine; his ankles were puffy, especially after drinking brandy. He drank freely and ate little. One relative was asthmatic. The author had been called to him on account of dyspnœa and wheezing. He found the dyspnœa slight, the lungs normal; the first heart-sound weak, the second metallic and hard; not quite clear. The tongue was coated. He complained of flying pains in the muscles. The urine contained a small amount of albumin, and its specific gravity was 1·024. After six days' restraint from alcohol, administration of proper food, the use of morphine and Hoffman's anodyne at night, great improvement had taken place. The symptoms, however, returned when he began again to go about; the apex-beat was weak, the pulse was 102, and there were occasional pains shooting from the apex to the scapula. Digitalis and remedies for the condition of the bowels were administered, and within two days the pulse fell to 84, and its tension increased. He was restrained from alcohol, and after six months was greatly improved and in comfortable general condition. The first heart sound was still short and valvular, the second metallic and sharp, the arterial tension low, the pulse 82. The urine contained a small amount of albumin and many hyaline casts. In this case the abuse of alcohol and underfeeding had caused malnutrition of all the organs, but the rapid and continued improvement after the use of digitalis, especially in the cardiac action, was proof that the heart was the organ chiefly affected. The normal quantity of the urine, the small amount and inconstancy of the albumin, the absence of evidence of active kidney trouble, the low tension of the pulse, and the rapid improvement went to prove that the albuminuria was probably not associated with grave organic changes in the kidneys. The lesion in this case was conjectural; from the fact of the abuse of alcohol it might be inferred that there was fatty heart, but the rapid response to digitalis pointed to a less grave state of malnutrition. There was persistent irritability of the heart, due apparently to mental worry.

The third case was that of a man, aged fifty-four, who had been addicted to out-door sports. His health had always been good except for constipation. His illness began, some months before he consulted Dr. Van Santvoord, with lassitude, drowsiness, and distressing headache, chiefly at the vertex. He had for a long time been obliged to get up at night to urinate. Dr. Van Santvoord was consulted for an unusually severe attack of pain in the vertex and back of the head. The man was thin, sallow, and anxious; the tongue slightly coated; the appetite good. The apex of the heart was in the nipple line, in the sixth interspace, and at that point there was a faint systolic murmur. The cardiac sounds were weak. A mixture was given to correct the condition of the stomach, with the idea that the head symptoms were reflex, but no benefit followed. Faradization alone produced an effect upon the bowels. Ten minims of tincture of digitalis and twenty of tincture of chloride of iron were ordered, and during twelve days the heart sounds continued to increase markedly in force, the pulse became stronger, and the general condition improved very decidedly. The urine continued to be passed in large quantity; it contained no albumin or sugar; a few pus-globules were always present; its specific gravity ranged from 1·0105 to 1·0195. The patient had been treated for stricture, and had seminal emissions. From the enlarged heart and the great quantity of urine passed it was thought that he was suffering from contracted kidneys, with secondary heart failure, although the specific gravity of the urine was usually normal and it contained no albumin. The man went South, and remained in fair health. A year afterward he was a little short of breath, and had an indefinite disagreeable sensation in the head and occasional shooting pains in the arms and legs. The apex of the heart was in its former situation; the heart sounds, especially the second, were weak, with a reduplication of the first to the left of the sternum and on a level with the fourth rib. The sphygmographic tracing was of large amplitude, the tidal wave more marked, the aortic notch much higher in the tracing, and the dicrotic wave far less developed than in the case of the second patient. The pulse was 75. Digitalis and fluid extract of ergot caused, within ten days, diminution in the amplitude of the pulse, lessening of the dicrotic wave, and lowering of the pulse to 64. The sphygmographic tracing now differed from a normal tracing only in showing a little lower tension. The urine had a specific gravity of 1·015; it contained no albumin, and but few pus and red blood-globules. The fact that the patient had held his own for a year, the specific gravity of the urine being normal for the amount passed, and that the sphygmographic tracing showed low arterial tension, led to the conclusion that the polyuria was due to some other cause than contracted kidney, being possibly a reflex result of the urethral lesion. The cardiac failure, therefore, seemed to be an independent matter. The age of the patient pointed to an early stage of one of the chronic degenerative processes. His addiction to athletic sports suggested the weak dilated heart, without recognizable histological change, noticed by Münzinger.

The fourth case was mentioned only on account of certain special features. A boy, aged fourteen, had a severe attack of measles. His previous health had been good. After convalescence he suffered from dyspnœa and lancinating pain in the cardiac region on running. He was thin and pale; the cardiac beat was marked over the apex, in the epigastrium, and second left interspace, and both ventricular areas were enlarged. The

heart sounds were loud. There was distinct reduplication of the second sound in the third left interspace, near the sternum. A loud, blowing systolic murmur was heard over the arteries at the base of the neck, transmitted into the brachials and femorals. Improvement took place under the use of iron, strychnine, and rest; the dilatation of the heart diminished, the arterial murmur disappeared, and the venous hum became lessened, but the reduplication of the second sound persisted. The absence of cardiac murmur and the rapid improvement pointed to cardiac dilatation, with perhaps some fatty degeneration.

On reviewing the symptoms in these cases it would be seen that reduplication of one or other of the heart sounds was present in three of them. The cause of this phenomenon had been much discussed, but the simplest explanation was, that the reduplication of the first sound was due to asynchronism in the contraction of the ventricles, while that of the second was due to asynchronism in the closing of the aortic and pulmonary semilunar valves. Bramwell thought this the explanation in the majority of cases. Apart from purely theoretical speculations, which the author reviewed, it was a fact that persistent reduplication of the first sound had been found clinically associated with functional disorders and with grave organic changes of the heart, with or without valvular disease. It was at least within the limits of our present knowledge of the subject to say that its presence in a given case was presumptive evidence of cardiac lesion, the character and gravity of which would have to be determined by the other symptoms. As to reduplication of the second sound, it might be due either to derangement of the nerve apparatus or to lesions of the muscular fibers of the heart which caused the contraction of one ventricle to be a little shorter than that of the other, or to disturbances in the relative amount of resistance to be overcome by the respective ventricles. Aside from theory, as a matter of clinical observation, reduplicated second sound was so frequently associated with obstruction to the greater or lesser circulation, with lesions of the cardiac muscle, or with a combination of both, that its occurrence should lead to a careful study of the case with a view to determining the presence or absence of important cardiac disease. In the case of weak heart following pneumonia, the reduplication of the second sound was heard when last listened to only at the end of inspiration and the beginning of expiration—*i. e.*, it was of the normal type. The patient's condition at the time was comfortable, and an observer who knew nothing of his former history might wrongly have concluded that the sign was without significance. Regarding the weak first sound, in interpreting the meaning of a short, weak valvular first sound, it was obvious, from a study of the sphygmographic tracing in these cases, that the peripheral resistance to the circulation was quite as important a factor as the strength of the ventricular contractions. But in interpreting the meaning of a strong or a weak second sound we should consider not only arterial tension, but also the form of the ventricular contraction. The author felt convinced that closer observation and analysis of the less striking evidences of deranged cardiac action would greatly lessen the number of cases of grave cardiac lesion which remained totally unsuspected before an autopsical examination. Regarding the effect of digitalis and caffeine, it was plausible to suppose that the contrasted effect of the two remedies in the cases related might lie in the slighter influence of caffeine on the vasomotor apparatus. At any rate it would be seen that caffeine was sometimes efficient when digitalis failed. The greater safety and more rapid action of caffeine would make it preferable to digitalis in cases of heart failure occurring in acute diseases or primary degenerative processes of the cardiac muscle. The soluble and stable combinations of the alkaloid with salicylate or benzoate of sodium were preferable to the insoluble and unstable citrate. It should be given in divided doses, first small, and pushed as high as half a drachm daily.

The subject of the paper was discussed by Dr. John C. Peters, Dr. L. Weber, Dr. E. D. Hudson, Dr. A. H. Smith, and others.

PHILADELPHIA CLINICAL SOCIETY.

Meeting of September 25, 1885.

The President, Dr. Edward E. Montgomery, in the Chair.
Mary Willits, M. D., Reporting Secretary.

A Case of Empyema.—Dr. I. G. Heilman reported the case of E. M., aged nine years. His family history indicated some tendency to pulmonary disease, but his health had always been good. Dr. Heilman was called to see him on April 24, 1885, and found him suffering from an attack of measles. The case presented nothing unusual until April 29th, when pneumonia, limited to the lower lobe of the left lung, set in, and the case became more serious. May 1st he was hastily summoned, and found the patient suffering with intense pain in the left side of the chest, and exceedingly nervous. The symptoms suggested pleurisy, which the physical signs showed to be present. An opiate, with counter-irritants, afforded relief; but on the following day there was a decided effusion, which continued to increase in quantity until it filled the entire pleural cavity on the left side. Respiration being entirely suspended on that side, the dyspnœa was very great. The temperature varied between 102° and 103° F. The acute symptoms gradually abated, but there was very little decrease in the quantity of effusion. By May 13th, two weeks after the beginning of the attack, the patient seemed fairly comfortable, the temperature varying between the normal and 99·5° F. On measuring the chest the affected side was found to be one inch larger than the other. The percussion-note was still non-resonant; respiration sounds and movements were absent. Absorption seemed to have begun, when the patient's stomach became so irritable that scarcely any nourishment could be given for a week; the effusion again filled the left pleural cavity, and, in spite of quinine, potassium iodide, Basham's mixture, and hydragogue cathartics, with tincture of iodine and cantharidal collodion externally, the patient gradually grew worse. The temperature, however, during this period never rose above 100° F., nor the pulse above 95, except temporarily after exertion, or following an attack of nervousness. On June 19th Dr. E. R. Stone saw the case in consultation, and it was concluded that paracentesis was the only measure that promised relief. The condition of the patient at that time was not so serious as to cause the presence of pus to be suspected. His appetite was quite good; he spent a portion of each day on the street; he had fever only occasionally, and slept well. There was dyspnœa, but not to so marked a degree as would be expected in a case of that character. On June 23d an aspirating-needle was passed into the pleural cavity and eighteen ounces of pus were drawn off. No unpleasant symptoms attended the operation, and marked relief was afforded; the lung expanded, and twelve hours after a good respiratory murmur was found at the apex. The improvement was but temporary, and a week later the entire cavity had again filled. It was then decided to use the aspirator daily, and to remove as much of the fluid as the patient could bear. To obviate the necessity of a daily puncture with the needle it was decided to introduce a tube and to retain it in position. A puncture was made with an ordinary trocar and cannula, the trocar withdrawn, and a soft-rubber catheter was passed through the cannula, which was then drawn out over the catheter, thus leaving in the pleural cavity a tube to which the aspirator could be attached at any time. The catheter was held in position by a

strip of adhesive-plaster, and closed by a wooden plug. Aspiration was performed on nine successive days—June 30th to July 8th—and seventy ounces of pus were drawn off in all, which, with the first eighteen ounces, made a total of eighty-eight ounces. The aspiration of July 8th was followed by a little blood. From July 9th to July 14th a daily trial was made, but no further discharge took place. On July 11th a little water was injected, but was immediately forced out between the chest-wall and the tube. The lung in the mean time had expanded, and there was an almost normal respiratory murmur over nearly the entire chest, with good percussion resonance. On July 13th water was again injected, with the same result as before. On the 14th, in consultation with Dr. W. F. Buchanan, the tube was removed and the wound was closed with adhesive plaster. The left side at that time measured seven eighths of an inch less than the right side. The condition of the patient had decidedly improved; his appetite was very good and his strength was returning rapidly. He had since gained ten pounds in weight, had attended school, and taken part in out-door sports.

Dr. Heilman said that the points of interest in the case were: 1. The length of time (seven weeks) during which the lung was compressed until the aspirator was first used, in all eight weeks, before a regular systematic effort was made to remove the pus. Yet the lung steadily expanded as the pus was removed. 2. The time (nine days) required for the removal of the entire quantity of pus; there was no discharge after that time, and the tube might have been removed then with safety. 3. No antiseptic solution was injected—indeed, no attempt was made to wash out the pleural cavity. It was true that a small quantity of water, not more than two ounces, was injected twice, but that was done for the purpose of removing any clots that might have been obstructing the tube. He was aware that that was not in accord with modern teachings and practice, but it was difficult to see how antiseptic washings could have hastened the recovery of the patient. The aspirator in the treatment of those cases possessed, it seemed to him, so many advantages that he could scarcely conceive of a case where resort to the old method of open drainage would be justifiable. The simplicity of the operation in the one case and its difficulty and gravity in the other were points worthy of consideration. It was, he said, a trifling matter to puncture the chest-wall with a small trocar and cannula; but in a patient already exhausted it was often a most serious one to make two large openings and remove portions of the ribs.

Cleanliness was another point for consideration. In the case reported not a drop of pus escaped except when the aspirator was used. There was absolutely no unpleasant odor at any time, nor soiling of the patient's clothing—both so annoying when an open drainage-tube was used. A still greater advantage, in his opinion, was the control it gave the physician over the expansion of the lung, as he could cause it to expand rapidly or slowly, at his pleasure. The expansion being a gradual one, those distressing symptoms that so often resulted from a sudden removal of the fluid were avoided.

Dr. Heilman then exhibited the patient. The two sides of the chest resembled each other in contour; the percussion-note was the same on both sides, and a recent measurement showed that the left side was only one quarter of an inch smaller than the right.

Dr. Collins remarked that he noticed a slight friction-sound on the affected side, probably due to a deposit of lymph on the pleural membrane. He thought that if aspiration had been done earlier there would have been less danger of a deposit. He considered it an advantage to aspirate early, and would not hesitate to operate at the end of fourteen days. In regard to the use of antiseptics, he did not consider them necessary, as with the aspirator no air entered the pleural cavity.

Dr. Beates said that in his experience the entrance of air into the pleural cavity had caused no unpleasant symptoms.

Dr. Heilman, in closing the discussion, said that he had used the aspirator as soon as the consent of the parents could be obtained; they were very much averse to an operation. The pleural cavity was entirely filled, and there was some trouble in finding the intercostal spaces on that account. He thought that the escape of blood was due to the aspirator.

Tracheotomy in Croup and Diphtheria.—Dr. Edward E. Montgomery read a paper with this title. [It was reserved by the author for future publication.]

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of April 23, 1885.

The President, Dr. B. F. Westbrook, in the Chair;

Dr. A. H. P. Leuf, Secretary.

Aortic Stenosis and Regurgitation; Aneurysm of the Aortic Valves; Mitral Stenosis and Regurgitation.—Dr. Glentworth R. Butler read the following: "The patient from whom the accompanying specimen was taken was seventeen years of age, male, by occupation a tow-boy. He entered St. Mary's Hospital for the relief of an ulcer on the leg of two years' standing. He gave a history of acute rheumatism in 1878, and of constant exposure and insufficient nourishment. The ulcer was of traumatic origin, but healed promptly under proper treatment. After the stay of a month in the hospital he developed a lobular pneumonia from which he was fairly convalescent on April 1, 1885, when symptoms of cardiac distress led to an examination of the heart. According to his statement he had always been able to do a good day's work and had never had any symptom referable to a cardiac lesion. On examination, the apex-beat was found to be carried below and to the left of the nipple, with bulging of the præcordial space, and marked impulse in same region extending over a large area. On auscultation, a to-and-fro murmur was heard at the base over the aortic valves, and an apical systolic murmur, all three well marked. In addition, a faint presystolic murmur was detected over the area of mitral obstructive murmurs. A diagnosis was made of aortic and mitral obstruction and regurgitation with hypertrophy of the left ventricle. The after-progress of the case was rapid, dyspnœa and weakness increasing until death occurred on April 12, 1885. The lesions disclosed at the autopsy were as follows: The heart was greatly enlarged, and the increase in size was particularly in the left ventricle, which was dilated to at least twice its normal contents. The left auricle was greatly dilated and its walls thickened. The endocardium was thickened and opaque. The cusps of the aortic valve were also thickened and opaque. The posterior cusp was considerably stretched, forming an aneurysm. Large masses of vegetations were growing from all the cusps. There was a mass of vegetations on the wall of the ventricle one quarter of an inch below the aortic valves. The vela of the mitral valve were thickened and adherent, making a funnel-shaped contraction of the orifice. The tendinous cords were thickened and shortened. The papillary muscles were lengthened. The right side presented no marked changes, which is singular in view of the extensive lesions on the left side. The lungs were dark-colored at their bases, and showed patches of collapse, but no sign of an unresolved pneumonia."

Umbilical Hæmorrhage.—Dr. W. H. Thayer read a paper on this subject. [It will be published in full hereafter.]

Four Cases of Tait's Operation.—Dr. Joel W. Hyde read a paper with this title. [It will be published in full hereafter.]

Dr. L. F. Criado asked at what time with reference to menstruation the author operated.

Dr. Hyde replied that in the last case it was five days after the flow.

Dr. Criado had asked the question for one reason. He had seen many ovaries removed which he thought were not cystic, but contained only Graafian vesicles. He failed to see why these organs should be removed so much. He did not believe they all were cystic.

Dr. Hyde had intended to operate within a week after the cessation of the menses. As regarded cysts, in one case he could not see the ovary, but in its place a cyst of about the size of an orange. It contained at least a little more than a gill of fluid. In another case the ovary contained a cyst as large as a small walnut. Another had one which was about one third as large as the ovary itself. In all the cases there was sufficient disease of the oviducts to justify the operations, regardless of the condition of the ovaries.

Dr. Criado believed that extirpated ovaries were usually not much enlarged, at least so it appeared to him in those he had seen. He had doubts about many operations being justifiable. He had had two cases in which he had refused to operate, but in which it had been done by some one else. One of the ovaries he had been able to see, and it had seemed to him to be normal.

Dr. C. N. Dixon Jones asked if drainage-tubes had been used. He considered one necessary in Case III, and also thought that the microscope could easily settle the difference between a cyst and Graafian vesicle.

Dr. Hyde replied that he had already stated in the paper that no evidence of a recent peritonitis was discoverable, but that there were signs of an old peritonitis. The trouble seemed to be in the kidneys. Drainage-tubes were not used in any case.

The President said he believed that he could claim the honor of having done the first oöphorectomy in Brooklyn, in December, 1879. The patient was a domestic about twenty-eight years old. She had suffered from a gonorrhœa six years before. The uterus had evidently been inflamed, and remained hard, excessively tender, and with a contracted cervical canal and vagina. She suffered from the most terrible dysmenorrhœa, during the existence of which she frequently became comatose. All attempts to relieve her for five years had failed. Her health was broken, she was unable to work, and a constant cough caused considerable anxiety lest she should have phthisis. The menstrual intervals became prolonged to from two to five months. During one or two very severe attacks, accompanied by all the symptoms of dysmenorrhœa, but without the hæmorrhagic flow, there had been a slight discharge of blood from the rectum. The bladder was excessively irritable. She also had a lump of the size of an English walnut in the right mammary gland. The operation was performed with the idea of bringing on the menopause. He was assisted by Dr. George R. Fowler, Dr. F. W. Rockwell, and Professor E. S. Bunker. The operation was done under the carbolic-acid spray, and the wound closed with horse-hair sutures. On the second day she sat up in bed and pulled off her stockings, and on the third or fourth day she got out of bed, during the temporary absence of the nurse, and walked across the room to get a drink. By these proceedings she broke two or three of the stitches, but she made an excellent recovery nevertheless. Since the operation she had menstruated three or four times, at intervals of five or six months, and then the function had ceased. She had improved very slowly, but was now able to work, and had been in one place for fifteen months. At last accounts she was contemplating matrimony. It was interesting to note that the vesical trouble disappeared immediately after the operation, and that the mammary tumor also vanished. There were no peritoneal adhesions. The ovaries were of the natural size, but contained numbers of small cysts.

Complete Calcification of the Arch of the Aorta.—Dr. A. H. P. Leuf exhibited a thoracic aorta that was completely calcified from its origin at the aortic orifice of the heart to the opening in the diaphragm. Below the diaphragm it contained large calcareous patches. It had the appearance of an immense pipe, and was as solid as if composed of a shell of plaster of Paris and glue. He asked if any one present had seen a similar case?

The President recalled a similar case that had been presented to the society a few years ago, in which there was also complete calcification. It was presented by Dr. E. H. Bartley. The patient had died of inanition.

MEDICAL SOCIETY OF VIRGINIA.

Sixteenth Annual Meeting, held at Alleghany Springs, Tuesday, Wednesday, and Thursday, September 15, 16, and 17, 1885.

Dr. Bedford Brown in the Chair.

(*Continued from page 383.*)

Thursday's Proceedings.

Treatment of Lacerations of the Os and Cervix Uteri without Surgical Operation.—Dr. B. Brown, of Alexandria, read a paper with this title, and said that the value of Emmet's operation was acknowledged, although it was sometimes risky; but many women were so situated that they could never enjoy its benefits. Ten or twelve years' experience with some twenty cases had convinced Dr. Brown that these patients could be cured, without a surgical operation, by a simple, painless, safe, and easy plan of treatment which could be used by any practitioner. The nature of his cases had varied from trifling fissures to the most severe lacerations, and sterility had invariably coexisted. Many cases were complicated by cellulitis, localized peritonitis, subinvolution, metrorrhagia, displacements, proctitis, etc. In every case the general health was impaired. There were peculiar neuralgic pains in all those nerves coming within the circle of sympathy of the exposed and lacerated nerves of the os uteri. Thus, the great lumbar plexus manifested its sympathies in the form of constant aching pain in the base of the sacrum. Ovaralgia on the side of injury, or on both sides, if the injury was double, was almost invariable. In a few cases the development of sciatica indicated reflex sensation on the part of the sciatic nerves. Neuralgia of the crural nerves and their branches was common. These pains extended to the patella, and even down to the dorsum of the foot. Dr. Brown had healed several cases of laceration by first intention in the acute stage by means of absolute rest, disinfection, and cleanliness. If lacerations failed to unite immediately after labor by first intention, they never united spontaneously by second intention. Local treatment then became necessary. Dr. Brown always examined the womb, etc., for lacerations as soon as labor was completed; and, if found, he began, after the first twenty-four hours, a systematic course of treatment with a view to absolute disinfection and cleanliness. Warm douches of solutions of borax, boric acid, and carbolic acid were gently used two or three times daily, and the patient was kept in the recumbent position for two weeks. If healing did not occur by that time, it did not occur afterward spontaneously. Eight or ten weeks later, in such cases, he proceeded to procure union by the second intention. For this purpose he had used carbolic acid, chromic acid, Battey's solution of carbolic acid and

iodine, solid nitrate of silver, and even nitrate of mercury, but without favorable result. The nitrate of silver increased the inflammation, pain, and tendency to hæmorrhage. He then adopted graduated solutions of crystals of nitrate of silver with the best of results. Solution No. 1 was as follows:

℞ Argenti nitratis, cryst., ʒ ss.;
Aquæ destillat., f ʒ j. M.

This solution was to be applied to the interior of the cervical canal freely, down to the os internum, as the cervical canal was always involved in the rent and was left in a diseased condition. Solution No. 2 was:

℞ Argenti nitratis, cryst., ℈ ijss.;
Aquæ destillat., f ʒ j. M.

This solution was to be applied with a camel's-hair brush freely over the entire external surface of the os and cervix, including the fissure of the laceration, until a uniform white coating was formed, thick and tenacious, almost resembling a coat of paint. This gave immediate protection to the supersensitive extremities of the exposed nerves and tender granulations, and acted as a sedative application—allaying irritation, redness, inflammation, and engorgement rapidly, stimulating new vital action and healthy growth of granulations which filled up the fissures or cavities of the lacerations, and accomplished the healing of the wound by second intention. This coating, in the mean time, formed an impervious barrier to the further absorption of septic matter from the discharges, and in this way relieved pelvic cellulitis. The healing process and reduction of hypertrophy of the cervix and inflammation progressed rapidly. The process of absorption was stimulated in a wonderful manner, and the process of involution was also promoted in proportion. In simple fissure of the cervix, extending through the mucous membrane and fibrous tissue only partially, solution No. 1 should be applied thoroughly in the groove of the fissure, so as to reach its very bottom, and thus induce healing from the lowest depths of the wound; otherwise the object would be defeated. Solution No. 3 was:

℞ Argenti nitratis, cryst., ʒ jss.;
Aquæ destillat., f ʒ j. M.

This solution was only to be applied to the external surface of the cervix in the event hypertrophy and induration remained after the lacerations had healed; otherwise, if left in that condition, it formed a basis for the renewal of inflammation and re-opening of the wound. After treatment, the cervix became naturally soft and normal in dimensions. The os was not only not contracted by the application, but returned to a perfectly healthy condition. A great majority of females thus treated had since borne from one to three children, and had been entirely free from all uterine troubles. In three patients—one having borne three children, the second two, and the third one child after treatment for previous lacerations—the os uteri was found perfect as to softness, dimensions, and freedom from disease. Concealed fissures were often found after labor in the mucous membrane of the cervical canal, and caused an infinite amount of local disease, such as endocervicitis, hypertrophy of the adjacent tissues, inflammation of the fibrous tissues of the cervix, leucorrhœa, and often painful menstruation. A favorite locality for these fissures was at the internal os. The mucous membrane and submucous tissue were split through, and then the rent remained a source of trouble for years. The No. 1 solution of nitrate of silver reached these wounds admirably, and would surely heal them from the bottom.

Puerperal Septicæmia especially with regard to Prophylaxis and Ætiology.—Dr. George T. Harrison, of New York, read a paper with this title. Due credit was given to the labors of Semmelweiss for his valuable investigations, which pointed out the right road to the study of puerperal fever. He showed that childbed fever was a disease that came from without. Without a wound somewhere along the genital tract, puerperal septicæmia did not exist. After expulsion of the child and secundines in labor, the entire inner surface of the uterus was laid bare, like a part of the skin deprived of its epidermis by a blister. With this fact it was only necessary to call to mind the possibility of very rapid absorption of septic matters introduced into the vagina or the uterus. In primiparæ always, and in multiparæ generally, there were tears in the cervix, vagina, and vulva, and often lacerations or contusions of the perinæum. If a puerperal wound were protected from external influences it would heal like a wound on the surface of the body. But putrefactive organisms could develop in the living organism wherever dead tissues or fluids (as extravasated blood) were found, while the healthy physiological tissue in general opposed a considerable resistance to their multiplication. On the other hand, other pathogenous (disease-generating) micro-parasites find in the living tissues in the cells, in the blood, in the lymph-sinuses, etc., the favorable condition for development and multiplication. These fungi, endowed with specific powers, were entirely different from the putrefactive organisms, and were destroyed by the latter. In puerperal fever the carriers of infection were either the pathogenous fungi, which generated traumatic diphtheritis, pyæmia, and septicæmia, or they were putrefactive germs. The latter were ubiquitous; the former were imported, and got to the puerperal woman by the hands, instruments, cloths, etc., that might be used about the genitals. They were derived from suppurating surgical wounds, cadaveric poisons, and especially lochial discharges of women suffering with septic infection. A minimum quantity infected in the effective manner. The lochial discharges of puerperal sick during an epidemic were so infectious that they endangered life, by infection, of the non-puerperal woman to the pregnant, to physicians, and gynæcological cases where operations had been performed. In the puerperal woman the conditions for the rapid development of pathogenous fungi were most favorable. Contrary to general opinion, Gusserow had shown that there was no connection between puerperal sepsis and erysipelas, and that the micrococci of erysipelas could not produce pathological changes identical with septic processes. The pathogenous fungi affected the organism immediately, while putrefactive germs did so indirectly by their influence on decomposable matters, always present in puerperal women. An antogenous or autochthonous infection was an impossible thing. The characteristic features of non-pathogenous infection were (1) the late appearance of the fever, (2) the slight participation of the general condition, and (3) the existence of local morbid substrata. The principles of prophylactic treatment consisted in pure air for the lying-in woman, the careful avoidance of introduction of infectious matter into the genital passages, and the thorough disinfection of the genital tract. The physician's and the midwife's hands, instruments, etc., should be disinfected before using about a puerperal woman. Disinfection must be both mechanical and chemical. Use the finger-nail brush often, thoroughly washing the hands with soft soap, and then wash the hands again. Take off the coat and roll up shirt-sleeves. Then dip the hands and forearms in a disinfectant solution. Instruments and cloths should be dipped in about a five-per-cent. solution of carbolic acid for several minutes. During the pregnancy, especially if there be any puerperal-fever epidemic, the woman should frequently wash her external genitals with soap and water, and afterward with boric-acid solution. When labor set in, Dr. Thomas advised her to use a warm vaginal injection of antiseptic character, but Dr. Harrison protested against the injection under ordinary circumstances, as such injections were

unnecessary and fraught with danger. They removed the mucus which rendered the vagina soft and pliable, and most of the disinfectants used, especially carbolic acid and mercuric bichloride, coagulated the mucus and irritated the surface of the vagina. The bacteria naturally found in the vagina were not dangerous. But, if the patient had been subjected to the possibility of septic infection during the birth, then it would be eminently proper to use a copious antiseptic vaginal douche immediately after the birth and during the rest of the puerperal state. In tedious and complicated labors, where frequent examinations had to be made or instruments used, infections were absolutely indicated. Sometimes putrefactive decomposition of the uterine secretions occurred before labor ended. In such cases, complete the labor as speedily as possible, and thoroughly disinfect the genital tract by intra-uterine injections of carbolic acid or mercuric bichloride. Wash the external genitals three or four times daily, and disinfect once a day by carbolic acid or mercuric-chloride solution. Close all lacerations of the perinæum and vagina under strict antiseptic precautions, as by the continuous catgut suture. Iodoform dusted over the raw surface favored union. A powerful contraction and retraction of the uterus greatly helped in securing immunity from invasion of putrefactive bacteria; hence the value of Credé's method in expelling the placenta.

A Report on Advances in Surgery was read by Dr. H. Grey Latham, of Lynchburg, Va., who summarized the discussion last spring before the American Surgical Association on "The Field and Limitation of Operative Surgery of the Human Brain," disapproved of extirpation of the larynx and trachea, spoke favorably of drainage of the lungs for gangrene, etc., and said that laparotomies for many purposes were now established operations—such as for strictures of the intestines, strangulations, excisions of organs non-essential to life, etc. Do not wait too long, he said, in strangulations of the bowels; operate as soon as the diagnosis is established, as soon as vomiting sets in. Cut down so as to reach the cæcum. If this is distended, the obstruction is below; if it is collapsed or not tense, it is above. If the strangulated coil of bowel is gangrenous, resect it, and establish an artificial anus. When laparotomy is rejected, adopt Nélaton's enterotomy in the right iliac fossa. Dr. Latham laid down as propositions (1) that the best guide to the seat of an obstruction was not manual exploration, but visual examination, assisted, if necessary, by extrusion of the bowels, and (2) that no case of operation was properly concluded until an over-distended bowel was relieved of its contents. In operations for hernia, invagination had been laid aside or neglected, and obliteration of the sac or closing the neck was the popular procedure. Digital dilatation of the pylorus had been successfully performed for chronic non-malignant stricture. Through an incision into the stomach introduce a finger, and forcibly distend the stricture. In operative treatment for rectal cancer the following guides were said to be reliable: (1) If the finger can not be passed beyond the disease, unless it is confined to the posterior wall, do not operate. (2) The growth can be removed at a somewhat greater height when the disease is confined to the posterior wall. (3) If, when the finger has passed beyond the disease, the bowel is movable on the adjacent structures, generally speaking, the growth has not extended beyond the rectal walls, and the case is suitable for operation; but, if the bowel feels hard, rigid, and firmly bound to the surrounding organs, the case is unfavorable for an operation. (4) Examine carefully the abdominal viscera, and, if secondary deposits be suspected in the liver, no operation should be performed.

Advances in the Practice of Medicine.—The committee, through its chairman, Dr. Rives Tatum, of Harrisonburg, Va., reported some of the progress made in the healing art during the year. The subject of cholera, in view of its probable visitation to the United States next year, received due consideration. The comma bacillus was still *sub judice* as an ætiological factor, while its constant presence in all cases of genuine Asiatic cholera seemed to be admitted by all competent observers. Dr. Ferran, of Valencia, Spain, still practiced his system of inoculation to prevent cholera. His methods were pronounced by the various commissions engaged to investigate the matter as questionable, and the results as equally uncertain. In view of the fact that one attack of cholera did not prevent a subsequent attack, the principle of vaccination in this disease was likely to result in a failure. The new local anæsthetic, cocaine, had been found of signal service in the treatment of hay fever, used both locally and internally. The mercurial treatment of typhoid fever and diphtheria received due attention in the report, which claimed for the method a reduction of mortality in both diseases. The report claimed the unity of scrofula and tuberculosis, and called attention to peptones and mucin in the urine as interfering with tests for albumin. It alluded to the toxic alkaloids found in the body (ptomaines) as a possible cause of morbid processes, and closed by allusion to the new drug, antipyrin, giving a synopsis of its therapeutic indication and physiological action.

Clinical Notes on Carcinomatous Affections of the Digestive Organs; the Unreliability of Gastric Symptoms as Evidences of Gastric Pathology, was the title of a paper by Dr. R. C. Powell, of Alexandria, Va. He started off with a description of cancer, clinically considered, and reported several cases showing the obscurity of diagnosis. The cases illustrated two points of diagnostic importance: (1) Unreliability of gastric symptoms as evidence of gastric disease, and (2) the great value of cachexia as corroborative evidence of malignant disease. Dr. Powell regarded the cachexia as a more certain sign of cancer than the presence of a tumor. As to treatment, the indications were to sustain strength and to relieve pain. A judicious selection of food was necessary if the stomach be involved. Fatty, saccharine, and starchy foods were digestive chiefly in the intestines, and hence were best when the stomach was diseased. If the pancreas was the diseased organ, give meats, albuminoid substances, milk, etc., which were digested in the stomach; but all food should be pancreatinized before it was used. If the liver was the diseased organ, allow both meat and fish, but not salted nor highly seasoned. Salt-water fish were believed to be best. Fruit and vegetables—raw or cooked as preferred—were allowable. Permit "amusement without excitement, exercise without fatigue, and nutrition without stimulation." To relieve pain and procure sleep, use opium or morphia. Fowler's solution combined with bichloride of mercury; carbolic acid and tincture of iodine—one drop each—and bismuth subnitrate, were the commonly used medicines. When bismuth was combined with atropia, it was useful in the salivation of cancer. Cundurango and Chian turpentine had passed into oblivion, and alveloz would soon also be forgotten.

The Ætiology of Zymotic Diseases was the title of a paper by Dr. M. A. Kust, of Richmond, Va. He first reviewed the evolutionary history of the bacteria from their discovery by Leeuwenhoek, in 1682, to the present time. The germ theory was evolved from the fermentation theory—the morbid process of zymotic diseases being regarded as analogous to fermentation—the contagium playing the rôle of the leaven, exciting fermentation in the blood and humors of the body.

When Liebig appeared with his fascinating physico-chemical fermentation theory, his application of it to explain the morbid process of zymotic diseases was generally accepted, and for a long time his theory kept the yeast-plant—which, since its first

discovery by Leeuwenhoek, had been repeatedly discovered, forgotten, and re-discovered—in the background. When, finally, mainly through the efforts of Pasteur, the yeast-plant was universally recognized, the medical mind, dropping Liebig's theory, came to the conclusion that, if the active principle of fermentation was a living organism, the contagium of zymotic diseases must also be living matter.

Thus the germ theory was ready to spring into life; its way could never have been paved by practical medicine or clinical observations; the pathfinders were botanists, biologists, etc., who, by their researches and experimental studies concerning the ætiology of certain epidemic diseases among plants and insects, disclosed in every instance, as the incontrovertible primary cause of the disease, the action of some low form of life. Dr. Kust then gave a detailed description of the silk-worm plague and its stay by Pasteur. It now stood clear before the minds of the young medical generation that similar organisms must be found as the primary cause of the infectious diseases of mammalia—man included. And they were found at first, perhaps, in too great redundance for the credit of the theory.

Dr. Kust divided the microbes into three classes: Those which were undoubted, those of questionable character, and those whose existence was placed by induction and analogy almost beyond doubt.

The rapid progress made within the last decennium justified the hope that all remaining obscurities as to the relation between microbes and disease would soon be elucidated.

After this, however, there still remained three perplexing questions:

First, Whence came these numerous species of microbes?

The view hitherto entertained that miasms or germs were held in suspense by the air we inhale or by the water we drink was held by Dr. Kust to be fallacious. Any substance present in the air of a locality must have its source in the soil beneath or emanate from an object on the soil, whence it was continually renewed; and what the water contained in solution or suspension was also derived from the surrounding soil, or had found its way into it from without. The soil from the surface down to a considerable depth was the habitat of the bacteria, whence they arose in the form of the finest dust.

Not from the streets of our over-filled cities (provided they were broad enough to give free access to sunshine) arose this dust; it arose from the *soil* into our crowded, unventilated houses as the smoke from the hearth was drawn up into the chimney. No amount of sanitary measures hitherto devised would save a densely populated city from dying out in two or three generations (unless filled up by immigration) so long as the modern architect was allowed full sway.

Dr. Kust discussed the various views advanced concerning the transmutability of bacteria, the change from the specific into the non-specific form, and *vice versa*, and held that our present state of knowledge admitted neither affirmation nor denial.

The second question was, How does the morbid process of bacterial disease ever come to a happy end?

Since the development of the germ theory we had arrived at the perception that we had to reckon with two factors: the cellular-resisting power on the one hand, the degree of virulence and the numbers of the invading microbes on the other. The numbers were of the greatest importance. If a few microbes were sufficient to generate disease, what would happen to the doctors who were daily and hourly exposed to their onslaught?

Infection or immunity, abortive or fully-developed form of the disease, recovery or fatal end, were the resultants of the correlation between cellular-resisting power and the intensity and numerosity of the invading microbes.

But how should we physiologically conceive this cellular-resisting power? On this point we were still in the dark. A gleam of light was, however, dawning in the distance.

The white corpuscles, leucocytes, or migratory cells which circulated in the blood and were to be met with in every multicellular organism, constituting the blood of the white-blooded animals, and being present in the tissues of the lower animals which had no vascular system—these leucocytes, identical with the amœba found in all stagnant waters, had formed the object of the particular studies made by Dr. Metschnikoff, of Odessa. He could only make his experiments on animals (Bipinaria, Asteridæ, etc.) which were of such exquisite transparency that all occurrences within the living animal could be accurately observed from without. Just as one saw the amœba eating under the microscope, Metschnikoff could observe through the transparent teguments of those animals the leucocytes eat up all foreign bodies. It seemed that, by the division of labor in the multicellular organism, these leucocytes (which Metschnikoff had named phagocytes—eating-cells) had assumed the task of eating up all heterogeneous and waste matter, and eliminating what they could not digest.

The question now arose whether the phagocytes, if they ate up all foreign bodies, would not likewise eat up intrusive microbes?

The experiments hitherto made by Metschnikoff seemed to answer in the affirmative, and, should these experiments and observations prove conclusive, recovery or fatal end of the disease would depend on the proportion between the number of the phagocytes and the number of the microbes. The impenetrable mystery of the cellular-resisting power would have resolved itself into a prosaic, tangible eating power. The third question was, How was immunity effected through vaccination?

There were numbers of untenable, explanatory theories in the field. Instead of descanting upon them, as was his intention, Dr. Kust referred to the exhaustive criticism of these theories by Dr. Sternberg, U. S. Army, which appeared in the London "Lancet," June, 1885. In his explanation of immunity Dr. Sternberg rightly assigned the first rank to vital power, but the causative relation of vaccination to immunity still remained unexplained.

While Metschnikoff's eating-cells brought a solution, minds prone to speculation might, even at this early hour, be led to advance the following theory: That the first meal of microbes eaten by the phagocytes might prove so acceptable that in future they would always be ready to consume any reasonable number of the same kind of microbes that might present themselves; and this theory would rest on foundations possibly more solid than those of any other theory concerning vaccination as yet in the field.

(*To be concluded.*)

Miscellany.

The International Medical Congress.—The "Canada Medical and Surgical Journal" says:

"The new committee met in New York early last month and proceeded to do the best they could with the class of professional material at their disposal. The nominations of new presidents of the sections seem, in the majority of instances, most extraordinary. We are near enough to the States, and familiar enough with American literature, to know pretty well the names of the leaders in the different departments of medicine and surgery, but of the seventeen names of chairmen of sections there are twelve absolutely unknown to us as representatives

in their different departments. We ask of many, in blank astonishment, Who are they? What have they done? Where do they live? Truly the committee is sunk low when it must place such men at the head of important sections in an international gathering. The contrast between some of the past and present nominees would be simply ludicrous, were it not painful. The association is determined to have the Congress, and the remnant of distinguished men such as Flint, N. S. Davis, and Dalton, who have cast their fortunes with it, may do much to save it from being an absolute failure, but the leaders of the profession, and the workers who have made American medicine and surgery known here and in Europe, are not in it. The play will go on, but with Autolycus disguised as Hamlet."

When the foregoing was written, our contemporary was of course not aware that Dr. Dalton had declined to hold the position to which he had been nominated.

The "Canadian Practitioner" says:

"The new committee met in New York, September 3d, and made some concessions to public opinion, though not so many as we hoped to see. They amended the rule of membership so as to give representation to societies in special departments, and allow the so-called new-code men to become members of the Congress without the privileges of holding any offices. There was apparently no direct effort made to bring back the eminent men who have withdrawn from the organization. Until this is done it is hardly possible for the proceedings of the committee to command the respect and confidence of the medical world, which is looking on with fear and trembling.

"Among the most important acts of the last meeting was the election of Dr. N. S. Davis, of Chicago, to the office of Secretary-General. This will meet with general approval. The committee will get a fair support in New York, particularly from the Bellevue men. The name of Austin Flint, Sr., will be worth much among the shattered fragments that remain. Many able men in different parts of the Union will assist. We may derive what comfort we can from these considerations; but, after all, the broad, sad fact remains that the cream is principally gone, and we are left to feast on skimmed milk."

The Proposed New National Medical Association.—Commenting on the proposal to form a new national medical association in the United States, the "Canadian Practitioner" says: "It has been proposed to organize in the United States a medical association, corresponding to the Zurich Academy of Medicine, limited in numbers, and so honorable a body that membership in it would carry the highest reward that American physicians would have to hope for.

"The proposal, which is heartily indorsed by the 'New York Medical Journal,' has been made on account of the unpopularity of the American Medical Association. Its position has not been strong for years, but its recent action at New Orleans has capped the climax, and the consequence is that a strong feeling prevails that this association 'must go' if it be not thoroughly reorganized."

A New Physical Sign of Tricuspid Regurgitation.—Dr. W. Pasteur, of the Middlesex Hospital, London ("Lancet"), says: "In several cases in which there was reason to suspect functional incompetence of the tricuspid valve which have recently come under my observation, a physical sign has been present to which I believe attention has not been drawn, and of which I have been unable to find any mention either in the standard text-books or in the best known monographs on the subject of cardiac disease. This sign consists in a distension—with or without pulsation—of the superficial veins of the neck, occurring when firm pressure is exerted over the liver in the direction of the spinal column, and independent of the movements of respiration. A little consideration of the anatomical relations of the parts concerned will suggest the facility with which an impediment may be created to the flow of blood, in either direction, through the vena cava inferior by such a manœuvre, especially when the liver is obviously enlarged. It seems to me that the state thus produced is virtually that which obtains as a chronic condition in long-standing and severe cases of tricuspid incompetence as far as regards the tension in the systemic venous system in the immediate vicinity of the heart. Assuming the existence of tricuspid regurgitation and of a source of compression of the vena cava inferior, it is obvious that with each systole an excessive reflux of blood must take place into the vena cava superior and its tributary veins. It may be noted that the question of pulsation, as compared with distension or undulation, is merely one of degree of morbid venous tension. Although the number of cases in which I have observed this phenomenon is certainly limited, I have never failed to elicit it when there was indubitable evidence of tricuspid incompetence; on the other hand, I have hitherto invariably failed to obtain it in other forms of cardiac valvular disease, and in various cases of hepatic enlargement from causes other than passive congestion. I can not but think that this sign may furnish an important aid to diagnosis in cases where the usual signs of tricuspid regurgitation are ill-developed or in abeyance, and that it may prove a valuable factor in the difficult general problem of prognosis in cases of cardiac disease."

THERAPEUTICAL NOTES.

Baths of Permanganate of Potassium are recommended by Hüllmann, of Halle ("Arch. f. Kinderheilk."; "Dtsch. Med.-Ztg."), in the treatment of scrofulous affections of the skin, eczema, and intertrigo, and especially during the period of desquamation following measles, scarlet fever, and chicken-pox. For a general bath, 15 grains of the permanganate may be dissolved in a bucketful of water.

Pilocarpine in the Treatment of Stramonium Poisoning.—The "Medical Times and Gazette" states that a Hungarian physician, having been called to a child, four years old, in a comatose condition from having eaten, as her playfellows said, two handfuls of the ripe berries of the thorn apple (*Datura stramonium*), and in whose vomit the berries could be plainly detected, gave pilocarpine hypodermically, thinking that, as that had proved successful in atropine poisoning, it ought to be useful in datura poisoning also. He began with the fourteenth of a grain, and, as no effect was produced, he increased the dose to a seventh. As improvement was now evident, this was repeated. Altogether, in five hours he gave six sevenths of a grain, and by that time the child was convalescent. No physiological effects of pilocarpine were produced until the last dose was given, which was followed by profuse secretion of saliva and perspiration.

The Hypodermic Use of Osmic Acid.—Schapiro ("St. Petersb. med. Wchnschr."; "Med. Times and Gaz.") recommends the following solution:

Osmic acid	1 part;
Glycerin	40 parts;
Distilled water	60 "

He has injected this under the skin of the face without any untoward result.

Liquor Sodæ Chloratæ in the Treatment of Typhoid Fever.—Dr. Pearson, of Cape Colony ("Lancet"), believes that the duration of every case of typhoid fever may be shortened if it is taken in time. He gives notes of three cases in which he produced good effects with Labarraque's solution. To a lad fourteen years old he gave seven minims and a half every three hours, and to a girl of the same age tablespoonful doses of a mixture of a drachm and a half of the solution and six ounces of water.

The Administration of Nitro-glycerin in Angina Pectoris.—Dr. W. Murrell writes to the same journal, questioning the wisdom of the admission of only one preparation of nitro-glycerin into the new British Pharmacopœia—that of chocolate tablets containing one one hundredth of a grain each. Patients vary remarkably, he says, in their susceptibility to this peculiar remedy. One man takes the six hundredth of a grain, and suffers for hours afterward from intense headache, which incapacitates him for any kind of work; while another patient will take fifteen or twenty minims of the one-per-cent. solution ten or twelve times a day, not only without inconvenience, but with the greatest possible benefit. "The small-dose man would find his time pretty fully occupied if he had to divide each little tablet, weighing only two grains and a half, into six equal parts; while his large-dose colleague might experience some inconvenience in swallowing fifteen or twenty chocolate drops at a dose, especially if he were suddenly arrested by an anginal attack while crossing a busy thoroughfare." The alcoholic solution is free from the objection implied, is cheaper, and admits readily of the addition of adjuvants.

Lectures and Addresses.

RELIGION AND MEDICINE.

AN ADDRESS DELIVERED AT THE OPENING EXERCISES OF THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK, SEPTEMBER 29, 1885,

BY PROFESSOR WILLIAM MECKLENBURG POLK.

I WOULD give much to have the custom abolished which in our school demands each year an address from some member of the faculty. If we were allowed to discourse on a purely medical topic, one with which we should be familiar, the wish would be less pressing; but this we are forbidden by the unwritten law of this institution. Turn we must, then, to some other field for a subject.

Medicine is commonly thought to be a very exclusive pursuit, and yet, when we look about, it is a pleasure to realize how we mingle with those of other pursuits—how many are the points of contact between medicine and other objects of intellectual ambition. In the direction of either religion, law, or polite literature, we find fruitful fields of interesting inquiry; and each is so broad as to furnish material for a series of addresses. We will choose religion, and endeavor hastily to point out some of the matters of interest connected with its association with medicine.

From the very nature of its mission, medicine of necessity was the offspring of religion. One of the grandest, the most beneficent, unions between the two we find depicted in the records of the ancient civilization of Egypt. From the enlightenment which marked the priesthood of that country, they being in fact the center of the intellectual growth of ancient Egypt, it was to be expected that great results would accrue to medicine beneath their rule; and such was the case, for we find in their records evidences of a medical and surgical proficiency but little, if any, behind that of our middle ages. Three thousand years before the Christian era those men had formulated their precepts in a book which was to them a medical statute-book of such influence that, if its teachings were followed implicitly, the physician was held blameless, no matter what the result to the patient. Such was the dignity of medicine under these patrons, it wielded an important influence in the state, and much of the light which in our day has been thrown upon the life of that wonderful people comes from the medical writing of that period. There is good reason to believe that the temple of Serapis at Memphis was the center of ancient Egyptian medicine. There resided the fathers of the profession, the chief teachers, and there no doubt flocked all those who were afflicted with complex disorders, and no doubt it was there that the text MSS. and monographs were prepared. If such was the case, it was an admirable arrangement by which to sift the prolific and loose writing which perhaps afflicted the practitioner of that day. What a blessing some such institution would be to us! Could we have a central school to which the compositions of our contemporaries could be referred in order that all which was a stale repetition of accepted ideas might be suppressed, and all which was a real addition to facts might be recorded, what a saving of precious time would be gained to us—time now wasted in the perusal of old ideas in new dress which the ambitious but shallow enthusiast of our day insists upon laying before us!

In some instructive and pleasing books the Egyptologist Ebers, the scientific novelist, has spurred his imagination to present us with charming pictures of this union of religion and medicine, developing in one of his works the character Nebeuchari, an oculist, whose fame spreading widely over the East, was sought as the one to cure the blindness of the mother of the Persian King Cambyses, a feat which he accomplished by the operation of couching.

And yet it was through the work of this very king that a final separation of medicine from religion was brought about, for, as the conqueror of Egypt, he dealt its priesthood such a blow that, stripped of all prerogatives, they never regained their ascendancy in the state. Medicine after that was pursued as a separate profession. But truly it was a noble beginning for our calling to be thus fostered by religion as an ally in the most brilliant civilization of the early ancients—for it was a civilization that was full of wise and righteous conceptions; one that marked the birth of many other arts and sciences, which since have done so much for the happiness of our own era; one, too, that stands second to no other in the noble and enduring edifices with which it sought to manifest its devotion to its gods, vast temples adorned with massive pillars, approached through avenues of sphinxes and fronted by the obelisks (those graceful shafts of solid stone) which, bearing aloft their sacred inscriptions, were ornaments that imperial Rome and even our own fair centers of Christian civilization were but too eager to appropriate.

Turning to Buddhist India, that rival of ancient Egypt, we find medicine in a position far from favorable. In the hands of a special sect who were governed by oppressive laws, it was driven into an inferior position. But this was to be expected among a people whose religion was a grand system for the cultivation of selfishness. With them the end of life was "nonentity," the early attainment of which was devoutly to be desired. For, if it were not granted, the soul wandered from animal to animal, expiating in restless transmigrations the imperfections of the earthly life.

The attainment of nonentity or, as it was called, "Nirwana," being then the object of life, the devout should seek to destroy within himself all cleaving to existence, weaning himself from every earthly object, and, by a life of isolation —one given to self-denial, self-mortification—learn to sink into perfect quietude—apathy. This was the preparation for the end, a goal all the more rapidly reached as the preparation was the more perfect. In the face of such a religion, in the midst of the civilization that must spring from such a faith, a class could have but little place whose cardinal principle is that God has given man the earth and the fullness thereof for his enjoyment; whose aim is to free life from physical woe, to make it attractive by giving God's image the health with which to cultivate in vigorous, joyous strength the duties and obligations of this world; to pro-

long his days, that he may enjoy the fruits of his labors and correct the errors of his youth.

Coincident with the decline of Egyptian civilization began the rise of the Greek, and in nearly all essential particulars the one was based upon the other. This was distinctly the case with all that pertained to medicine. For, as in Egypt it began and was fostered as a part of the religious system, so in Greece the temples of Æsculapius were its places of abode; and as in Egypt the two were finally separated, so was it here. But the manner of the separation was different.

In Egypt it followed the crushing blow dealt the priesthood by the Persians; in Greece it resulted from the dawning of civilization upon the most active of the ancient minds —a mind which, drawing most of its best inspiration from Egypt, was quick to recognize that a time had come when the union of religion and medicine was no longer beneficial to either. The final blow to the dependence of medicine upon the religious orders was given by Hippocrates when he sought, though obscurely, to lay the foundation for its study as an inductive science, when he endeavored to apply to it the principle which about the same time Aristotle outlined as the inductive system of philosophy.

As Greek culture and thought overcame all intelligence to which they were opposed, so Greek medicine extended itself wherever Greek civilization obtained a footing. Thus it came about that, invigorated by that versatile people, medicine returned to the land of its birth, as a department in the Alexandrian Museum, and was in time to rescue from decadence the remnants of the art which yet resisted the decline which had fallen upon all purely Egyptian culture.

Unfortunately, it soon drifted from the anchorage which Hippocrates endeavored to secure for it, and followed the drift of the popular mind into the mazes of the speculative philosophies which, during the whole of the later Grecian and middle Roman periods, were the substitutes for religion with the cultured. This, as will be seen, was pregnant with dire results to medicine.

Such was the influence of one upon the other that we find many of the early philosophers making a special study of medicine or medical subjects as an aid to the development of their various systems.

Aristotle, the father of scientific research, the friend of Alexander, not only pursued it as an adjunct to his peculiar work, but found in one of its subdivisions a substantial means of support, for, after squandering an ample fortune, he gained his livelihood as proprietor of an apothecary shop at Athens.

It would be a pleasant task to follow medicine to the museum at Alexandria, that brilliant creation of Alexander's brother, and see what was attained under its direction, for surely much must have been accomplished under a system which even at the dawn of Christianity had invented the steam-engine. But our path leads in a different direction.

Looking next at medicine under the Roman Empire, we find it following the direction imparted by the Greeks, for, while their political system fell before the arms of Rome, their civilization remained triumphant and in turn overran the whole of Rome's vast empire. It will suffice to say that under the empire medicine in time received full recognition both in its study and in its practice. Its teachers, being provided for by the state, were associated with the teachers of rhetoric and other departments of polite learning, and of those who pursued it as a practice many held lucrative positions in the municipalities, and others attained high civil rank.

We now reach the most interesting part of our question —the relation of medicine to the Christian Church.

No one recognized the divine mission of our calling more clearly than the fathers of the early Church, and they were wise enough to avail themselves of it as one of the means of extending the faith. The religious medical enthusiasts who, under the name of Perabolani, penetrated most parts of the Roman Empire, in many places united the functions of priest and physician, by which device they gained freer access to the common people than would have been possible in the guise of mere propagandists of a new faith. While ministering to the body racked with pain, they could the more readily bring the troubled spirit to dwell upon the satisfying principles of the Christian faith, for the attitude of the sick pagan of that day was much the same as that of his ailing successor of to-day, the inclinations of both being illustrated in the familiar lines,

"The devil was sick, the devil a saint would be;
The devil was well, the devil a saint was he."

Apart from the aid thus derived from medicine as a means through which to reach the lower orders of society, there was much in common between the principles of a religion resting upon the divinely human precepts of the "Sermon on the Mount" and those of a profession whose purpose was the alleviation of human suffering.

Could those whose mission it was to guard, develop, and extend these principles have harmonized their interests, it would have been a happy day for medicine; but the exigencies of the occasion, the logic of events, drove them into antagonism.

We have seen the intimate relation existing between medical thought and culture and the pagan philosophies, an association dating from the time of Aristotle and finding its chief expression in the university at Alexandria, that center of pagan thought in the Roman Empire, and the most powerful opponent of the Christian faith.

This association had obtained for medicine not only full recognition in the schools, but great prestige before the people; it was but natural, then, that it should be arrayed on the side of paganism in the conflict which was waged between the pagan and the Christian. We can not wonder, then, that with the triumph of Christianity the intelligence and culture of medicine were swept aside, that its institutions of learning were suppressed, and that the regularly inducted members of the profession were almost supplanted by the Perabolani. It is true, however, that ample provision was made for replacing the pagan hospitals by others more in accord with the Church. Yet, noble as were these charities, they labored under an essential defect in having substituted for the educated, trained physicians, who had been the directors of such institutions under the old order, un-

skillful, though well-meaning and even enthusiastic ecclesiastics.

The consequences of this unfortunate and, for medicine, disastrous antagonism were seen in the gradually increasing credulity and imposture which in succeeding ages marked the practice of our profession. For at length it came to pass that there was an almost universal reliance on miraculous interventions, shrine and relic cures, as a means of healing the sick and maimed.

This method of pursuing medicine as a practical art reacted on its pursuit as a scientific study, checked its development, and tended to its debasement. But the faithful of that age have their representatives among us even now, save that now they are to be found only among the ignorant.

And, after all, the mistake committed by the fathers was that which all ages have witnessed—the blindness of man to the blessings God has already given him in the wonders of this creation if he will only have the wisdom and patience to put forth his mind and develop them.

While such was the fate of our science under the direction of the early ecclesiastics of the Christian Church, by one of those seeming inconsistencies which Providence sometimes displays in its workings, the Mohammedan faith was being illuminated through the influence of medical philosophy.

When first the children of the prophet overran the eastern and southern portions of the Roman Empire they scorned all learning not contained in the limited pages of the Koran. But through the influence of the Nestorians in Asia, and the Hebrews in Spain and Africa, these fanatics soon became enthusiastic admirers of learning. The manner in which this was brought about is a great tribute to the virility and universality of the principles of our profession.

The Mohammedan, the Hebrew, and the Nestorian found the pivot of their faith to be the same. All believed in the unity of God. But one of the party, however, accepted Mohammed as his prophet. Draper, in speaking of this, says: "No doubt estrangement on this point might have arisen, but a remarkable circumstance opened the way for a complete understanding between them. Both the Hebrews and the Nestorians had been among the most tenacious and successful devotees to the study of medicine, and the Hebrews especially had long produced distinguished physicians. These studies formed a neutral ground on which the three parties could unite in harmony, and so thoroughly did the Arabians affiliate with these their teachers that their physicians became their great philosophers, their medical colleges their centers of learning."

Medical philosophy, thus finding shelter with the Mohammedan and doing so much for their elevation and refinement, widening thus its influence, was naturally viewed by the Roman branch of the Church as even more offensive than when allied to the ancient philosophies; and when it became evident that Hebrew physicians, as exponents of Mohammedan civilization, were aiding in the development of barbaric western Europe, it is not a matter of wonder that that Church should have endeavored to degrade physicians as a class, teaching the people to regard them as atheistical disturbers of the divine order of things. And yet, while this was the general attitude of churchly influence toward medicine, some of the monastic orders were permitted to pursue its investigation; but these, as a rule, so cloaked it with the theories of the alchemist as to accomplish no more than the keeping alive an ill-directed spirit of fantastic inquiry.

By the thirteenth and fourteenth centuries Arabian medicine had made such inroads that the awakening spirit of Christian civilization began to avail itself of its enlightenment, and then we find numerous instances of a liberal patronage being extended to our profession by the great men of the Church.

And yet the ancient attitude toward medical culture—toward its pursuit as a department of science—had been too firmly imbedded to be easily uprooted; and even to this day, in spite of the upheavals of the Reformation, a remnant of that prejudice is witnessed in certain European countries in the social status accorded to the members of the profession.

But it is not disloyal in us to believe that, while the early Church felt constrained to antagonize medicine as a department of science, it was forced into the antagonism that it might all the more securely lay broad the foundations of that grand system of morals for the lack of which Egyptian, Greek, Roman, and Mohammedan civilizations, being weighed in the balance of human destiny, were found wanting; without which this glorious civilization of the nineteenth century could never have been attained. And in this era we can say that, in that she has given us this wonderful age, with all of its possibilities and achievements, she has fully compensated for every repression.

With that early Church the problems were indeed momentous, and the power with which she rose to the fulfillment of her mission was such as to draw from one of her keenest critics the following eloquent tribute:

"From her central seat at Rome her all-seeing eye, like that of Providence itself, could equally take in a hemisphere at a glance or examine the private life of an individual. Her boundless influence enveloped kings in their palaces, and relieved the beggar at the monastery gate. In all Europe there was not a man too obscure, too insignificant, or too desolate for her. Surrounded by her solemnities, every one received his name at her altar; her bells chimed at his marriage; her knell tolled at his funeral. She extorted from him the secrets of his life at her confessional, and punished his faults by her penances.

"In his hour of sickness her servants sought him out, teaching him by her exquisite litanies and prayers to place his reliance on God, strengthening him for the trials of life by the example of the holy and the just.

"Her prayers had an efficacy to give repose to the souls of his dead. When even to his friends his lifeless body had become an offense, in the name of God she received it into her consecrated ground, and under her shadow he rested until the great reckoning-day.

"From little better than a slave she raised his wife to be his equal, and, forbidding to have more than one, met her

recompense for those noble deeds in a firm friend at every fireside.

"Discountenancing all impure love, she put round that fireside the children of one mother, and made that mother little less than sacred in their eyes.

"In ages of lawlessness and rapine among people but a step above savages, she vindicated the inviolability of her precincts against the hand of power, and made her temples a refuge and sanctuary for the despairing and oppressed. Truly she *was* the shadow of a great Rock in many a weary land!"*

Original Communications.

GONORRHŒA IN THE FEMALE.†

By ANDREW F. CURRIER, M. D.,
NEW YORK.

A paper with this title was published by me in the "New York Medical Journal" for January 10 and 24, 1885, in which the hope was expressed that the attention of the profession in this country might be directed to this disease, which was believed to be much more frequent in its occurrence and important in its bearings than was usually supposed, even by well-informed members of the profession.

Various reasons have been given why this disease should be practically ignored by the body of the profession, and notably by the gynæcologists, within whose field its consideration would naturally occur. The principal ones alleged are the difficulties in its diagnosis and the poor results which attend its treatment. This is a humiliating confession when Sänger's statement is considered, that more than one ninth of all gynæcological cases are now believed to be of gonorrhœal origin. It seems additionally strange, also, when one considers the great prevalence of gonorrhœa in the male, and the attention which is devoted to its nature and treatment.

I trust I may be pardoned if I draw somewhat upon the paper to which I have referred; perhaps also some points in *this* paper, which may seem incomplete, will be found to be treated with greater thoroughness in the former one. The only claim which is made for this paper is that it is mainly a *résumé*, as faithful as possible, of the work which has been done in the investigation of this disease. The conclusions of the former paper, which subsequent experience and reflection have not induced me to modify, were:

1. Gonorrhœa in the female deserves more thorough investigation than it has yet received, especially in the light of recently established facts.

2. The diagnosis of the disease, with improved methods of investigation, chief among which are Sims's speculum and the microscope, is not so difficult as has hitherto been considered, even in the absence of direct information of actual exposure to gonorrhœal infection.

3. There is a difference between the characteristic discharge of true gonorrhœa, both as to its nature and its effects, and other mucoid discharges from the female genital tract. As a corollary to the foregoing statements, while investigators differ as to the significance of the micrococcus of gonorrhœa, its constant presence in the discharges is not denied.

4. Gonorrhœa in the female is identical with gonorrhœa in the male; the fact of individual peculiarities and susceptibilities is not questioned.

5. A series of careful investigations in well-defined cases, in a hospital or other place in which the changes and developments can be accurately noted, is desirable. No line of treatment can be recommended as unfailing and entirely satisfactory until the results of such investigations are known.

No important contribution to this subject has been made in American literature, in so far as I can ascertain, with the exception of Dr. Noeggerath's notable paper, which was read before the American Gynæcological Society in 1876, having been previously published at Bonn, in the German language, in 1872. It is but just to say that Dr. Noeggerath's views inaugurated an epoch in the history of this disease. They were received with great incredulity by the profession here and abroad. Their suggestiveness has borne fruit, however, in the experiments and observations of a number of careful workers, and some of those who were most outspoken in their disagreement with those views now give a more or less positive assent to them. Martineau and a few other French writers have recently described certain rare forms of the disease, but the most important recent contributions have been made within the past year in Germany by Bumm, Sänger, and Oppenheimer.

I.—In regard to the ætiology of the disease, while the evidence is not absolutely complete, even those who are skeptical will admit that the probabilities are altogether in favor of a parasitic origin. Such an origin was maintained by Neisser in 1879, after an elaborate series of investigations. Neisser was not the first, however, to assert such an origin, since Donné, in 1844, discovered a spore in urethral discharges which he named *Trichomonas vaginalis.*

Salisbury, in 1868, discovered *Crypta gonorrhoica;* Jousseaume, in 1872, discovered *Algue génitale*, and Hallier in the same year (1872) *Konotecium gonorrhoicum.* All these were forerunners of Neisser's gonococcus, but the latter was presented to the public at a time when the germ theory had captivated the minds of all men, and was therefore received with much more favor and sympathy than its predecessors. Bumm asserts ("Arch. f. Gyn.," xxiii, 3), as the result of extensive experiment, not only that the contagious property of this disease is located in the gonococcus, but that this microbe is distinguished from all others which are contained in the discharges from the genital tract by its faculty of penetrating living tissues and its manner of multiplication. Widmark has also shown ("Svenska läkaresällsk. Förh.," S. 159, 199, and "Jahrb. f. Kinderh.," xxiii, 1 and 2, p. 209) that in gonorrhœal conjunctivitis in adults the gonococci show the same tendency to penetrate below the epithelium of the cornea and into the lymphoid tissue which Bumm has observed in the tissues of the genital

* John W. Draper.

† Read before the Medical Society of the County of New York, September 28, 1885.

tract. In the cornea of the new-born infant, on the other hand, the lymphoid tissue is absent, and the gonococci are found upon the epithelium. The form and size of the gonococcus are stated by Bumm to be differential characters which are of minor importance, and these statements must be borne clearly in mind in examining the opinions of those who do not agree with Neisser and his followers as to the infective character of the gonococcus. The identity of this disease with the ophthalmo-blennorrhœa of new-born infants has been shown by Sattler, Haab, and other competent ophthalmologists, the distinction between it and ordinary purulent catarrh of the eyes in new-born infants consistiug in the absence of gonococci in the latter and their coustant presence in the former, from inoculation with gonorrhœal virus. (See Haab, "Rev. gén. d'ophthal.," June 30, 1885, p. 265.)

Of gynæcological investigators in this field, Kroner stated that, of ninety-two cases of ophthalmo-blennorrhœa neonatorum which he had seen, the gonococcus was found in sixty-three. (See "Am. Jour. of Obst.," February, 1885, p. 197.) He also examined the vaginal secretions of twenty-one mothers in the eyes of whose infants gonococci had been found, and of eighteen mothers in the eyes of whose infants no gonococci had been found. In the former group gonococci were found in all cases, and usually without the presence of any other bacteria. In the latter the characteristic hives of gonococci were absent, though diplococci were found. Nothing satisfactory could be obtained from the mothers in these cases respecting gonorrhœal infection, and the presence or absence of gonococci was taken as sufficient evidence for the basis of a diagnosis. Oppenheimer examined the secretions from the upper portion of the vagina which were taken from one hundred and eight pregnant women at the Heidelberg Obstetric Clinic, between January and September, 1883, and found gonococci in thirty of them (Untersuchuugen über den Gonococcus, "Arch. f. Gyn.," xxv, 1, p. 51).

He also made some investigations upon the subject of *ophthalmo-blennorrhœa neonatorum*, and found that it usually occurred within five days from birth, or about the usual incubation period of gonorrhœa, and that it was most frequent in those cases in which parturition had been tedious, notably in so-called *dry* births.

In cases in which blennorrhœa or corneal ulceration was present at birth, the supposition was advanced that the bacteria might have penetrated the fœtal envelopes and infected the *fœtus in utero*. As evidence of another character, Zweifel had the hardihood to inoculate the eyes of healthy infants with lochial secretions in which no gonococci could be found; no blennorrhœa resulted ("Arch. f. Gyn.," xxiii, 1883). Kroner also inoculated the conjunctivæ of five blind persons with secretions from the vagina of a pregnant woman in which no gonococci were found, no bad results following. In the case of another blind person the eyes were inoculated with muco-purulent matter from the vagina of a mother whose infant was suffering from simple purulent conjunctivitis, likewise with a negative result ("Am. Jour. of Obst.," February, 1885, p. 197). Important testimony as to the infective character of the gonococcus also resulted from some recent experiments of Welander ("Gaz. méd. de Paris," June 7, 1884, p. 267).

This investigator found gonococci in the purulent urethral secretions of seventy-nine women. In twenty-five of them he traced the source of the contagion, and discovered gonococci in the urethral discharges of each of the twenty-five men. Vaginal secretions which contained no gonococci gave negative results when used for inoculation purposes. This experiment was tried in three cases. In one the secretion was taken from the vagina of a woman who was menstruating at the time of the experiment. From the urethra of the same woman matter containing gonococci was also removed and applied to the healthy urethra of a man. At the end of two days this man began to suffer with an urethral discharge, in which cocci were discoverable upon the epithelial cells. On the following day there was a characteristic gonorrhœal discharge which contained an abundance of gonococci. Similar results followed inoculation with matter from the infective urethral discharges of the two other women.

Koch demands the satisfaction of three conditions in proving that a given infectious disease is caused by a given micro-organism:

1. That one and the same form of spore be always found in a given disease.

2. That the same be easily recognized, morphologically or by its chemical relations, as well as by its behavior to coloring materials.

3. That the disease may be artificially produced in a healthy individual by inoculation with pure cultivations of spores.

These requirements, says Oppenheimer ("Arch. f. Gyn.," xxv, 1, p. 51), are all fulfilled by Neisser's gonococcus in its relations to gonorrhœa. Pure cultivations have been obtained to the fourteenth generation, and, although the disease could not be induced (Oppenheimer, *loc. cit.*) in dogs, cats, puppies, and mice, it has been in the human subject by Bokai, Bockhardt, and Welander.*

Further testimony as to the infectious nature of the gonococcus is at hand, if it were required, from a number of observers who have treated the question experimentally. (See Leistikow, "Charité Annalen," 1882; Köningstein, "Arch. f. Kinderh.," 1882; Arning, "Vierteljahresschrift für Dermatologie," 1883; O. Haab, "Festschrift für Horner," 1880.) Among those who are still skeptical or incredulous with regard to the pathogenic powers of the gonococcus, mention may again be made (as in my former paper) of Sternberg. He maintains that the gonococcus is not morphologically distinct from all other bacteria ("Med. News," Philadelphia, xlv, 1884, p. 426), an identical one being found in normal human saliva, in pustules resulting from contact with the cadaver, and in the pus from acute abscesses; but he very properly adds that it is not essential for the gonococcus to have distinguishing morphological characteristics to establish its position as the cause of the infective virulence of gonorrhœal pus. This is simply in accord with what has already been quoted from Bumm's statements, and

* Stub reports that the gonococcus *will* produce a condition which closely resembles gonorrhœa, in all its details, in dogs and rabbits. "N. Y. Med. Jour.," May 23, 1885.

is also in line with Koch's cholera investigations, at least three bacilli having been discovered which present morphological peculiarities resembling those of the comma bacillus. In following these investigations, Sternberg and two other gentlemen applied to their own urethræ, August 23, 1884, cultivations of gonococci of the ninth generation, taking all necessary precautions that the microbes should not be disturbed. The results were negative, and these, with other similar unsuccessful experiments, tended to establish Sternberg's skepticism as to the infective properties of the gonococcus. He declares, however, with perfect frankness, that, notwithstanding his own failures, the experiments of Bockhardt and Welander, which I have quoted (See "Nord. med. Ark.," Stockholm, 1884, xvi, No. 2), together with evidence relating to other infectious diseases, warrant belief in the possibility that virulence does depend upon the presence of this micrococcus, which is a widely-distributed and usually harmless organism, but which may acquire specific pathogenic power, as a result of special conditions relating to its environment, which pathogenic power may be lost, he thinks, when these conditions are removed. This line of reasoning on the part of an expert and conscientious investigator seems, to my mind, a virtual admission of the special infective power of the gonococcus, especially when we bear in mind that there is no more inconstant quantity than the physical condition and susceptibilities of a given tissue of the body. Therefore the negative results of inoculation with the gonococcus, in any number of cases, need not outweigh positive testimony in a single case, if all the conditions are reliable. The immunity from contagious diseases in general which seems to be peculiar to some individuals is certainly no argument against the general theory of susceptibility to such diseases.

De Amicis professes ("France méd.," Paris, 1884, ii, p. 1095) to have produced blennorrhagia with injections of ammonia, and to have found micrococci and diplococci on the sixth day which he could not differentiate from those which were obtained in cases of urethritis with a clear history of contagion. He affirms that diplococci are to be differentiated from micrococci which are found apart from the genital passages only by their size, distribution, and mode of grouping. Bumm and Widmark have been quoted as insisting upon a more important distinction than this, namely, the property of penetrating living tissues. Neither De Amicis nor Sternberg has made any comment upon this characteristic. De Amicis agrees with Sternberg that the gonococcus may possibly have pathogenic properties under certain conditions, in which the mucous secretions act as cultivation-fluids. At such times the microbes develop with great activity, and may then possess an exceptional though not an original infective power. In legal medicine it was thought that the presence of gonococci could not be taken as a necessary evidence of venereal disease of inflammatory origin. Welander, whose important experiments have been quoted, concludes that there is a practical importance in the presence of these organisms, especially as a means of deciding upon the existence of infectiousness in prostitutes and others, which would certainly give them a value in a medico-legal sense.

Thus we have the arguments *pro* and *con* with regard to the infectious character of the gonococcus, and it appears that no one who has experimentally investigated the subject and whose work is accessible to the public ventures to give more than a modified dissent to the statements which were made by Neisser. That the microbe, at least in so far as morphological peculiarities are concerned, is not limited to the genital organs, or even to the eyes, is probable. Neither must it be overlooked that von Tischendorf professes to have found gonococci in the vaginal discharges of little girls suffering from scarlet fever, in which an origin by sexual contact was excluded, and in which, also, inoculation produced similar conditions in other children ("Am. Jour. of Obst.," Feb., 1885, p. 199), but, in this case also, there is no indication that the distinctive characteristic which was mentioned by Bumm was present. Little remains to be said regarding the ætiology of the disease. A history of recent impure sexual contact, in the presence of certain well-known clinical features, with or without an examination for gonococci with the microscope, will usually be accepted as sufficient evidence of gonorrhœa. The search for these microbes is always difficult, and often unavailing when only a few are present. That we are to depend mainly upon the clinical features for a diagnosis is agreed by Sänger, Fränkel, Kroner, and Noeggerath. This is especially true in many of the cases of latent gonorrhœa concerning which the skepticism of earlier days is passing away. The conversion of Fritsch, who was once one of the most pronounced opponents of Noeggerath's views, is an evidence of this.

(*To be concluded.*)

THE EARLY STAGES OF HUMAN DEVELOPMENT.

By CHARLES SEDGWICK MINOT, M.D.,
BOSTON.

(*Concluded from page 401.*)

The second specimen to be considered now is His's embryo L (1, Heft i, 135–139), which measured 2·4 mm. in length, and was obtained from a chorionic vesicle of 8 to 9 mm. diameter. The specimen had been considerably injured, and no exact knowledge could be obtained in regard to the heart or the disposition of the allantois or the amnion. Precisely these three points are elucidated by Coste, while His has worked out the internal anatomy of his specimen; in short, the two descriptions complement one another in a remarkable manner.

Nearly all that His ascertained is represented in the accompanying illustrations, Fig. 7. A gives a side view showing the thickening of the head end and the upward curving of the tail, and the two gill-slits in the cervical region; the mouth, *M*, is very large; between it and the first gill slit intervenes the thick ridge, *Mx*, of the first gill-arch (branchial or visceral arch, *auct.*), which becomes the mandible; between the two slits is the second or hyoidean arch, in connection with which the hyoid bone afterward arises. A large body-cavity is present, C, *Coe;* the walls of the body (somatopleures) pass over along an extended line into the amnion; the connection between the embryo and

the yolk-sack is already very much restricted compared with Coste's embryo, Fig. 4; at the side of the head a line and shadow mark the position of the optic vesicle. B is a ventral view; it shows the large, wide mouth, *M*, which, according to His, was apparently in communication with the intestinal canal, which is nothing but a straight tube with a great pharyngeal dilatation and a wide, open union with the yolk-sac; the median light band shown at the back of the mouth is the central nervous system shining through the covering tissue. C is intended to show the digestive tract, and is partly a horizontal section. Especially to be noticed is the enormous size of the pharynx (the region of the branchial arches), the straight, short intestine, and on each side of the latter the distinct body-cavity, *Coe;* there are indications of four visceral arches, *Mx*, *2*, *3*, and *4;* in front of the pharynx is shown the ventral surface of the fore-brain or first cerebral vesicle, with its lateral diverticula, the optic vesicles. D is a dorsal view of the brain and medullary canal, which is still open at *a*. The brain and spinal cord are already differentiated by the dilatation of the former. The brain subdivides very early in all vertebrate embryos into three dilatations or primary vesicles; but in this embryo the two anterior dilatations are not yet clearly separated from one another, hence there is only one widening of the brain in front; the front end is seen to bend downward and give off the conspicuous optic vesicles, *Op*, which therefore arise before there is any trace of the cerebral hemispheres—an important fact; the posterior and larger dilatation is the primitive medulla oblongata; no trace of the cerebellum has appeared. The whole nervous system is a tube the walls of which are of nearly uniform thickness, except that the dorsal wall of the third vesicle (the cavity of which becomes the fourth ventricle of the adult) is very thin. This thin wall is persistent in the adult and never develops into nervous substance. On each side of the medulla lies a round cyst, the auditory sack, *Au*, the beginning of the adult membranous labyrinth. Three other points not shown in the figures remain to be noticed. 1. In the tissue at the back of each body-cavity, *Coe*, was found a single longitudinal epithelial canal, the Wolffian duct, the first part of the uro-genital apparatus to be developed. 2. Close below the nervous system lay a median rod of cells with a small central cavity; this rod is the *notochord* or *chorda dorsalis*, the primitive embryonic axis around which the vertebræ are formed later. 3. All the tissues are still embryonic—that is, the cells are not yet differentiated into tissues. Unfortunately, the number and disposition of the myotomes were not ascertained.

It will be as well to mention here, rather than later, four descriptions of young embryos, which either belong in this stage or are a little older. Of these descriptions Remy's

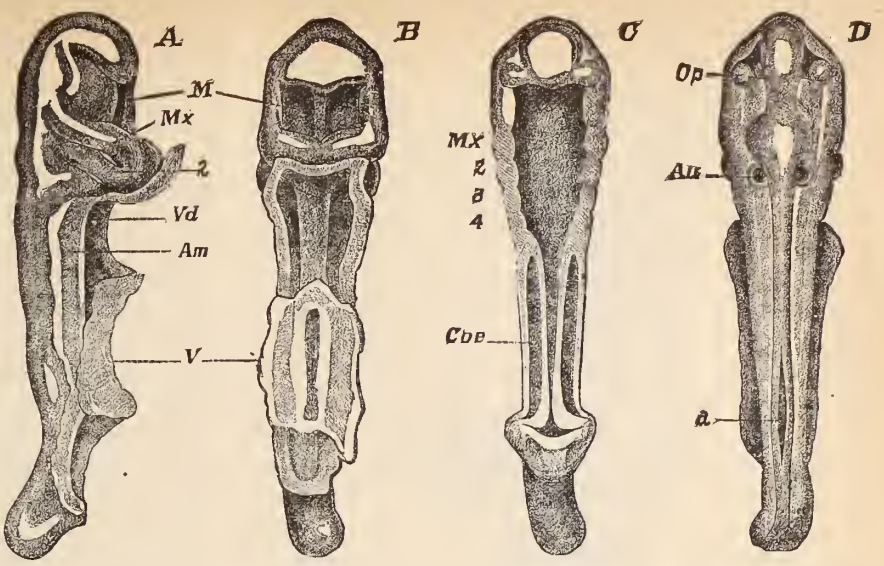


Fig. 7.—His's Embryo L; 2·4 mm. long. A, side view; B, ventral view; C, ventral view with the walls of the body and intestine seen in frontal section; D, dorsal view, showing the central nervous system. *M*, mouth; *Mx*, inferior maxilla or mandible; 2, hyoid arch; Vd, vorderdarm; *V*, splanchnopleure of the yolk-sack; 2, 3, and 4, gill-arches; *Coe*, cœlom or primitive body-cavity; *Op*, optic vesicle; *Au*, auditory vesicle (otocyst); *a*, point where the medullary groove has not yet closed.

alone brings much of any positive information, but the size and age of his embryo can only be guessed at.

The first of the embryos is Schröder van der Kolk's (5, p. 106 ff., with figures on Pl. ii). Kolk's figures are not very clear. He states that his specimen had two gill-clefts and measured 1·8 mm. in length; one can not but ask, Was it not really larger? Kolk's figure suggests that the specimen was doubled up; if this was the case, the embryo, when straightened out, would agree fairly well with His's embryo L, above described. Professor His, for reasons not clear to me, considers Kolk's specimen as somewhat older, but to this opinion I am unwilling to accede.

The second embryo is that of Hennig, whose description (6) leaves very much, and whose figures leave everything, to be desired. From this paper we can gather very little, except confirmation of Coste's statements in regard to (1) the disposition of the amnion and its connection with the stalk of the allantois; (2) the absence of a yolk-stalk.

Schwabe's (7) embryo, to which reference has already been made and which he assumes to be thirteen to fifteen days old, was probably sixteen to twenty days old, as shown both by his own data and by the description of the ovum. Very likely it was a little younger than Coste's embryo (*v. sup.*). There were a well-developed yolk-sac and an amnion closely investing the embryo, which was connected with the chorion by a short allantoic stem. The chorionic villi were considerably branched and entirely filled with mesoderm; their tips had little thickenings of the epithelium by which they were attached to the decidua; this was the only connection between the fœtal and maternal tissues. This last fact is an interesting confirmation of the observations of Ahlfeld and Langhaus.

Remy's embryo (8) was also a young one, but its exact age is not stated, nor are the measures of its length given, except in the title, where it is called "long d'un centimètre." From the stage of development, and from the statement in the text that the chorionic cavity measured 20 × 10 mm.,

it seems impossible that the embryo was so large; we should rather expect an embryo of 3 mm. Remy's figure is too inexact for one to make out the form of the embryo. If he gives the length correctly, the specimen must have been about a month old. As to its structure, Remy gives the following details: The medullary canal was still united with the ectoderm at its lower end, and extensively so over the fourth ventricle, which was entirely closed. The heart already had muscular striæ. The epidermis had two layers of cells, the outer somewhat flattened, the inner cuboidal. The cutis was not differentiated. The epithelium of the chorion he describes as maternal—a common error. He also distinguished the inner membrane of the chorion, the allantoic. He has also seen, apparently, what is known as Langhaus's cellular layer, but has taken it for a deep portion of the epithelium, which he accordingly calls many-layered. The cellular layer is a special stratum which arises between the connective tissue and the epithelium of the chorion; its origin is not definitely known. I am unwilling to hazard an opinion as to where Remy's embryo really belongs.

Summary.—During the fifth stage the head of the embryo acquires great prominence by the growth of the heart and the development of the branchial area. The chorion, of course, has enlarged, but we can not at present give its diameter exactly; normally it may be about 10 mm. The chorionic villi are constricted at the base and more or less branched; apparently they may either be hollow or may already contain a core of connective tissue. The allantois is still short and thick; the amnion is very much as in the previous stage, but of course somewhat expanded; the yolk-sac appears more like an appendage to the embryo. The embryo has enlarged, especially in front; its normal length we may assume to be about 2·6 mm., but this is very open to correction; the back is nearly straight; the thick caudal extremity curves upward; the heart and aortic arches develop rapidly, and accordingly is the region between the head and the anterior margin of the yolk-sac extended. The heart itself is still tubular, but makes a great bend to the right; the posterior end of the tube receives the veins, the anterior end forms a little enlargement, the commencing *bulbus aortæ*, and then gives rise to the aortic arches. Between the arches appear the gill-clefts at the side, and since there are five arches there are four gill-clefts. The pharynx, or region into which the gill-clefts open, is enormously dilated. The rest of the digestive tract is a simple tube communicating with the hollow yolk-sac. The Wolffian duct is present, but no other part of the uro-genital system. The notochord is tubular. The medullary canal closes throughout its whole length during this stage; it separates into brain and spinal cord; the brain consists of two dilatations, of which the anterior corresponds to both fore- and mid-brain, and gives off the long-stalked optic vesicles; the posterior dilatation is the hind-brain. The auditory organs exist as a pair of round otocysts.

6. EMBRYOS OF THE SIXTH STAGE. FORMATION OF THE HEAD BEND AND OF THE WOLFFIAN BODIES.

From this stage onward the embryo becomes more and more bent, the back becoming so convex that at one period the head and tail of the embryo almost touch. It thus becomes quite impracticable to measure the longitudinal axis, so we have to adapt ourselves to the circumstance and give as a measure for comparison the greatest length in a straight line of an embryo in its natural attitude. Formerly investigators usually attempted to give the actual length; consequently many of the older published measurements appear excessive in comparison with those now given; evidently this discrepancy is often only apparent.

The length of an embryo should always be given as obtained by measuring the greatest longitudinal diameter of the body, including the head; *the limbs ought* NOT *to be included*, because in the earlier stages, being at right angles to the body, they can not be included, and therefore ought to be excluded in the later stages in order to keep the measurements strictly comparable.

In the sixth stage (His's eighth) we find five aortic arches, the head bent down, the back convex, and the heart very asymmetrical. Our accurate knowledge of this stage in man we owe to His (Embryos M and BB). Besides these two, Professor His has also referred the following embryos described by other authors to this stage:

1. Allen Thomson's ovum, iii (2).
2. C. E. von Baer's, described in his "Entwickelungsgeschichte," Bd. ii, Taf. vi, Figs. 15, 16; also in von Siebold's "Journal für Geburtshülfe," 1834, xiv, 409.
3. Schroeder van der Kolk's (5).
4. Alexander Ecker's (9).
5. Professor Hecker's (*vide infra*).
6. Beigel's (*vide infra*).
7. Bruch's (10).

Of these, Thomson's embryo, the figure of which, reduced in scale, may be found in His (1, Heft ii, Fig. 18, marked AT 3 in the group of figures on p. 32), is the only one deserving much attention. Thomson's embryo resembles His's *M* (see below) quite closely, not only in general form, but also in the possession of two distinct gill-clefts and the great prominence of the heart. Its length is given by Thomson at $\frac{1}{8}$ inch—about 3 mm. Von Baer's embryo, on the contrary, was only 2 mm. long; it was surrounded by an amnion of about 4·5 mm. in diameter, which is abnormally large; von Baer observed four open gill-slits; the hind end of the body was partially atrophied, which accounts for the short length. Van der Kolk's embryo, as I have already stated, I refer not to this but to the previous stage—perhaps mistakenly, but I think not. In Ecker's ovum the chorion measured 12 by 9 mm., and the embryo only 2 mm.; the author's description is very meager and his figures are not distinct. Ecker expressly compares it with an ovum of Wagner's, figured in Wagner's "Icones Physiologicæ," and again in Ecker's "Icones Physiologicæ," Taf. xxv, Fig. 5; but the comparison apparently refers only to the chorion, for Wagner's embryo was evidently older, being 4·5 mm. long and having external traces of limbs. Hecker's ovum (1) I know only through Professor His's reference, which leaves the impression that Hecker's description is so unsatisfactory as to render it a matter of surmise exactly what stage of development the specimen had reached. In regard to Beigel's ovum (in the previous article I ex-

pressed my opinion that it is a much older and abnormal embryo) I do not differ with Professor His as to the slight value attaching to Beigel's description. Bruch's embryo (10, Bd. vi, Taf. x [40]) appears to me, from his description and plate, to have been very abnormal.

Of these seven embryos, Van der Kolk's and Beigel's do not belong to this stage; von Baer's and Bruch's were abnormal; Hecker's is questionable; Ecker's is somewhat uncertain; and Thomson's is the only satisfactory one. Of Thomson's only the general appearance is described, but that confirms what we learn from His's two embryos, M (1, Heft i, 116–134) and BB (1, Heft ii, p. 90, and "Arch. f. Anat. u. Physiol.," anat. Abth., 1881, pp. 310, 311). The latter embryo has also been catalogued by His with No. lxv.

M appears to be somewhat the younger, but no data as to its age are preserved; the embryo was 2·6 mm. long, its chorion 7·5 × 8 mm. in diameter. The embryo BB was 3·2 mm. long; its chorion 11 × 14 mm. in diameter; its age, from the data given by His, I think was probably twenty to twenty-one days. The following description refers to M only, as the full account of BB is not yet published:

The head is bent down, the back is very convex, and the caudal extremity is rolled up and turned toward the right, while the head is twisted slightly toward the left; the long axis of the body therefore describes a large segment of a spiral revolution; the spiral form is more marked in embryos a little older; it is, of course, produced by the more rapid growth of one side; in view of the differences between right and left in the adult, it is very interesting to find differences between symmetrical parts showing so very early in the heart of the embryo and the twisting of the body. The caudal end of the body has grown very much; the allantois-stalk has presumably lengthened; the neck of the yolk-sac is much constricted; four gill-arches can be distinguished externally; the otocyst, Fig. 9, *Ot*, has become somewhat pear-shaped. The neural canal is completely closed, the mid-brain and fore-brain have become perfectly distinct, and the latter has begun to form the hemispheres in front. The mouth is large, and at its upper corner the protuberance of the maxillary process is marked; the mandibular process is very prominent.

Fig. 8, a geometrical reconstruction from the sections, shows the anatomy of the entodermic canal. The pharynx, bounded on each side by five branchial arches, is still very large and tapers down posteriorly; the intestine is turned to the left and opens into the broad canal, *V*, of the yolk-sac; just in front of the yolk-sac there is a small ventral diverticulum, *Li*, probably the commencement of the liver; behind the yolk-sac the cylindrical intestine runs over into the tail, where it expands into the cloaca and gives off a cylindrical canal, which has very thick connective-tissue walls, and is the allantois-stalk, *All.* This is the youngest allantois of which the structure is known; therefore we add at once that the walls carry two large allantoic arteries, Fig. 9. The body-cavity, Fig. 8, *Coe*, has at its back on each side a longitudinal ridge, the commencement of the Wolffian body; the ridge already contains traces of the canals of the Wolffian body.

Of special interest is the arrangement of the circulatory apparatus, Fig. 9, since this is the youngest human embryo of which the vascular system has been elucidated. To

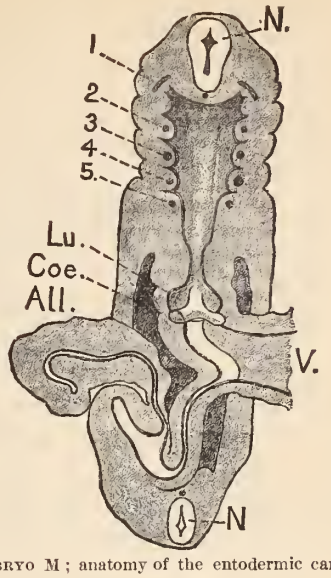


Fig. 8.—His's Embryo M; anatomy of the entodermic canal. *N*, *N*, central nervous system; 1, 2, 3, 4, and 5, gill-arches; *Lu*, liver; *Cœ*, body-cavity; *All*, allantois; *V*, stalk of yolk-sac.

avoid confusion, it must be stated that the whole of the aortic portion of the heart up to the origin of the aortic

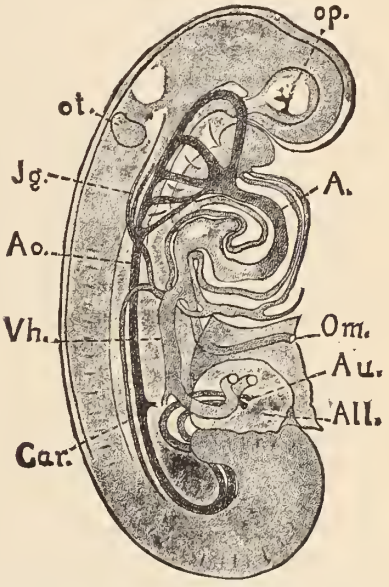


Fig. 9.—W. His's Embryo M. *Op*, optic vesicle; A, aorta; *Om*, omphalo-mesaraic vein; *Au*, arteriæ umbilicales; *All*, allantois; *Cars*, cardinal veins; *Vh*, right umbilical vein; *Ao*, dorsal aorta; *Jg*, jugular vein; *ot*, otocyst.

arches is double-walled, there being a very considerable space between the endothelial tube and the main mesodermic wall. In the figure the arteries are shaded dark. The heart is an S-shaped tube; the venous end is convex toward the head, the arterial end convex toward the tail; when viewed from in front, the venous portion is seen on the left, the arterial portion on the right of the embryo. The heart is continued forward by the large aorta, *A*, which gives off five branches on each side of the neck; these branches unite again on the dorsal side and run backward, to unite with the fellow-stem and so form the single median dorsal

aorta, *Ao*, which runs way back and terminates in two large branches, *Au*, which, curving round, pass out through the allantois-stalk. The five branches in the neck are known as the aortic arches, and the column of tissue around each branch constitutes a so-called branchial or visceral arch; between the five arches are four spaces, in each of which a gill-cleft is ultimately formed. The veins are: 1. The jugular, *Jg*, and cardinal, *Car*, which unite and form a single transverse stem, the ductus Cuvieri; the cardinal veins receive chiefly the blood from the Wolffian bodies, and atrophy later with the bodies. 2. The large umbilical veins which pass up, *Vh*, from the allantois and also open into the ducti Cuvieri, but nearer the heart than the jugulars and cardinals. 3. The omphalo-mesaraic veins, *Om*, which come up from the yolk-sac.

His describes for both embryos the disposition of the pericardial cavity and the septum dividing it from the body-cavity with great minuteness, in order to elucidate the development of the diaphragm. But this problem is so obscure and complex that it is best not to touch upon it here.

Summary.—During the sixth stage the most striking changes are the curling up of the embryo, the closeness of the amnion to the embryo, the contraction of the neck of the yolk-sac, the growth of the caudal extremity, the assumption of the pear-shape by the otocyst; internally, by far the most important advance is the appearance of the Wolffian bodies.

The embryo is from 2·6 to 3·2 mm. long and about three weeks (twenty-one days) old; the chorion is from (say) 8 to 13 mm. in diameter. Besides the points noted above, we may mention for this stage the separation of mid- and fore-brain, the commencement of the hemispheres, the progress of the vascular system, especially in the heart, which has distinct auricles and ventricles, also the bending of the intestinal canal into an unsymmetrical position.

APPENDIX.

1. *Contents of the Chorionic Vesicle.*—In early stages, as we have seen, there is a large chorionic cavity, which in later stages is obliterated by the expansion of the amnion. The space between the chorion on the one hand and the amnion and the yolk-sac on the other is filled with a fluid which is coagulated by the action of hardening agents, making a network of threads. This observation, which has been often verified, is all that we know concerning the nature of the chorionic fluid; it is probably of a serous character, and may very likely be found to contain free connective-tissue cells (wandering cells or leucocytes).

2. *Structure of the Yolk-Sac.*—The histology of the yolk-sac has never been properly studied. In regard to its structure in earlier stages I can find no observations. Kölliker ("Grundriss," 162) states that in the fourth or fifth month it is from 7 to 11 mm. in diameter and hollow, with an external envelope of connective tissue and an internal pavement epithelium of fatty cells. The inner surface has small vascular villi, rudimentary remains of structures said to be well developed in some of the lower vertebrates.

In regard to the contents of the yolk-sac, von Baer states (12, ii, 272) that in very young ova (six to seven weeks) the contents are sometimes as thick and yellow as the yolk of a bird's egg; in ova of this period the thinner the contents the more rounded and fully distended is the yolk-sac. A little later the contents are always fluid, but at the end of pregnancy, according to B. S. Schultze (11), when the sac has shrunk to 4 to 7 mm. in diameter, it contains variable quantities of fatty substances and carbonates. It thus appears that during the first month at least the yolk-sac does contain more or less true yolk—an idea which is confirmed by Rauber's observations on the rabbit's ovum. It seems, indeed, probable that the rudimentary yolk-sac of man still performs for a short period the function of a food reservoir for the embryo.

LITERATURE.

1. His, Wilhelm (1880, 8vo, mit Atlas, fol.). Anatomie menschlicher Embryonen.

Heft i, 1880 (1882). Embryonen des ersten Monats, p. 184, mit Atlas von 7 Tafeln.

Heft ii, 1882. Gestalt und Grössenentwickelung bis zum Schluss des 2. Monats. Pp. 104. Leipzig (F. C. W. Vogel).

2. Thomson, Allen (1839). Contributions to the History of the Structure of the Human Ovum and Embryo before the Third Week after Conception, with a Description of some early Ova. (Further notes on these ova are given by His, 1, Heft ii, pp. 34–36.) "Edinburgh Med. and Surg. Journal," lii, 119–136, Pl. ii.

3. Krause, Wilhelm. "Arch. f. Anat. u. Physiol.," 1875, 215. Criticised by His (i, p. 72) and Kölliker, "Entwickelungsgeschichte," 1879, pp. 306 and 1013. Krause's reply, "Zeitschr. f. wiss. Zoöl.," xxv, 131. Criticised also by Ahlfeld, "Centralbl. f. Gynäkol.," 1880, No. 25; Krause's reply, *Ibid.*, 1881, No. 1. See also Ecker's criticism in His's "Arch. f. Anat.," 1880, 405.

4. Coste, Jean Jacques, M. C. V. (1847–1859). Histoire générale et particulière du développement des corps organisés. 4to, Tome i, 1847. Tome ii (une fascicule), 1859, Atlas fol. 50 Pl. Paris: Victor Masson.

5. Kolk, J. L. C. Schroeder van der (1851). Waarnemingen over het Maaksel van de menschelijke Placenta en over haren Bloeds-omloop (p. 106 ff.—young human embryo with two gill-clefts, Figs. on Pl. ii). "Verhand. eerste Klasse k. nederl. Inst. Amsterdam. Derde Reeks," 4 Deel., 69–180, Tab. i–iv. (The reference to this paper is often incorrectly given.)

6. Hennig, C. (1873). Ueber eines der jüngsten menschlichen Eier und über Fortbestand der Allantois. "Arch. f. Gyn.," v, 169–173. Taf. ix.

7. Schwabe, Gustav (1879). Eine frühzeitige menschliche Frucht, etc. "Zeitschr. f. Geburtsk. und Gyn.," iv, 196.

8. Remy, Ch. (1880). Observation d'un embryon humain long de un centimètre (measured stretched out?). Robin's "Journ. d'anat.," 1880, 565. Pl. XXI.

9. Ecker, Alexander (1873). Kleine embryologische Mittheilungen. "Berichte über die Verhand. d. Naturforsch. Ges.," Freiburg i. B., Bd. vi, Heft ii, 116–120. Taf. v.

10. Bruch, C. Untersuchungen über die Entwickelung der thierischen Gewebe. (V. Ueber die Entwickelung der Gewebe beim Menschen, Bd. vi, p. 247–310.) "Abh. Senckenb. Naturf. Ges.," iv, 261–460. Taf. i–vi and vi, 185–310. Taf. 37–42. (Tafeln auch vii–xiii numerirt.)

11. Schultze, B. S. Das Nabelbläschen ein constantes Gebilde in der Nachgeburt des ausgetragenen Kindes. Leipzig, 1861.

12. Von Baer, C. E. Entwickelungsgechichte der Thiere.

FOUR CASES OF TAIT'S OPERATION.*

By JOEL W. HYDE, M. D.,

CONSULTING GYNÆCOLOGIST AND OBSTETRICIAN TO LONG ISLAND COLLEGE HOSPITAL; CHIEF TO THE DEPARTMENT OF OBSTETRICS, ST. MARY'S HOSPITAL, BROOKLYN; MEMBER OF KINGS COUNTY MEDICAL SOCIETY, AND MEMBER OF THE BROOKLYN PATHOLOGICAL SOCIETY.

Tait's operation for the removal of the diseased uterine appendages has, during the last decade, passed through all the stages of criticism by the profession, from that of astonishment at its boldness and denunciation of the use of so radical a treatment, to that of an almost universal acknowledgment of its value.

There are still, however, a few medical men who shake their heads and repeat the old threadbare arguments against this operation which have been answered a hundred times over, and, at last, with statistics so overwhelmingly convincing, both as to the safety of the operation and its satisfactory results, that few now deny it its proper place in surgical history and science.

Battey first operated in this country (1872) for the removal of diseased ovaries. His operations failed more frequently of good results than those of the present day, as he found that menstruation often continued uninterrupted. To hold this function in abeyance was, moreover, the great desideratum.

Tait afterward announced his belief that the Fallopian tubes were an important factor in menstruation, and that they should also be removed in order to bring about the menopause more rapidly; furthermore, this was necessary, as the tubes were as likely as the ovaries to be the seat of the disease sought to be remedied by the operation.

From this came the name of "Tait's operation"; and he certainly has the honor of having performed it a greater number of times, and with less resulting mortality, than any other living surgeon.

I have reported these cases for two reasons: 1. Because the ætiology is, I believe, unique in at least two of them—one being of malarial, and another of scarlatinal origin. 2. In an operation of so recent adoption and of such gravity, the most accurate statistics of all cases should be preserved for future use.

I have, furthermore, purposely delayed this report for several months that I might be able to give, not only the history of the operations, but also the subsequent condition of the patients.

Case I.—Mrs. M. M., American, aged twenty-nine, married nine years. Menstruated first at about fourteen years of age. Menses normal, except that they were profuse. At seventeen she began to suffer much from dysmenorrhœa, and her flow was menorrhagic; still later it became metrorrhagic, it often being difficult to define the beginning or ending of a period.

At eighteen she had an attack of peritonitis, which was so severe as to compel quietude in her room for months.

Subsequently her general health improved somewhat, and she married. Her periods of intense suffering soon reappeared, however; her menstruation was more irregular, and the pain unfitted her for her ordinary household duties. Hystero-epileptic attacks became frequent, followed by melancholia, at which times she exhibited a suicidal intent, and was three times prevented from taking her life by the watchfulness of friends.

I first saw Mrs. M. in June, 1883, and had her under care for three or four months. Treatment availed nothing except to mitigate her sufferings temporarily and disclose fully the nature of her disease, which was diagnosticated as chronic ovaritis of both sides, with salpingitis of the left side.

Tait's operation was finally advised, and readily acceded to by both patient and friends, as the only hope of future relief.

Operation, November 11, 1883.—An incision of two inches and a half was made in the median line, just above the pubes, and the abdominal cavity opened. The peritonitic adhesions were found to be so dense in every direction—all the viscera being matted together—that it required the most patient dissection with fingers, knife-handle, and scissors, before the fundus uteri could be reached; this was found bound down with the Fallopian tubes so firmly that it was necessary to increase the abdominal opening sufficiently to pass in the whole hand, to reach and tear the ovary from its bed of strong adhesions. This accomplished, the tube was transfixed as closely as possible to the uterus with a double silk carbolized ligature, one half tied on each side, and the left ovary and tube removed. The right ovary and tube were then sought and removed by the same tedious process, and presented much the same appearance, except that the cysts in the left ovary were larger than in the right. The stumps were thoroughly seared with the galvano-cautery. The left Fallopian tube was only a little over an inch in length, much distended, and gave every evidence of the correctness of the diagnosis of salpingitis. The right tube was about two inches and a half long, with some dropsical distension near inner third. The wound and cavity were now carefully cleansed with a two-per-cent. carbolized solution, great care being taken to guard against any points of oozing, after which the abdominal wound was brought together with nine deep silver sutures and silk superficial sutures. The dressings used were Am Ende's—naphthalinated dressings of cotton, cotton gauze, and jute, completed with a flannel binder. Sickness at the stomach was relieved by small quantities of hot water sipped, and pain allayed by opium, large quantities of which were used owing to her previous opium habit. This habit she had entirely conquered by the third week, and has not resorted to it since. The sutures were all removed by the tenth day. Her temperature never rose above 100·75° F., and her convalescence was prompt.

She has recovered all her former cheerfulness of manner, and, while not a robust person, is able to perform the duties of her household with a fair modicum of comfort.

She still continues to menstruate, now eighteen months after the operation; but her periods, which, after the operation, were at first five days, have gradually grown to be

* Read before the Brooklyn Pathological Society, April 23, 1885.

about one day in duration, and a greater lapse of time between them.

Case II.—L. J., American, aged twenty-seven, unmarried. Menstruated first at sixteen, always irregularly and profusely. Of late years she has suffered intensely with dysmenorrhœa, headache, loss of appetite, and especially with pain in the region of the sacral plexus. This pain has been of that character that she has been unable to lie on her back for several years, and what little sleep she obtained was in the genu-pectoral position with pillows stuffed up hard against her abdomen. She was treated for two years for spinal trouble by a specialist in New York, but I have never seen any evidences of such a difficulty. There is a very pronounced asymmetry of her body, but I learn from her mother that it has existed from her infancy. The mammary gland, the thigh, and leg of the left side were very much smaller than the corresponding parts on the right side; in fact, the whole muscular structure of the left side presented an appearance of atrophy.

There were great tenderness and pain over both iliac regions for the greater portion of the time, a general weariness and inability to do much or enjoy anything. She also had much mental depression and a desire to resort to extreme measures for relief. Examination revealed an enlarged and very tender right ovary, with a prolapsed left ovary; both tubal tracts very sensitive. Tait's operation advised and performed November 19, 1883, at Long Island College Hospital. There were no adhesions except a few which bound down the left ovary in its prolapsed situation behind the uterus, and which were readily separated; this ovary was considerably less than normal in size. Whether its small size was a part of the general asymmetry, previously mentioned as existing in this case, is difficult to decide, but I believe it to have been so. The right ovary was enlarged and distinctly cystic, one small cyst being ruptured while attempting to remove it. Both tubes were ligated as closely as possible to the uterus with carbolized catgut, seared with the cautery, and dropped back into the abdominal cavity. The same kind of sutures and dressing were used as in the previous case. She was placed back in bed in forty minutes, and, aside from some cystitis which developed the second week after the operation, convalesced rapidly.

She left the hospital November 30th, traveling by rail quite a distance to her country home.

Case III.—Mrs. G., aged thirty-five years; married; sterile; was always healthy and robust till seventeen years of age, when she had an attack of intermittent fever of great severity, the effects of which lasted two or three years. Following this she began to suffer with dysmenorrhœa, which every year increased in intensity, and which later on was complicated with evident attacks of localized peritonitis, both pelvic and abdominal. There was some constriction of the vagina, and small bands of adhesion ran between the cervix and upper vaginal walls on either side. Coitus was intolerable; and the most careful digital examination produced nausea and fainting, compelling her to keep her bed for that day. As far as it was possible to learn from an examination, there was great tenderness of the left ovary; the right ovary was undetected, but an undefined and fluctuating mass filled up that region of the pelvis, which was supposed to be a cystic ovary. There was much less mobility of the uterus than usual. Tait's operation advised and performed at Long Island College Hospital, January 22, 1884. This operation was similar to the first in the vast adhesions everywhere encountered, and which rendered the whole work, from the first incision to the final touch, a blind and difficult dissection. The left ovary was first sought and found imbedded in strong adhesions near the side of the uterus. The Fallopian tube was not over an inch in length, much thickened, and convoluted. This was removed as closely as possible to the uterus and the stump cauterized. In searching for the right ovary the greatest care was used to separate the adhesions which densely involved all the tissues of that locality. In this effort, however, a cyst, as large as an orange perhaps, was ruptured. All efforts to find the right ovary failed, and we adopted the belief that it had degenerated into the cyst which had been so unfortunately ruptured. No effort was made to dissect out the walls of the cyst, which were strongly adherent to the bowels. The tube was removed in the same manner as before mentioned. The greatest caution was used in the toilet of the abdominal cavity, and the wound was closed with eight deep sutures of silver and Am Ende's dressings were applied. Although the operation was lengthy and the patient exhibited some shock, she rallied well the same afternoon, and, with a five-grain opium suppository, passed a comfortable but somewhat restless night. On the following morning she spoke cheerfully to me, remarking her freedom from pain. Pulse was 108, temperature 101°, respiration 24. At noon, same day, she presented evidence of becoming rapidly exhausted. Pulse 130, temperature 103°, respiration 30. Death occurred thirty-one hours after operation.

No urine was voided by this patient after the operation.

The attempt to relieve the bladder with the catheter was twice made, but resulted only in securing about an ounce of turbid, bloody urine. The urine in this case had been repeatedly subjected to rigid analysis, but nothing was revealed which necessarily militated against an operation unless, possibly, the scanty amounts of solids found.

An autopsy was made fourteen hours after death. The abdominal wound was apparently beginning to unite by the first intention throughout its entire length, and all the deeper structures presented a favorable appearance.

The kidneys were enlarged, and presented marked evidences of fatty degeneration.

The right ovary was not found, and it was believed, after a careful examination of the ruptured cyst, that it was the product of degeneration of the ovary.

Death was undoubtedly due in this case to the condition of the kidneys.*

Case IV.—*Pyosalpinx.*—E. H., twenty-three years of age, single, very delicate, and of nervous temperament. Had suffered almost from her first menstrual period, which began at an unusually early age.

Two or three years prior to this she had a severe attack of scarlet fever, followed by scarlatinal nephritis and dropsy. At this time some of the pelvic pains seemed to have originated,

* The operation in Case III was delayed from week to week on account of renal insufficiency.

Random specimens of urine showed nothing abnormal; but an examination of the total "out-put" for twenty-four hours invariably presented evidence of defective elimination of waste products.

Thus, for December 14, 1883:

Total quantity, 950 cubic centimetres; specific gravity, 1·019; solids, 38 grammes; urea, 19·5 grammes.

Acid; no albumin; no sugar; little coloring matter; oxalate of lime and a little pus in the sediment.

Numerous subsequent examinations merely served to verify the first analysis. The condition of the patient grew more and more unsupportable, and it was finally decided to grant her petition for the *dernier ressort.*

which, later on, as menstruation developed, became the more acute and fixed pains of her present disease.

I may say here, parenthetically, that, if scarlet fever can invade one portion of the genito-urinary apparatus, I think it fair to assume that other portions may also be affected, and I see no reason why the ovaries and Fallopian tubes should be exempt.

In this case menstruation was irregular—generally at intervals of about three weeks—and rarely lasted less than ten days. Her suffering at these times evoked the pity of all her friends, and they sought relief for her from numerous members of the profession. All the characteristic symptoms of localized pain, reflex irritation, nervousness, and weakness, which are indicative of ovarian and tubal disease, were abundantly manifest.

Two unusual concomitants of her disease attracted my attention:

First. As her periods approached, the lymphatic glands of the lower portion of her body and thighs became tender, and, in a day or two, this was followed by a general tumefaction of all the adjacent tissues. The labia were two or three times their normal size, and both limbs were swollen and painful to move. The inguinal region was specially sensitive. This seems to have been a *rhythmic neurosis*, dependent entirely upon the regular periods of pelvic engorgement and excitement to reproduce it.

Second. After the second or third day of menstruation the discharge would vary at times from the normal appearance and become muco-purulent and exceedingly offensive—so much so as to suggest the fœtid odor of malignant disease.

These two conditions would be maintained to the close of each period, then subside, giving no further inconvenience till the succeeding period.

Examination in this case revealed the cervix pressing against the neck of the bladder and rather firmly fixed by previous inflammatory processes, moderate retroflexion with prolapsus of left ovary, and great fullness and tenderness over tubal tracts and ovaries.

Operation, March 3, 1885.—This was accomplished rapidly. Some evidences of chronic pelvic peritonitis, deep-seated, but not sufficient to delay materially the operation. Both ovaries slightly enlarged, intensely engorged, and full of small cysts. These were removed, together with the tubes, as close to the uterus as it was possible to clamp and ligate.

Recovery from the effect of the operation was exceedingly prompt. The wound healed by the first intention, the temperature or pulse never rising above 100°.

Three months have elapsed now, and she has had no return of menstruation, beyond a slight molimen which appeared for two or three days after the operation. She, however, suffered from an attack of the rhythmic neurosis, previously mentioned, when her first month came around, but it was confined to one leg only, rather than both, as heretofore. This neurosis will probably soon cease entirely, as it is hoped and believed the majority of her previous discomforts will do.

Résumé.—There were four patients—two married and two unmarried.

Three lived, one died.

Two had extensive peritonitic adhesions; two had none.

Two have never menstruated since they were operated upon. One has continued to menstruate till the present time (about eighteen months), although the function has about ceased.

The one in whom the menstrual function has continued was one in whom the adhesions were very extensive; and perhaps this fact alone may have a bearing on the question of her prolonged menstruation. The two in whom the function ceased so promptly had no adhesions.

The prominent features of these cases are:

Case I.—Hystero-epilepsy. The prolonged menstruation after the operation.

Case II.—The asymmetry of the body.

Case III.—Salpingitis resulting from very severe malarial attack. Death from unsuspected renal disease.

Case IV.—Scarlatinal pyosalpinx.

The case of the last patient was particularly instructive from the peculiarities of the rhythmic neurosis and the fœtid discharge mentioned. I regret that I did not subject this discharge to Professor Ferguson's microscopical test for columnar ciliated epithelium, as it would have probably decided the question whether it was a drainage from a pyosalpinx, or the offensive discharge and detritus of a dysmenorrhœal membrane.

There appears to have been no special or positive evidence of gonorrhœal infection in a single one of these cases. I fully believe in the correctness of Dr. Noeggerath's statement, that there are great numbers of women who suffer from inflammations of the uterus and its annexa as a result of latent gonorrhœa, and I have now under my care ladies whose history makes it almost positively certain that their cases belong to this class; but the cases reported in this paper show that a considerable proportion at least *may* be autogenetic.

Mr. Lawson Tait has remarked that cases of diseased ovaries and oviducts can be relieved by nothing short of removal of the diseased organs; moreover, that these cases exist in great numbers, forming a large proportion of those in which the patients wander about from one practitioner to another seeking relief.

Mr. Tait has also supplemented this affirmation with a recent history of a large number of cases in which he has successfully removed the uterine appendages.

In the treatment, internal medication is practically valueless; nevertheless, we temporize with these cases for a while, using every fair endeavor to relieve pain and restore the function to a normal state. In early cases, where the patients are surrounded by every comfort and care, some are relieved, but the mass of them never find relief short of an operation.

In the study of Tait's operation and the causes which have demanded so heroic treatment the whole profession must be interested. They are no longer obliged to turn away women who beg for something—*anything*—to relieve their sufferings, by telling them "there is nothing more that can be done for you."

I believe there is scarcely an operation known to surgery which invites better ultimate results; the only trouble is, they expect these good results too soon.

This operation results in a climacterie to the patient. I think as much time should be allowed for a full recovery of the general health after an operation of this nature as would be required in the case of an ordinary natural climacteric. There are few women who do not feel nerve and pain discomforts for many months at the menopause, and these dis-

comforts are in exact ratio to the amount of possible disease existing in the uterus and its appendages at that time.

Since to bring about a menopause at an earlier age, by an operation for a disease, is an unnatural change, we may readily realize that at least as much time should be allowed for general recovery in the latter case as in the former.

I have been forcibly impressed with the enthusiasm with which the few upon whom I have performed this operation have accepted this serious alternative; in fact, after a short consideration of the subject, they have been unwilling to be put off with any other suggestions; they immediately see something tangible in this and are willing to risk their lives for the great stakes.

Fortunately, we are able to encourage them with almost a certainty of success.

All of these patients who are living have already demonstrated the success of the operation upon them. I happen to have seen during the past month two of them who live out of town; while neither is robust, both are free from the terrible distress in which they languished for so many years.

UMBILICAL HÆMORRHAGE.*

By WILLIAM HENRY THAYER, M. D.,
BROOKLYN.

Mrs. N., a young married woman, was delivered of her first child March 17, 1885. Both parents are healthy; the labor was normal, and the child apparently in normal condition. Its evacuations were sufficient, and the discharge from the bowels presented the usual appearance of meconium for four or five days. At the termination of the sixth day, March 23d, A. M., the nurse called my attention to its alvine evacuation, which was of a light slate-color, and its urine was slightly yellow. Its skin was slightly jaundiced. The child had taken the breast well, and had not vomited. The cord had not separated.

That afternoon there was a sudden and profuse hæmorrhage from the base of the cord, then beginning to separate. In my absence, Dr. G. R. Westbrook was summoned, and, failing to arrest the hæmorrhage with styptics, pinched up a fold of the skin and ligated it. At 10 P. M. I gave one grain of calomel At 4 A. M., 24th, the hæmorrhage began again, and, as I was ill, Dr. Westbrook saw the patient for me and repeated the ligature. I saw the child at 9 A. M. There was no hæmorrhage, but she was very pallid, and had had no dejection. I then prescribed ʒ jss. of castor-oil, and repeated doses of brandy and water. At 1 P. M. I was called, to find her again bleeding. The ligatures had not held; the cord was almost entirely separated, exposing a raw surface as large as a thumb-nail, livid, sodden, and with no appearance of coagulating. She had had several slight dejections, of nearly the same color as the day before, and she was extremely pallid and feeble. I transfixed the skin with surgeons' needles, two in the direction of the median line and one transversely, and around these I bound ligatures of silk, entirely controlling the hæmorrhage. But within an hour the patient began to sink, and died, without convulsion, at 7.30 P. M.

I assisted Dr. Westbrook in an autopsy at nine o'clock the next morning.

The intestines were much distended with gas; the stomach contained a little milk; the liver presented externally a normal appearance; the gall-bladder contained no bile, but only a small amount of mucus. The hepatic duct was pervious part of the way from the liver to the junction of the cystic duct; but its lower half and the entire length of the common duct were apparently an imperforate cord, as large as a coarse thread, and evidently impervious, as attempts to inflate it with a blow-pipe introduced into the gall-bladder were unsuccessful. The kidneys, heart, and lungs were normal in appearance.

The literature of this subject is confined to the last forty years, with the exception of two or three reports of single cases of fatal umbilical hæmorrhage, the earliest of which is by Mr. G. Watts, an English surgeon, in 1752. Dr. Cheyne published a case in Edinburgh, in 1801, of fatal umbilical hæmorrhage, with jaundice; and suggested that "the bleeding proceeded from the unhealthy change produced in the blood by the reception of the bile into the mass of fluids."

Since 1850 four papers have been published on the subject, based on cases collected from many sources. They are: One by Dr. Henry I. Bowditch ("Amer. Journal of the Medical Sciences," 1850), including twelve cases; Dr. Francis Minot ("Amer. Journal of the Medical Sciences," 1852), forty-six cases; Dr. Stephen Smith ("N. Y. Journal of Med.," etc., 1855), seventy-nine cases; and Dr. J. Foster Jenkins ("Trans. Am. Med. Asso.," 1858), one hundred and seventy-eight cases. I think Dr. Jenkins's report includes all the cases reported by the others. Dr. Jenkins says that in the Foundling Hospital at Paris, in 9,000 births there was only one case of umbilical hæmorrhage; in the Dublin Lying-in Hospital, in 6,654 births there were no cases; in the Emigrant's Refuge at Ward's Island, in 2,000 births there were two cases; in the practice of Dr. Charles Hooker, of New Haven, in 2,879 births there was one case; in the practice of Dr. Elisha P. Fearing, of Nantucket, in 4,000 births there was only one case. That is, in 24,533 births only five cases of umbilical hæmorrhage.

In Dr. Jenkins's table of one hundred and seventy-eight, most of the reports are incomplete. In thirty no history is given, except the facts of hæmorrhage and death. There were only twenty-two autopsies. Most of the reporters had no suspicion of the cause of the hæmorrhage; even in some of the autopsies the bile-ducts were not examined; the hæmorrhage was often attributed to patency of the umbilical vessels, and their condition is sometimes carefully noted. It is also frequently charged to a hæmorrhagic diathesis. Thus, Dr. Minot says: "Idiopathic hæmorrhage from the umbilicus is only one of the various manifestations of the hæmorrhagic diathesis, which in other cases is exhibited in bleeding from the gums, stomach, intestines, etc., and in the appearance of purpuric spots beneath the skin; in proof of this, we see the concurrence of these phenomena with umbilical hæmorrhage."

Now, in regard to these expressed opinions, it is to be said that closure of the umbilical vessels is chiefly the cicatrization of their orifices, which depends upon normal coagulation of blood; so that we must not stop at open orifices for the cause of the hæmorrhage, but inquire into the abnormal condition of the blood which interferes with its coagulation. It is probable that jaundice was present in all the cases. True, of the one hundred and forty-eight of Dr.

* Read before the Brooklyn Pathological Society, April 23, 1885.

Jenkins's cases in which any history is given, jaundice is mentioned in only seventy-seven; but Dr. Jenkins says that, "from the imperfect manner in which some of the histories are furnished, it is probable that a much larger proportion would be found in more fully recorded observations. Ninety-three per cent. of all who were reported to have jaundice died." Jenkins says: "It is a well-established fact that in almost all cases of jaundice the blood becomes much impoverished, the globules and the fibrin falling below the natural standard, and, consequent upon this impoverished state of the blood, a general disposition to hæmorrhage very commonly exists." Von Schueppel, in his article on the biliary passages ("Ziemssen," ix, 610), says: "The signs of a hæmorrhagic diathesis will rarely be missed in the long-continued icterus which is due to occlusion of the gall-duct. In many individuals, especially in very small children, the tendency to hæmorrhages makes itself felt soon after the beginning of jaundice."

In the twenty-two autopsies, the bile-ducts were examined in only eleven cases; in seven they were absent or impervious; in four they were open, but the liver was in an abnormal condition; in the cases where the ducts were pervious icterus had existed, with whitish dejections and bilious urine—indicating want of secreting power in the liver, although there was no impediment to its passage into the duodenum.

"Hæmorrhagic diathesis" is a misleading term, when the hæmorrhage is due to an accumulation of bile in the blood, whether from absence of the ducts or their complete obstruction with inspissated mucus, or to some abnormal condition of the liver which causes a suspension of its functions. Dr. Jenkins says: "Of families known as 'bleeders,' where the slightest injuries often induce serious hæmorrhage, scarce any record exists of infantile umbilical bleeding." Instead of a hæmorrhagic diathesis in the cases which are the subject of this paper, there is sufficient evidence already adduced that the cause is in the liver or its ducts.

Among the cases reported by Dr. Jenkins are those of thirty-nine children of seventeen mothers, each of whom bore more than one child who had umbilical hæmorrhage. No one of these mothers had exhibited any hæmorrhagic tendency; many of them had borne other children who had no hæmorrhage. In nineteen of the cases jaundice is reported present. In only two cases is it expressly stated that there was no jaundice, but in these cases, which were in twins, death occurred in seventy-two hours after birth from hæmorrhage through the unbroken surface of the cord;* in four cases of the six which were examined post mortem the ducts were found impervious; two of these were in children of the same mother. All the evidence we get from these cases shows a tendency to biliary obstruction, which may exist in certain families, rather than a hæmorrhagic diathesis.

An occasional cause of fatal umbilical hæmorrhage is acute fatty degeneration near the close of fœtal life, including the heart, lungs, liver, and kidneys, the blood-vessels breaking down everywhere, with resulting hæmorrhages. Such a case was reported by Dr. Mary Putnam Jacobi, in which hæmorrhage began four hours after birth, and death occurred in less than twenty-four hours. Dr. Jacobi quotes Hecker and Buhl as describing this disease in 1861 ("Am. Jour. of Obstetrics," July, 1878).

In addition to a certain proportion of cases which are hopeless, from absence or obliteration of the common duct or the hepatic duct, or from the general fatty degeneration just referred to, there are many in which the ducts are plugged with inspissated mucus, or closed by thickening of the mucous membrane, the result of catarrhal inflammation, to which relief may come spontaneously or by medical treatment. Of one hundred and seventy-eight patients, thirty recovered, and many of the fatal cases were of such a character that recovery would have been possible—that is, the obstruction was of a temporary nature.*

It is safe to conclude that in cases of umbilical hæmorrhage in new-born children, attended with jaundice, the cause of the hæmorrhage is usually the accumulation of bile in the blood, produced by obstruction of the hepatic or the common duct, or by an abnormal condition of the liver.

As to the general history of these cases, hæmorrhage began at the root of the cord, either when the separation commenced or within a few days after; the average time was the eighth day, but in seven cases it did not begin till the third week; in one case eight weeks from birth. Dr. Murchison, in his work on "Diseases of the Liver," relates the case of a child who died at the age of four months and a half, having had jaundice from its first week, with progressive emaciation, after a while diarrhœa, the discharges being perfectly white, frequent epistaxis, vomiting of blood, and ecchymoses under the skin, ever increasing in number. The bile-duct was found to be completely obliterated, its place being occupied by a small quantity of areolar tissue.

The average duration of the hæmorrhage in the fatal cases was three days and a half. In a large proportion of the cases there was jaundice several days before the hæmorrhage began; in many of them purpura, either before or after the hæmorrhage, and passages of blood from the stomach or bowels. Constipation was frequent; the stools were white or clay-colored; the urine was deeply stained with bile.

As to treatment, the first indication is to transfix the integuments at the base of the cord with needles, and carry a figure-of-eight ligature underneath them. Styptics and compression are of no avail. But Dr. Jenkins, who advocates the ligature, cautions us not to stop with that, but to use such internal remedies as may relieve the liver, where no anatomical malformation exists. Chief of these are nitro-hydrochloric acid and tincture of the chloride of iron, with cathartics, especially calomel.

* Probably from general fatty degeneration, as in Dr. Jacobi's case.

* Illustrative of a fatal closure of the bile-ducts with inspissated mucus, I recall the case of an infant who died a few days after birth with symptoms of intestinal obstruction, at whose autopsy I found complete closure of the ileo-cæcal valve, the entire small intestine being distended with gas, and the whole large intestine completely empty and contracted. It was at first supposed that the intestine was impervious by malformation, but washing removed an accumulation of mucus and disclosed the valve in a normal state.

THE DUCTUS CHOLEDOCHUS COMMUNIS OBSTRUCTED BY A CALCULUS; JAUNDICE; DEATH; NECROPSY; REMARKS.*

By H. D. BLISS, M. D.,
BROOKLYN.

The case occurred in St. John's Hospital. The clinical history is kindly furnished me by Dr. R. L. Casburn, the house physician, from his notes:

History.—November 1, 1885, Frank W., a German, aged sixty-five years; history good; no sickness except as noted below. Has been for two or three years an assistant in the male ward. He was admitted to the hospital for the treatment of a large varicose ulcer of the leg of many years' standing. It encircles the leg to within an inch, is of irregular shape, and varies from one to four inches in breadth. The ulcer proved very intractable, and remains now probably in about the same condition as when he entered the hospital. This is his only complaint, and causes him remarkably little trouble. The patient is a well-preserved man for his age; is about five feet and a half in height, weighs 180 pounds, and has a tendency to become obese.

About this time, November 1st, he was taken with a sudden attack of marked jaundice. The accompanying symptoms were not such that an accurate diagnosis of its cause could be made. After the jaundice became very marked there were nausea, anorexia, slowness of the pulse, constipation, clay-colored stools, and high-colored urine. There was no enlargement of the liver, and no tumor that could be detected. He complained of no pain anywhere, unless it was a slight headache. There was not even tenderness over the hepatic region. Dr. William Wallace, attending physician on duty, thinking it might be due to torpid liver or catarrhal condition of the common bile-duct, applied blisters over the site of the duct and gave calomel freely; at first it seemed to avail nothing; after about two weeks the jaundice suddenly commenced to give way and soon entirely disappeared, and the patient was as well as ever. He remained quite well until December 10th, when another attack of jaundice suddenly came on, like the previous attack, accompanied by all the symptoms which necessarily accompany jaundice from any cause, but by no symptoms from which a special cause could be diagnosed. The same treatment was instituted as before, but, as he got no better, it was changed to acid. nitro-hydrochlo. dil., ℥xv, t. i. d., and cloths saturated with a lotion of the same were applied to the region of the liver. This was continued for about a week with no improvement. Treatment was then changed to ℞ Sodii phosphatis, ʒ j, t. i. d., dissolved in a glass of water; this was persisted in for two weeks without any apparent result. The troublesome symptoms had all increased; the jaundice was about as marked as it could be; the appetite entirely gone; nausea was constant; bowels constipated, except when violent cathartics were employed; stools clay-colored all the time; urine very high colored; pulse slow, fifty and under. Patient becoming emaciated, and certainly failing slowly.

On January 16, 1885, between five and six weeks from the time of the present attack, a consultation was held by Dr. William Wallace, Dr. Arnold W. Catlin, and Dr. Frederick H. Colton, attending physicians to the hospital. It was decided that small, often-repeated doses of the mild chloride be given and pushed to slight salivation. Accordingly, gr. $\frac{1}{20}$ was given every hour. But the jaundice did not yield in the least, even with the touching of the gums.

From this time on the symptoms only were treated, the patient being made as comfortable as possible; but he kept gradually failing, and died on February 13, 1885—a little over two months from the beginning of the second attack.

Necropsy.—The body was much emaciated. On opening the thoracic cavity, the heart was found normal, the lungs crepitant throughout and normal, except a few old pleuritic adhesions. The abdominal cavity, on inspection, showed that the liver was not enlarged, and was natural in color. The intestines were light in color, almost a grayish white. On examination, the gall-bladder was found to be distended, but not enlarged, and of a dull, muddy color. On opening the bladder, it was found to contain a brownish, muddy-colored fluid of greater consistence than bile. Further examination revealed a stone encysted in the common duct. It could not be pushed forward or backward, and acted as a ball-valve; the walls of the cyst were a pyogenic membrane, and the stone was bathed in pus. The stone was a regular ovoid, a little over three quarters of an inch in the longer diameter, and a little less than three quarters of an inch in the shorter diameter, roughened on the outside, with elevations like small grains of sand, with the angles worn off. The stone was as hard as an ordinary marble, and, after being thoroughly dried, sunk readily in water.

The stomach was contracted; the intestines contained a quantity of thick, putty-colored material; spleen normal; pancreas elongated and narrow. The kidneys contained many cysts between the parenchyma and capsule of the size of a five-cent piece to a twenty-five-cent piece, containing a clear fluid. In the pelvis of the right kidney was a calculus, and in the left two calculi, irregular in shape, smooth, and slate-colored, measuring about half an inch on the longest facette. The organs not mentioned were normal.

Remarks.—The question now presents itself, What additional means could have been employed to assist in making a diagnosis, and, had a diagnosis been made, how would it have affected the treatment? Bartholow (Pepper's "System of Medicine," vol. ii, p. 108) says he has "punctured the gall-bladder with a fine exploring trocar, removed the contents, and explored the interior without damaging the organ." Had this been done, it is doubtful if the stone would have been discovered. On account of the hardness of the stone, it would have been impossible to dissolve it had it been discovered. The question is, All other means failing, would abdominal section have been justifiable? Henry Morris ("International Encyclopædia of Surgery," vol. v, p. 886) says: "Laparotomy, followed up by suture or removal of the gall-bladder, ought, in certain cases, to be adopted." Again, page 1071: "In cases of distension with pus and calculi, and in those instances of accumulation of bile or mucus, in which other remedies have failed, operative measures will be required."

It may also be worthy of note that there had been no pain; and that during life there had been no signs referable to the kidneys, and examination of the urine gave no evidence of the renal calculi.

57 Madison Street.

* Read before the Brooklyn Pathological Society, March 12, 1885.

An Anti-Vaccinator.—It is said that one Dr. Ross, who has caused much trouble in Montreal, was found, on being made to bare his arm, to have not only marks of former successful vaccinations, but evidences of one of recent date.

APHONIA SIMULATED IN THE YOUNG.

By LOUIS KOLIPINSKI, M. D.,
CHILDREN'S HOSPITAL, WASHINGTON, D. C.

The following cases are reported to illustrate the feigning of disease by the young. They further show the impossibility of impressing upon alarmed and anxious relatives the truth of such deception, and may finally remind the practitioner, called in haste, that, instead of a disease, he may merely have an impostor to treat.

A female mulatto of eighteen was presented by her lover, with the statement that she had been suddenly seized with loss of speech on the preceding night, and that she had not since uttered syllable or sound. A careful examination of her general health, past and present, did not disclose any cause for the aphonia. Her hearing was normal, and she readily responded to questions in writing and by signs. Neither she nor her companion gave the least support to the suspicion of hysteria as the cause. Her facial expression was calm and composed, and there was no outward evidence of uneasiness or fear.

In the absence of every conceivable factor of a genuine aphonia, I concluded that it was a case of malingering with the purpose of exciting the alarm and sympathy of some one. Acting on this presumption, her escort was excluded from the room and the attempt made to loosen her tongue by persuasion. All efforts failed; there remained but the last resort of intimidation. She was assured that repeated applications of a laryngoscopic throat mirror sufficiently heated would restore her voice. She bore a few introductions with considerable courage, but soon perceiving, by the persistency of the applications, that I was confident of success, she at last began speaking in monosyllables, and, in conclusion, narrated the cause of her trouble as the result of a quarrel with her lover. All efforts to make her confess that her silence had been only voluntary were useless. Her companion, who had exhibited the utmost solicitude for her, was overjoyed at the speedy cure.

I was called to see a negro boy of eight years who had become suddenly mute a few hours before. The other members of the house were much alarmed, and the mother was so agitated that it was with difficulty that a history could be obtained. The boy had recently had Rötheln, which was followed by a bronchitis, but was thought to have recovered. Nothing had occurred, my informant said, that could have possibly induced the child to become mute either from anger or disappointment, and yet a search for other causes was fruitless. The patient lay on a couch placid and at ease. Recollecting the experience in the former case, I became convinced that this was a similar one. The room was therefore cleared, and I attempted to elicit a word by a variety of arguments and questions. The result was a signal failure. The boy maintained a stolid look and answered only with motions of the head. A forcible introduction into the mouth of a spoon-handle and the threat of a hot iron were of more avail. In his alarm he began to cry for his mother. She, however, could not be made to believe that the boy had been feigning, and her surprise and pleasure at his recovery were only equal to her first distress.

Both cases were from a low class of society. The dissimilar ages, the negative characters of their histories, and the bearing of the patients were sufficient to exclude any disease or morbid state in the causation. It was apparent that the object of the sudden and complete loss of speech was intended to excite the alarm of their connections, and thereby gain some point by awakening solicitude. It was impossible in the boy's instance to confirm this by individual statement of mother or child.

But, whatever the motive, the malingering was successful, for it was soon evident to me that the superstitious minds of the interested ones were proof against every assurance that the aphonia was not real, and that they had been deceived.

To conclude, the mutism which both selected as the startling affliction is the most natural one imaginable. The patients were not sufficiently cultivated to counterfeit some disease requiring knowledge and judgment for skillful imitation, as, for example, blindness or deafness. Children of a bashful disposition, as everybody knows, are mute in the presence of strangers, and our subjects simply repeated what they perhaps had often practiced before, but from different motives. It was the half-voluntary, half-instinctive act of an uneducated mind.

Book Notices.

Topographical Anatomy of the Brain. By J. C. Dalton, M. D., Professor Emeritus of Physiology in the College of Physicians and Surgeons, New York, and President of the College. Philadelphia: Lea Brothers & Co., 1885. Three Volumes, 4to, pp. vii–56; iv–59 to 104, inclusive; iv–115 to 175, inclusive. Heliotype Plates.

This work is unquestionably one of the most creditable contributions ever made to the study of the anatomy of the brain. We know not which most to admire—the beautiful execution of the heliotype reproductions from photographic negatives made under the author's supervision from fresh preparations of his own, or the skill that arranged the preparations in such manner as to make them tell their story so effectively. From either point of view, the work is altogether beyond criticism. We can only express our satisfaction that, after years of labor as a teacher, the pioneer of experimental physiology in America should have found time to finish such a great undertaking—one that will go far toward wiping away from our medical literature the reproach that it ignores research and lends itself only to that which makes a direct practical appeal to the multitude. Not the least satisfactory part of the work is that in which the author describes his methods of making parallel sections of the brain—a portion that is very effectively illustrated with woodcuts. The publishers are deserving of the greatest praise for the appearance of the volumes.

BOOKS AND PAMPHLETS RECEIVED.

The Science and Art of Midwifery. By William Thomson Lusk, A. M., M. D., Professor of Obstetrics and the Diseases of Women and Children in the Bellevue Hospital Medical College, etc. New Edition, Revised and Enlarged. With Numerous Illustrations. New York: D. Appleton & Co., 1885. Pp. xviii–763. [Price, cloth, $5; sheep, $6.]

The Essentials of Histology, Descriptive and Practical, for the Use of Students. By E. A. Schäfer, F. R. S., Jedrell Professor of Physiology in University College, etc. Philadelphia: Lea Brothers & Co., 1885. Pp. viii–245.

Laparotomy for Ovarian Cyst. By A. W. Leighton, M. D., New Haven, Conn. [From the Proceedings of the Connecticut Medical Society, 1885.] Pp. 4.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, OCTOBER 17, 1885.

NO MORE CODE CONTROVERSY.

In this issue of the Journal we print a letter which deals with a subject that we have long considered a good one to be let alone, so far as public discussion of it is concerned. On that account we have for many months past uniformly declined to publish letters on that subject, no matter what ground was taken in them, and we now make this solitary exception, first, because Dr. Black's letter seems to embody only the convictions of a pure-minded man who has no axe to grind, and whose purpose does not appear to include any attempt to crack the code whip, and, secondly, because we believe our correspondent to be so conscientious as readily to admit to himself that he may possibly have given Dr. Jacobi's remarks a wider application than their author really intended. We do not doubt that Dr. Black's ideas as to the propriety of consultations with so-called homœopathists—using the word consultation in its legitimate meaning—are quite in accord with those held by, as he says, "ninety per cent.," not only of the physicians of his own region, but of those of the whole country, including an overwhelming majority even of the new-code men. We believe, moreover, that Dr. Jacobi would be among the last to advocate such "consultations." But no man's position on that abstract question can quite cover the field that has been the ground of the contention in this State, and we consider it an utterly hopeless task to attempt to make that field clear to our brethren in other parts of the country. For that reason we deprecate any further controversy in the matter. The New York code has now been in operation for three or four years. Let its working be kept under observation for five, ten, fifteen, or twenty years more; and then let the question be decided whether its effect has been good or evil. Meantime, let there be no further contention from theoretical points of view, and let there be no more attempts to ostracize men because of their opinions on the question, be they what they may. For our part, so far as public controversy is concerned, we shall regard the code as a dead issue.

A GERMAN CRITICISM OF AMERICAN MIDWIFERY.

It is generally felt to be an occasion for regret when one has to quote an author at second hand. Especially is this held to be the case when the subject treated of relates to science. Most of all to be avoided is criticism founded on a second-hand quotation, particularly when the version drawn upon does not purport to give the original in full, but only in abstract. We regret that on such a flimsy foundation a contributor to one of our most valued German contemporaries has recently seen fit to indulge in criticism of a New York practitioner.

In our issue of April 26, 1884, we published a report of the proceedings of a meeting of the New York County Medical Association, including a summary of a paper, by Dr. Charles A. Leale, entitled "Scarlatina of the Fœtus in Utero and of the Mother at the Ninth Month of Pregnancy." In this paper Dr. Leale gave the history of a case, in the course of which he said: "The fœtus, from its violent motions, appeared to be in convulsions. The mother became delirious. It was considered necessary to deliver quickly in order to save either the mother or the child. The cervix was accordingly dilated, and within four hours the forceps was applied and the child extracted, without injuring mother or child."

The "Revne de médecine" for July, 1885, summarizes our account of the history of the case, and says: "*Le fœtus s'agitant beaucoup et paraissant en convulsions, on fit la dilatation du col et on put extraire l'enfant sans dommages ni pour lui ni pour la mère.*" This is correct, so far as it goes, but it omits the sentences which showed that rapid delivery was considered essential to the mother's safety, and that that opinion was well founded on the clinical facts. As regards the *accouchement forcé*, our French contemporary implies—which evidently was all that Dr. Leale meant to say—that the processes of dilatation and extraction did not injnre either the mother or the child.

The "Deutsche Medizinal-Zeitung" gives the following translation of the French journal's words: "*Da der Fötus sich sehr stark bewegte und Konvulsionen zu haben schien, machte man die Dilatation des Kollum und konnte das Kind extrahiren, ohne Schaden für Mutter und Kind.*" To judge from this account—and we admit that it is a perfect translation of the French version—*accouchement forcé* was performed solely in the interest of the child, the statements as to the mother's desperate condition not having found a place in the French summary of Dr. Leale's remarks. Thus far, then, the German journal is simply proceeding upon insufficient information, and it might perhaps be held that, in the absence of the full statement of the facts, it would have been justified, but for the manifest impropriety of founding any criticism upon a mere summary, in questioning the propriety of the resort to forcible delivery. But we are unable to see that anything can warrant its assumption that the mother's death was in any way incompatible with Dr. Leale's statement that the operative procedures resorted to were accomplished "without injuring mother or child." But it is on that assumption that it seems to have founded the following remark: "(*Und da soll die amerikanisch indizirte forcirte Entbindung ohne Schaden für die Mutter gewesen sein?!!*)"

Damaging as the phrase "*amerikanisch indizirte*," the note of interrogation, and the two exclamation marks may appear to the German mind, we would like to ask our Berlin contemporary if it regards the death of a patient who has been operated on as necessarily indicating that the operation was the cause of the fatal result.

MINOR PARAGRAPHS.

THE TENNESSEE "STATE BOARD OF HEALTH BULLETIN."

We have received the first number of this periodical, for the month ending July 31, 1885. It seems to owe its origin to the fact that the publication of the monthly meteorological report of the State (which was formerly published with the crop reports, by the Bureau of Agriculture, Statistics, and Mines, and more recently in an agricultural newspaper) has lately been turned over to the board. The board therefore concluded to couple its weather reports with matters more properly appertaining to its own sphere of action, and the result is this pamphlet of twelve pages of reading matter. We regret to see that the appropriation made by the State for sanitary purposes was so small as to compel the board to admit advertisements into this, a public document. Sanitary information ought certainly to be diffused as generally and as systematically as possible; hence the State would find its account in not being niggardly in the matter of this excellent publication.

THE NEW VOLUME OF THE INDEX-CATALOGUE.

The appearance of the sixth volume of this great work is a fresh reminder of the wonderful zeal with which it has been prosecuted, and it is almost superfluous to say that it reveals the same painstaking accuracy that marked the preceding volumes. The work is now brought down to the word Insfeldt. The additional list of medical periodicals drawn upon fills eleven of the large pages, and shows the completeness with which contemporary periodical literature is indexed. The work is simply stupendous, and we can only repeat the expression of our sense of the obligation under which the whole profession ought to feel itself to Dr. Billings and his associates in the undertaking. We may now reasonably look forward to the completion of the catalogue in the course of a few years more, and it is earnestly to be hoped that the Government will do everything in its power to hasten its publication.

THE DISINFECTION OF IMPORTED RAGS.

No doubt there has been some needless quarreling over the matter of the disinfection of foreign rags entered at the port of New York, but it must be conceded, we think, that the importers have been unreasonably tantalized by the course that the Commissioners and the Health Officer of the Port have seen fit to pursue. This we say without any reference to the charges that these officials have played into the hands of a particular company holding the patent of a disinfecting process. We are not surprised to learn, therefore, that the importers have at last shown a disposition to take the matter to the courts for adjudication. We sincerely trust that the outcome of the contention will be to block the game of those who seem to be seeking to still further handicap a port that nothing but the most bountiful provisions of Nature could have saved thus far from the rapacity of the politicians.

THE DANGER OF SMALL-POX FROM CANADA.

We can scarcely overlook the magnitude and the pressing urgency of the danger of the Canadian outbreak of small-pox gaining access to our own territory. Much will depend upon the vigilance and the intelligence displayed at a few important points, particularly Buffalo. We are glad to learn, therefore, that the sanitary officials of that city seem fully alive to the exigency, and that their efforts are meeting with hearty cooperation at the hands of the Canadian authorities. We remember that Buffalo was one of the best-managed places in the great epidemic of 1872–1873, and we have no doubt that its citizens may be depended upon to call into play, if necessary, the individuals and the machinery that served so well at that time.

A NEW MEDICAL JOURNAL IN BUFFALO.

We have received the first number of a new monthly journal, entitled "The Medical Press of Western New York," published in Buffalo. It is edited by Dr. Roswell Park, of Buffalo, assisted by Dr. M. D. Mann, of Buffalo, Dr. Ely Van de Warker, of Syracuse, and Dr. W. J. Herriman, of Rochester. These gentlemen make a very strong staff, and we look to see the new journal take a very high position. Of the first number, dated November, 1885, we can say that it augurs exceedingly well.

A FLORIDA MEDICAL JOURNAL.

It is announced that the first number of a monthly journal of sixty pages, to be styled the "Florida Medical and Surgical Journal," will be published at Jacksonville on the 1st of November. It is to be edited by Dr. T. O. Summers, Dr. C. H. Mallett, and Dr. Neal Mitchell, who promise that no efforts will be spared to make it "a faithful exponent of the highest interests of the profession throughout the State." A feature of the journal, and one that can be made very valuable, is to be the supplying of information concerning the influence of the Peninsular climate.

NEWS ITEMS, ETC.

The American Academy of Medicine will hold its next meeting in New York on Wednesday and Thursday, the 28th and 29th inst.

The New York State Medical Association will hold its second annual meeting in New York on Tuesday, Wednesday, Thursday, and Friday, November 17th, 18th, 19th, and 20th. The last day's session will be held at the Carnegie Laboratory, and the others at the Murray Hill Hotel.

The Medico-Chirurgical College of Philadelphia.—We learn that Dr. Frank Woodbury, the editor of the "Medical Times," of Philadelphia, has been appointed professor of materia medica and therapeutics.

The Journal of the American Medical Association.—Dr. William Lee, who, from the beginning, has been assistant editor of the association "Journal," has, we understand, been dismissed by the editor. Dr. Lee was appointed by the original committee a member of the council of the Section in Physiology of the Ninth International Medical Congress, but resigned after the Chicago meeting of the New Orleans committee.

The British Gynæcological Society.—Dr. Fordyce Barker, Dr. T. Gaillard Thomas, and Dr. Thomas Addis Emmet, of New York, and Dr. William Goodell, of Philadelphia, have been elected honorary fellows.

Cremation was the subject of an interesting paper, by Dr. William M. McLaury, read before the Society of Medical Jurisprudence and State Medicine on Thursday evening of last week.

The Preventive Inoculation of Hydrophobia.—A recent issue of "Science" contains an extract from a letter lately written by M. Pasteur, in which he expresses his confidence in his method of preventing hydrophobia, even when applied so late as a fortnight after the bite. As yet, he has made only one trial of it on the human subject—in the case of a boy who had

been bitten horribly on the 4th of last July, and whose death by hydrophobia seemed unavoidable, but who, up to the time the letter was written, September 7th, had continued in excellent health.

The Marine-Hospital Bureau's Health Reports, up to Tuesday, the 13th, show that yellow fever is epidemic in Caracas, and has appeared at Acapulco; that the cholera in Spain is abating, and has wholly disappeared in Valencia; and that small-pox is raging in Buenos Ayres.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 4 to October 10, 1885:*

Weisel, Daniel, Captain and Assistant Surgeon. To be relieved from duty at camp at Rock Springs, Wyoming, and return to his proper station, Fort Fred. Steele, Wyoming. S. O. 99, Department of the Platte, October 1, 1885.

Adair, George W., Captain and Assistant Surgeon. Leave of absence extended one month. S. O. 232, A. G. O., October 9, 1885.

Biart, Victor, Captain and Assistant Surgeon. Sick leave of absence further extended six months on surgeon's certificate of disability. S. O. 227, A. G. O., October 3, 1885.

Bushnell, G. E., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month. S. O. 215, Department of the East, October 6, 1885.

Stephenson, William, First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Niobrara, Nebraska, and ordered for duty at camp at Rock Springs, Wyoming. S. O. 99, Department of the Platte, October 1, 1885.

Chapin, A. R., First Lieutenant and Assistant Surgeon. Leave of absence extended one month. S. O. 230, A. G. O., October 7, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending October 10, 1885.*

Bright, George A., Surgeon. Ordered to U. S. S. Brooklyn.

Fitts, Henry B., Assistant Surgeon. Ordered to Naval Hospital, New York.

Hall, John H., Passed Assistant Surgeon. Detached from Naval Hospital, Mare Island, California, and ordered to the Hartford.

Swan, Robert, Passed Assistant Surgeon. Detached from Naval Hospital, New York, and ordered to the Brooklyn.

Society Meetings for the Coming Week:

Monday, *October 19th:* New York County Medical Association; Medico-Chirurgical Society of German Physicians; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *October 20th:* New York Academy of Medicine (section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and Westchester (White Plains), N. Y.; Medical Society of Hunterdon County (Flemington), N. J.; Ogdensburg, N. Y., Medical Association.

Wednesday, *October 21st:* Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological).

Thursday, *October 22d:* New York Academy of Medicine (section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; New York Orthopædic Society; Roxbury, Mass., Society for Medical Improvement (private); Brooklyn Pathological Society; Pathological Society of Philadelphia.

Friday, *October 23d:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *October 24th:* New York Medical and Surgical Society.

Letters to the Editor.

THE NEW YORK CODE OF ETHICS.

Newark, Ohio.

To the Editor of the New York Medical Journal:

Sir: Dr. Jacobi's remarks, in his able address in your issue of October 3d, on the International Congress, will not fail to find a sympathetic echo in the heart of every true physician; but, in common with others, I can not help an exclamation of surprise at what he says on the war of the codes, or of the "unexpected success on the part of the profession of the State of New York in harmonizing a large majority of the medical men of the United States." What his grounds are for this assertion, I have only his own inadequate explanation, which is, at least in part, grounded on a misapprehension, and one, too, that is fundamental, so far as the issue is concerned between the New York and the national codes of ethics. He says that homœopathists now maintain that "their practice is not based on an exclusive dogma." If the adherents to that ism in New York have progressed that far, they are to be congratulated, and it is to be hoped that this advance will soon be followed by another—to discard the trade-mark of their sect. Now, Dr. Jacobi seems to take it as a matter of course that the liberalization of homœopathy in his State warrants the conclusion that it has extended to all the States. In other words, as goes New York so goes the whole country—a somewhat exaggerated form of cockneyism. During a long and not very limited acquaintance with homœopaths in this region, I have only found one of the kind he mentions, and he is a half-breed.

Put this question to homœopathic practitioners—not to be answered by some spread-eagle orator in a public assembly, but by the working men with whom we are brought into daily relations—Are you willing in consultations to use large or small doses of medicines, to order purgatives or emetics, or to employ the lancet, if the large majority of the most eminent physicians the world over testify strongly in their favor in appropriate cases? The homœopath instantly replies, No, if by a majority of eminent medical men you mean allopaths. Now, I venture to assert that this would be the reply of ninety per cent. of the homœopaths with whom we in this region are brought into contact. The New York code says: You may meet such men in consultation. What for? To try to reconcile irreconcilable differences; to argue and get into unseemly quarrels in the sick-room; or with oily suavity yield up your convictions of what will most likely save life, for the sake of a fee? The homœopath, in such an instance, would be by far the more honorable of the two. I say emphatically that in this region the regular physician who meets a homœopath in consultation must do one or the other of these things, and the New York code of honor says he may. Away with such a consent to a course of conduct that must lower the *morale* of the profession, and, when I say this, I am confident that I have at least ninety per cent. of the profession at my back.

J. R. Black.

PRIZE ESSAYS ON DISINFECTANTS.

199 Dean Street, Brooklyn, N. Y., *October 5, 1885.*

To the Editor of the New York Medical Journal:

Sir: I desire to call the attention of the profession to a flagrant exhibition of what must either be favoritism, ignorance, or a culpable disregard of all justice. I allude to the decision of the prize committee appointed by the publisher of the "Druggists' Circular" for the proper awarding of three graded prizes to the best three essays on disinfectants. All competing essays have been printed in a neat volume of 168 pages. The first prize was awarded to essay No. 6, written by a non-medical man, and a former editor, I believe, of the paper offering the prizes. His essay is a heterogeneous rehash of old and new opinions and recommendations on disinfectants and antiseptics. He seems to have succeeded in impressing the committee by his long array of references, many of which are useless and unscientific. The second and third prizes were awarded to two physicians, and both their essays were worthy, in fact the only such in the collection. The rest of the work is composed mainly of trash. Essay No. 21 covers but one page. I am astounded at the committee's decision, as Dr. Baker, of Lansing, Mich. was one of the examiners. No. 6 is thoroughly unscientific, and fails to agree with the terms upon which the award was promised to be made. That such a decision is not without gross risks is apparent when we consider that the druggists, to whom the people go for disinfectants, rely upon the judgment of the awarding committee as to which is the best essay, and by this they will be guided. Since the public are in this way at the mercy of the druggists, I have written you in the hope that others may be directed to this matter, and that such able authorities as Dr. Sternberg, Dr. Salmon, Dr. Duggan, and others will set upon it the seal of their condemnation. The two essays that received the lower prizes have the merit of being up to the times and giving sound sanitary advice. Could the pharmacists be taught to prepare their disinfectants of the materials these two advise, much good certainly would be done, and many lives saved. The first-prize essay is so poor, compared to the other two, that it can not be compared with them. It is a shallow, hurried, carelessly written compilation. I do not see that the writer deserves any blame—he is a layman, and can not know as much about the subject as an intelligent physician. I do think, though, that the committee deserves everlasting discredit for the work it has done, and I regret that its work is stamped with the seal of Dr. Baker's approval. Trusting that this will be "passed along," I have the honor to be,

Very respectfully yours,

A. H. P. Leuf.

Proceedings of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of September 28, 1885.

The President, Dr. Daniel Lewis, in the Chair.

Nominations were made as follows: For President, Daniel Lewis; for Vice-President, Laurence Johnson; for Secretary, Wesley M. Carpenter; for Assistant Secretary, Charles H. Avery and Robert Campbell; for Treasurer, O. B. Douglas; for Censors (five to be elected), H. T. Peirce, W. E. Bullard, W. O. Moore, H. B. Conrad, W. Wells, H. G. Piffard, and J. W. Howe.

Gonorrhœa in Women.—Dr. A. F. Currier read a paper with this title. [See p. 424.]

Dr. H. T. Hanks regarded the question of the ætiology of gonorrhœa as still undecided, but the pathological results of the disease and the indications for treatment were not doubtful. He believed with Dr. Currier that a very large percentage of all diseases peculiar to women were due to gonorrhœa. In dispensary practice one would see patients who had had acute gonorrhœa return some years afterward suffering from troubles which had their origin in such acute inflammation. He did not believe that any physician, without the aid of the microscope, could make a sufficiently accurate diagnosis of gonorrhœa. But, as to the pathological results of acute gonorrhœal inflammation, he thought we should feel more confidence in our ability to treat them successfully. He would beg leave to differ with Dr. Currier with regard to the relative frequency of gonorrhœal endometritis and urethritis. He regarded the latter affection as far the more frequent. If the circum-uterine tissues, the Fallopian tubes, and ovaries became affected, we could do much by judicious treatment—as by applications of iodine, glycerin, chlorate of potassium, etc. In the treatment of the disease in its acute stage, he agreed with the author of the paper in the use of vaginal injections of chlorate of potassium, or carbolic acid, corrosive sublimate, etc. The treatment should be systematic, the injections being made every four hours.

Dr. H. J. Garrigues had not looked for gonococci, but had been enabled to make the diagnosis between simple elytritis and gonorrhœa by the more virulent symptoms of the latter. He often found Bartholin's glands affected, and found it necessary to open them and make applications. The most effectual vaginal injection for the acute disease was a solution of bichloride of mercury, one to two thousand; but other agents had also proved efficacious in his hands. As to the involvement of the urethra, he agreed with Dr. Currier that it was not often present. For the disease in the uterus he applied Churchill's tincture of iodine. As to the efficiency of medicated pads, he thought the glycerin was probably the efficient agent rather than the medicine which it contained.

Dr. H. J. Boldt thought urethritis was more common than the remarks of the gentlemen would lead us to suppose. The majority of cases of acute gonorrhœa would not end in less than three months.

Dr. Lyttle said it had been stated that we must depend upon the clinical phenomena in making a diagnosis; he failed to see, therefore, the value of the gonococcus. The treatment was the same as that which had been adopted before the discovery of that microbe.

Dr. Messenger had never seen a patient upon whom he could rely for making proper vaginal injections; the physician should carry out the treatment himself, and make the injections thorough. The syringe which he used was described as being specially valuable in enabling one to fully balloon the vagina with the bichloride solution.

Dr. Currier closed the discussion, and said he was not sure that glycerin did not play an important part in the treatment when it was employed as a vehicle for other medicines. The value of the gonococcus in diagnosis would be specially seen in cases brought into the courts.

The Treatment of Leprosy.—Dr. G. H. Fox read a paper on this subject, in which he deprecated the tendency to depress the patient morally by giving him to understand that his disease was incurable, and by making him an outcast from society or confining him with those affected in like manner. The patient's *morale* was of far greater importance than change of climate, attention to food, etc.—conditions which were considered necessary to his welfare. He gave the history of a missionary to the

Sandwich Islands who contracted leprosy. The symptoms had become well marked, but he was given to understand that his case was not hopeless and that he should not be put under restraint, and chaulmoogra-oil was given. He steadily improved, and at present there remained only some symptoms in the hands. Leprosy was only moderately contagious, and the author knew of no instance of its gaining a foothold in a refined community; he therefore regarded confinement as unnecessary.

Dr. Fuller had seen several hundred lepers at Havana, and said the disease was regarded as contagious, but only slightly, and they were not very strictly confined.

Dr. Moore had been in the West Indies, and could testify to the buoyancy of feeling among the lepers there. He did not think that want of sympathy or mental depression had anything to do in preventing a cure. It was well known that there often occurred intervals when the disease was not progressive. There were instances in which it had been known to be inherited, although it might pass over a generation or more.

Dr. J. C. Peters had seen persons suffering from leprosy in Havana, and they were generally indifferent to their condition.

Dr. D. B. Delavan had visited the institution for lepers in Norway, where there were now only about seventeen hundred, the number having been reduced from over three thousand. They usually came from among the lowest classes. They were not under very great restrictions. He expressed surprise at the position taken by the author of the paper, but he would be glad if his views regarding the curability of the disease might be fulfilled.

Dr. Piffard said that where many patients suffering from leprosy were found the treatment was practically *nil*. The few patients whom he had treated had improved under the use of nux vomica and chaulmoogra-oil. The system became intolerant to one drug if taken for some time, and the two should, therefore, be alternated.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of September 23, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Recurrent Epithelioma of the Penis.—Dr. W. Perry Watson showed a portion of a penis and the patient from whom it had been removed, a laboring man, forty-nine years of age, of good family history, and without any history of specific disease. His health had always been good. Phimosis had existed, which caused marked "ballooning" of the foreskin during urination. In 1865, while he was sitting at table, a fork was thrown at him, and one tine pierced the dorsum of the glans penis. There was considerable bleeding, but a physician was not called. Soon afterward he was admitted into Bellevue Hospital, where, according to his statement, Dr. Hamilton amputated a portion of the foreskin which was said to be indurated. No portion of the head of the penis was removed. The speaker thought it probable that the induration referred to by the patient was a blood-clot. He had no further trouble for about six months, when a wart-like growth developed near the frænum. This grew, and, being constantly irritated, was removed six months later. Six months afterward an ulcerative process set in at the base of the wart-like growth, which increased in dimensions, and for a year before the speaker saw the patient, which was two years ago, gave rise to considerable hæmorrhage. Dr. Watson advised amputation, and the circular operation was done, the urethra being slit up and stitched to the skin. The man had been well since, no tendency to a return of the disease being manifest. The inguinal glands had at no time been enlarged. The epitrochlear glands were slightly enlarged.

The President had seen four cases of epithelioma of the penis during the past eighteen months, in three of which he had performed amputation, and in all there had been phimosis. He had conversed with several surgeons on the subject, and had not heard of a single case of carcinoma of the penis in which there had not been phimosis. This was certainly one other indication for circumcision.

A Vermiform Appendix of Unusual Length and Attachment.—Dr. Louis Waldstein presented a vermiform appendix 16 ctm. long, which he found in a cadaver at the German Hospital. It reached upward to the hepatic flexure of the colon, to which it was attached. Probably there had been slight local peritonitis and displacement of the colon downward, during which the adhesion was formed. The colon afterward resumed its normal position, carrying the appendix with it.

Biliary and Renal Calculi.—Dr. Waldstein also presented a urinary calculus, composed of urates, which was interesting in connection with the history. Mr. S. sent for him in April last, suffering from pain in the abdomen, the greatest tenderness on pressure being over and just to the right of the epigastrium. The pain radiated over the entire abdomen. There was slight icterus of the conjunctivæ and integument. The diagnosis of biliary calculus was made. The patient improved under the use of Carlsbad water. Large numbers of concretions were found in the fæces. Subsequently the speaker was called to visit the patient for an attack of pain which commenced in the right lumbar region, extended downward along the course of the ureter and right thigh, and was diffused over the abdomen. The patient said that when micturating he had a peculiar sensation at the glans penis and a tingling of the fingers of both hands, also some dizziness, and occasionally saw *mouches volantes*. The diagnosis of urinary calculus was made, and subsequently was confirmed by the passage of the calculus presented. An interesting fact in the case was that during eleven or twelve years the patient had had digestive derangement, and finally, as was apt to occur, biliary calculi developed, and also renal calculi.

The President referred to a largely distended vermiform appendix which he had seen while in Bellevue Hospital, but he had never seen one so long as that presented by Dr. Waldstein.

MEDICAL SOCIETY OF VIRGINIA.

Sixteenth Annual Meeting, held at Alleghany Springs, Tuesday, Wednesday, and Thursday, September 15, 16, and 17, 1885.

Dr. Bedford Brown in the Chair.

(*Concluded from page 419.*)

Dyspepsia with Neurasthenia and Somnolence.—Dr. M. L. James, of Richmond, read a paper on this subject. He referred to the fact that, although this morbid association was a serious inconvenience, and sometimes a grave disability, it had not in this particular association received very much of attention in the books. While it very often resulted from the excesses of dissipation in the various forms, it was yet more frequent in the best types of manhood and womanhood, those whose only intemperance was excessive thought and exhausting labors of love, and for that reason especially commended itself to the consideration of men of science and physicians from kindred sympathies. He referred to the fact that indigestion was one of the most frequent causes of neurasthenia, from its combined influences in impairing nutrition and producing a certain species of shock on the nervous system, and that in its treatment it should be remembered that these morbid conditions reacted upon each other. While dyspepsia produced neurasthenia, neurasthenia, on the other hand, was liable greatly to intensify dyspepsia.

He indicated that the judicious treatment of this condition demanded what might be described as training, in which the correction of each of these conditions might be made to contribute to the relief of the morbid condition in the other; that digestion was better performed by securing the utmost integrity of the innervating forces, and the asthenia of the nervous forces was greatly diminished by removing the disorders of digestion. For that reason he emphasized the importance of securing to the patient an ample amount of undisturbed sleep, to commence the labors of each successive day, and then that the food should be selected with a view to its ease of digestion and its capacity to afford nutrition to the nervous tissues. A period of rest in the recumbent position, accompanied by sleep from a half-hour to two hours previous to dinner (after which the greatest amount of difficulty was usually experienced), was attended by the best results.

In the matter of medication, while he spoke of the good effect of a judicious use of stimulants, especially such as stimulated the cerebral lobes and averted sleep, such as was found in coffee or its alkaloid, caffeine, that for permanent restoration those agents which were more decidedly tonic, such as quinine, strychnine, and phosphorus, or its compounds, or such agents in combination with minute quantities of caffeine, were best calculated to afford remedial benefit. He mentioned the following as one of the formulæ which he had been accustomed to use with the most efficient results:

℞ Quininæ phosphat.,	gr. xvj;
Strychninæ phosphat.,	gr. ⅛;
Acidi phosphorici (50 per cent.),	♏xx;
Caffein. citrat.,	gr. xvj;
Aquæ puræ,	f ʒ vij;
Glycerini puri,	
Spts. vini rectif.,	āā f ʒ ss.;
Tr. cardamomi co.,	f ʒ j.

Misc. secundum artem.

One or two teaspoonfuls immediately before or after breakfast or dinner, to be repeated, when necessary, every hour or two till the nervous depression was relieved, or every half-hour till one or two doses were taken if this depression was heavy.

He stated that where digestion was impaired to that degree that food in the ordinary form was not tolerated and digested, he advocated the use of concentrated animal preparations in a fluid form, and of foods predigested by the use of pepsin and pancreatin; and where this amount of difficulty was so extreme that they could not be administered by the stomach they ought to be administered through the rectum.

Report on Advances in Hygiene and Public Health.—Dr. Edwards announced the sudden death of the Reporter, Dr. William H. Coggeshall, of Richmond, on September 7th—just after he had finished his paper. By unanimous vote, Dr. Edwards read the paper, the title of which was:

The Recent Plymouth, Pa., Epidemic and the Lessons it teaches.—A full account of the epidemic was given and deductions were made, based upon an analysis of its history.

Inhumation and Cremation was the title of a paper by Dr. J. E. Chancellor, who spoke of the principal methods of disposing of the dead. The major portion of the paper was devoted to the subject of inhumation and its evils, many authorities being cited, and the testimony of scientists and medical men of the East who had made it a subject of close investigation.

Report on Ophthalmology and Otology.—Dr. Phillip Taylor, of Richmond, read a paper in which mention was made of the practical benefits to be derived from the use of jequirity in trachoma with or without pannus. He insisted upon the fact that chronic purulent conjunctivitis should not be present when jequirity was used. The late theory relative to the transmission of sympathetic ophthalmia—viz., by means of the inter-vaginal lymph-spaces of the optic nerve—was given, and conclusions concerning septic poison being conveyed by the ciliary nerves from the diseased or injured eye to the unimpaired organ—the once popular theory—were rendered. Cocaine received notice as one of the most important strides that had been made in ophthalmology for many years. Its uses and effects were dilated upon. Numerous operations were referred to that had been brought before the profession during the past year, notably one for pterygium by Dr. Prince, of Illinois, another for evisceration of the eyeball as a substitute for enucleation, also one for the transplantation of the cornea. He referred to the danger of performing the operation for internal strabismus in the young and making the correction absolute, and pointed out the fact that, as maturity came on, insufficiency was quite apt to follow, causing external squint.

In otology, some recent preparations for purulent ear troubles were discussed, especially peroxide of hydrogen. New-style Eustachian catheters and the method of using bougies for dilating the Eustachian tube were approved. The connection between diseases of the teeth and those of the ear was referred to, and statistics were rendered showing that sympathy existed between these parts.

Practical Remarks and Suggestions in regard to Diseases of the Ear, Throat, and Nose, with Reports of a Few Cases.—Dr. Joseph A. White, of Richmond, presented a paper on this subject. In speaking of the disastrous consequences of neglected middle-ear catarrh, he remarked that neglected suppurative inflammation had resulted fatally. Pain should be overcome by local leeching, warm applications, the use of twenty-per-cent. solution of cocaine hydrochlorate with atropine in the ear, and anodynes internally. Cocaine did anæsthetize the drum-membrane. Pilocarpine hydrochlorate and calcium sulphide should be administered during the exudative stage, but caution should be exercised in using pilocarpine during the aural troubles following any of the exanthemata lest the heart be paralyzed. If pain persisted and the drum-head bulged, the posterior-inferior quadrant should be opened, and, by aid of the air-bag, the tympanum evacuated. Then the ear should be gently and frequently syringed with carbolated or borated solutions of sodium bicarbonate, and the Eustachian tube kept free by the daily use of Politzer's air-bag. If pain continued, the cocaine solutions should be continued, but the atropine left off, as the latter was dangerous when the drum-head was opened. Powdered boric acid might also be dusted over the drum once or twice a day. Mastoid and diseases of the brain often occurred from neglected middle-ear complaints; permanent deafness was common. Especially during the course of scarlet fever, the earliest signs of ear trouble should receive close attention. Leeching and the use of calcium sulphide would often avert threatening mastoid complications. If there was redness or pain on pressure over the mastoid process, freely incise to the bone, and even trephine the bone if pain continued.

Dr. White next referred to the influence of menstruation at puberty and at the menopause upon ear diseases. Impaired hearing due to adhesive middle-ear catarrh was very common about the climacteric period. He cited the case of otorrhœa which began at puberty and yielded readily to treatment, but recurred at each menstrual period until finally the menstrual irregularity was relieved, when the otorrhœa also ceased.

As to syringing the ear, be careful, he said, not to use too much force in removing impacted wax, foreign bodies, etc. Dizziness, syncope, violent pain, followed by suppurative inflammation and deafness, had resulted from too forcible syringing. To remove impacted wax, first partially dissolve it by

frequent applications of warm solutions of sodium bicarbonate in glycerin and water, and then very gentle syringing would remove the mass. When required to loosen a lump of wax or such a thing with forceps or probe, we should not attempt to do it without good illumination from a head-mirror.

Follicular amygdalitis and catarrhal diphtheria were often confounded. In diphtheria, in addition to the fever, occasional nausea, pain in the throat which generally began on the third day, and patchy exudation on the swollen tonsil, as we had in follicular amygdalitis, the exudation extended over the mucous membrane of adjacent structures. Guaiacum acted almost as a specific in follicular amygdalitis, which supported the belief that rheumatics were most liable to it. If recurrent attacks became common, or if the tonsil became so hypertrophied as to affect nasal respiration or impair articulation, he advised the removal of the enlarged tonsil. The only risk was hæmorrhage, and that usually was but slight. The rule should be to remove anything that interfered with nose-breathing or rendered mouth-breathing necessary. Interference with nasal breathing caused deafness, tinnitus aurium, etc., and the reflex phenomena, such as reflex cough, sick headache, asthma, and hay fever. The paper concluded with reports of two typical cases of hay fever cured by the use of the galvano-cautery applied to the sensitive points of the nasal mucous membrane.

Two Cases of Tracheotomy — One for Lupus of the Larynx, and One for Diphtheria—were reported by Dr. Charles M. Shields, of Richmond. He had found mention in the text-books of about a dozen cases only. The case now reported was that of a retired doctor, about fifty-five years old. He had had hoarseness and pain while swallowing for more than a year. Now he could speak only in a hoarse whisper, and he had dyspnœa. The laryngoscope revealed general redness and congestion, with so much swelling of the right vocal cord and ventricular band as to make them indistinguishable. This growth was covered with small, pale, fleshy tubercles, having superficial ulcerations between them. The patient never had syphilis, nor were there any signs of phthisis, nor was cancer hereditary in the family. These usual causes of laryngeal growths were therefore excluded. The diagnosis of lupus was strengthened by the appearance of two or three small, suspicious ulcerated growths upon his face and arm which would not heal until excised, and which were probably skin manifestations. At first he took iodide of potassium, and afterward arsenic, and, locally, iodoform and bismuth; but the lupus progressed until seven months after the patient presented himself, when the ulceration and swelling occluded the larynx. Both sides of the larynx were immensely swollen and covered with the pale elevations and ulcerations, and no glottic aperture could be seen. Tracheotomy was performed without chloroform, but it was a tedious operation because of his short, thick neck and the pushing down of the trachea by the enlarged larynx, leaving very little space for the incision; an unusually long cannula had to be used. Great relief followed the operation, and he soon learned to remove, clean, and replace the entire tube without difficulty. He was doing well during the next summer.

Dr. Shields also reported a successful tracheotomy for laryngeal diphtheria in a child three years old. After the fifth day the membrane in the larynx increased so rapidly as to threaten death by suffocation. Iron, quinine, and large quantities had been used. Vapor of lime filled the room. Tracheotomy was not consented to by the parents until the sternum was drawn in and the patient was cyanosed and thought to be dying. The tracheotomy-tube was introduced as soon as the incision was made, but all appearance of breathing stopped. Artificial respiration was kept up and the tube withdrawn again, when, with forceps, a membrane, cast upon the trachea, two inches long, was removed. The cannula was again put back, and, artificial respiration being continued, the child finally began to breathe. She did well for two days, when difficult breathing set in, and she coughed up through the trachea another cast. Diphtheritic membrane covered the edges of the wound. No air passed through the larynx for nearly a week, and the tube had to be kept in for three weeks before she could breathe comfortably through the natural channel. She made a good recovery.

Infanticide was the title of a paper forwarded by Dr. Charles R. Cullen, of Henrico County, who was unable to attend. The writer did not follow the usual routine found in the text-books on medico-legal jurisprudence, but merely sought to direct attention to the weakness of Virginia laws on the subject. Dr. William H. Taylor, Coroner of Richmond City for about thirteen years, furnished statistics of 139 persons tried for infanticide during his term of office—43 whites and 96 negroes. Of the total number, not a conviction followed. The laws of England and Scotland had succeeded better. Of 68 trials for infanticide in London, 53 convictions followed. In New York and Pennsylvania the laws were much more certain of securing convictions than in Virginia. The very harshness of the Virginia laws caused them to fail of good results. Dr. Cullen reported two cases of trials for infanticides which had come under his attention, showing the weakness of the Virginia laws, and he called on the society to aid in reframing the State laws relating to infanticide.

A Plea for Tracheotomy in Croup.—A volunteer paper with this title was read by Dr. L. Ashton, of Falmouth. He said that the good that was to result from the timely performance of tracheotomy was so great that it should be placed among the minor surgical operations. This classification would materially help to popularize it and take from it that dread that parents so often felt regarding it. The operation in itself was comparatively free from danger, but was a delicate one, requiring coolness and caution, and, when performed hurriedly, was too often made difficult and dangerous. The operation not being dangerous in itself, nothing connected with its mere performance should influence the time when it was to be resorted to. As soon, he said, as it was decided that a positive mechanical obstruction to the entrance of air into the lungs existed, the operation should be done, before such secondary complications as broncho-pneumonia, œdema of the lungs, prostration of nervous energy, etc., occurred. In the majority of cases of croup death resulted from want of oyxgen in the blood. It should be performed in all cases where the croup was progressive and unaffected by medical treatment. In a number of cases the extension of croup was arrested by tracheotomy. The admission of air into the lungs through an artificial opening in the windpipe secured entire rest for the diseased larynx, and this led to a suspension of diseased action there. The diphtheritic process, clinically speaking, stopped at the level of the vocal cords much oftener than was commonly supposed. When the disease involved the trachea, it was by propagation from the larynx, and not by a simultaneous attack on the larynx, trachea, and bronchi; and this extension downward was generally prevented by early tracheotomy. Since the operation alleviated suffering, mitigated the symptoms, obviated secondary complications, and did not add one element of danger to the original disease, there ought to be no delay in its performance. Many children had even been brought to life again by it, with the aid of artificial respiration.

Psychological Aspects of Suicide.—During the night session Dr. J. S. Conrad, Superintendent of Matley Hill Sanitarium, near Baltimore, Md., by invitation read a paper on this subject, and made the following conclusions:

1. Suicide increased with the advance of civilization, and was but little known in the savage state of men.

2. The act was an intelligent act (?), done with a full consciousness of the act, as shown by the method of execution, whether by the sane or insane.

3. That suicide was done always for the purpose of escaping an evil, and for the benefit of the *felo-de-se*, whether by sane or insane.

4. That it was a voluntary act (?), whether by sane or insane.

5. That it was an emotional act, whether by sane or insane, however deliberately planned and executed, since deliberation entered into the mind of both mental states.

6. That delusions were not essential to the distinction as to the sanity or insanity of the suicide, since authorities affirmed that delusions were not essential to the proof of insanity.

7. That suicide was rare in the first class—insanity (by Maudsley), viz., intellectual or ideational insanity—but did occur in the vast majority of the second class, or affective or emotional forms of insanity.

8. Query: Was suicide an intellectual act notwithstanding the intelligence exercised in its execution? Or was it an emotional act *per se*, since we had seen that the emotional part of mind dominated the ideational centers and perverted the intellect into becoming its humble servant?

9. Did moral depravity satisfactorily account for it, when we had seen that moral depravity was a factor with both the sane and the insane?

10. That, in doubtful cases of the sanity or insanity of the *felo-de-se*, very great caution was necessary in making up a just judgment as to the one or the other.

Irritable Rectum.—Dr. Archer Atkinson, of Baltimore, present by invitation, read a brief paper on this subject, in which he called attention to the various causes for this condition. He also reported a case in which he ligated the artery of a large bleeding hæmorrhoidal tumor.

Gunshot Wound of the Hand.—Dr. William G. Eggleston, of Chicago, reported a case of this injury. C. H. G., a physician, aged thirty-three years, received an extensive lacerated wound of the left hand, in February, 1885, while attempting to remove the cap from a loaded shell. The cartridge exploded, and the entire charge of shot, so far as was known, passed through the hand. The resulting wound extended, on the palmar side, from a point immediately anterior to the normal situation of the deep palmar arch, between the metacarpal bones of the middle and third fingers, tearing the hand completely open, thence to the webbed junction of these fingers, tearing the flesh from the first phalanx of the third finger, save a small portion on the dorsal aspect, and breaking the first phalanx of this finger and the metacarpal bones of the third and little fingers about the middle third.

The wound was thoroughly cleansed with hot water, the clots were removed, flaxen sutures put in place, compresses applied over the palmar and dorsal wounds, and the whole metacarpal portion of the hand was bandaged rather tightly with short bandages, so that they could be easily removed in case of hæmorrhage. The middle finger was used as a splint to the broken third finger. Turpentine was then injected into the wound, and the bandages were thoroughly soaked with it. Subsequently a drainage-tube was put in, and a weak bichloride solution used. On September 10th, seven months after the receipt of the injury, the patient reported that the third finger was practically useless, but that he could do all he wished with the hand; the grip was good, "the stiff finger seldom getting in the way."

Miscellany.

The Report of the Meeting of the Committee on the International Medical Congress.—The "Medical News," of Philadelphia, publishes the following letter from Dr. R. A. Kinloch, of Charleston, S. C.:

"*To the Editor of the Medical News:*

"Sir: The following letter was addressed by me to the secretary of the Committee on the International Medical Congress:

'Charleston, *September 16, 1885.*

'To Dr. John V. Shoemaker,

'*Secretary of the Committee of Arrangements for the International Medical Congress.*

'Dear Sir: In the "Journal of the American Medical Association" for September 12th there is a publication, under your signature as secretary, of what is styled a "Report of the Committee appointed to arrange for the meeting of the International Medical Congress in America in 1887." As a member of the Committee of Arrangements, present during the session of the committee held in New York city on the 3d and 4th of September, I am not aware that you were instructed or authorized to make any other report than such a one as naturally pertained to your duties as secretary. The correct and full report of the minutes of the meetings of the committee it is most surely your duty to prepare, and the publication of such minutes, unless specially interdicted by vote of the committee, seems to me to have been in order. Your "report," as published, is not the minutes of the meeting, nor does it fully or fairly represent these, as far, at least, as relates to the meeting in New York. As a member of the committee I think it due to the committee, and to the profession of our country, that the full action of the committee, which carries with it the animus or real intention which determined its work, should see the light of day. You will therefore pardon me if I appear intrusive when I ask you to inform me if it is your intention to publish a detailed report of the minutes of the late meeting of the committee, held in New York, on the 3d and 4th of September.

'Very respectfully, R. A. Kinloch,

'*Member of the Committee from South Carolina.*'

"This letter was forwarded as far back as the 16th of September, but has failed to elicit a reply. I am, therefore, forced to conclude that I shall not have the courtesy of a reply, and that there will appear no official report of the minutes of the meetings of the Committee on the International Congress, notwithstanding the interest manifested in this matter by the profession. As a member of the committee, however humble, I am not ashamed of any views I have expressed, or of any action I have taken. Nor do I desire to bear the sins, either of omission or commission, or to claim the fruits of the good work that may be the outcome of this body.

"I accepted a position on the enlarged committee created by the action of the American Medical Association at its late meeting in New Orleans, not because I approved of the action of the association in its mode of dealing with the work of the original Committee of Eight, but because I recognized the obligation to serve the association, and indulged the hope of sustaining a spirit of harmony, which I feared might be interrupted by the diversity of opinions coming of a too ponderous committee of arrangements.

"That the committee could best discuss the respective merits of men suggested for filling important offices in the Congress by sitting with closed doors, was an argument of some force; but it will scarcely be urged by scientific men that the shortcomings of the body, the conduct and ruling of its officers, the time of its discussions, the policy of its actions, the views and the animus of its individual members, should be guarded in the same way, and known only to unwritten history. Why, then, I ask, this suppression of this much of the proceedings of the meetings? And by what authority does the secretary of the body undertake to report in the way that he has done? As I was absent from the meeting for a brief period prior to its adjournment, it is possible that the committee may have instructed the secretary as to his

course of action. If so, I can only at this late date raise my voice in condemnation of such a policy.

"All the acts of the committee were of course the result of a majority vote, and, so far as it has worked for the supposed advantage of the Congress, I prefer to say nothing. I trust that its action will prove satisfactory. But, while majorities rule, minorities have certain rights, and among these is the right to be put upon record. As an independent member of the committee, I do not intend that my rights shall in all particulars be ignored. The verdict of a noble profession is something that I hold of inestimable value; the approval or disapproval of a court so constituted I am willing to accept, provided such is based upon my individual merits or demands. There was with me during all my connection with the committee the proud desire to promote harmonious action, and thus save the American Medical Association and the profession of our common country from dissensions which threatened their well-being, if not the vital interests of both, and which already have, in part, subjected us to the censure, if not the ridicule, of our foreign brethren.

"My first effort was at the informal meeting of the new members of the committee at New Orleans, when I introduced the following resolution, after there had been presented several propositions, all of which, as seemed to me, were calculated to give some offense to the original Committee of Eight.

"'*Resolved*, That the temporary officers of this meeting be instructed to correspond with the original committee, expressing our desire to meet them at such time and place as may be agreed upon by the majority of the entire committee.'

"The original committee had worked laboriously and deserved something of the association. If they had committed errors, they could not escape criticism; but with members of a common brotherhood, looking to scientific progress, criticism need not give offense. No proper-feeling brother desired to add to the mortification or irritation which naturally attached to the members of the original committee, when there were appointed additional members to their body, for the purpose of reviewing their work. The object of my resolution then was to try at the outset to establish friendly relations with the original body. The new members were merely *material added to this*. The original committee was the fully organized body. It had not been abrogated, nor was its organization changed by the recent action of the association. A cautious word from the temporary officers elected by the new members, if these officers were capable of appreciating the spirit of my resolution, was really the first and surest way of harmonizing the new with the old members of the committee.

"Dr. Flint and Dr. Billings were the officers of the Committee of Eight. They were also, now, the officers of the enlarged committee, until that committee should meet and decide to supplant them. It rested, then, with these gentlemen to call the committee together; *the duty pertained to none others*.

"Some confusion arose in regard to the function of the committee as enlarged, and as to the attitude of the original committee to the association. The members of the original committee naturally desired time for conference and careful conclusion. This should have been accorded them. But, unfortunately, the temporary officers of the meeting at New Orleans incorrectly estimated their position and failed to perceive that harmony was necessary for professional unity, and unity essential to the scientific interests of the Congress. The function of these temporary officers had ceased after they had carried out the instructions given them by my resolution. And yet they magnified their recent position, forgot the spirit of their instructions, ignored the existence of the president and secretary-general of the committee, transferred the headquarters of the committee from Washington to Philadelphia, called for the vote of all the members of the committee, as to time and place of meeting, and resolved to meet at Chicago on the 24th of June. Strange to say, it does not seem to have occurred at that time to any of the members of the committee, besides myself, that these temporary officers of the New Orleans meeting had committed a bold and unjustifiable act. This was painfully evident to me, however, for I saw at once that the letter and spirit of my resolution had been trampled under foot, and I lost hope in the success of the Congress.

"The call for the Chicago meeting, made in the name, or under the authority, of my resolution, seemed to be accepted by the committee as right and proper. I alone protested and refused to vote. My protest was sent to the 'Association Journal,' but reached the editor too late, as he informed me, for the issue which immediately preceded the time of meeting of the committee. As a final effort, I wrote an earnest letter to Dr. Cole and Dr. Shoemaker, and insisted that my views should be presented to the meeting in the event of my failing to be present. The meeting was held at the time specified, *but my letter or views were not mentioned*.

"The result of the Chicago meeting is known to the profession. I was unavoidably absent, and subsequently shared only in the general regret that the character of the work done necessitated its reconsideration. The meeting at New York was called partly for this purpose. I was present, and at the earliest moment I claimed the privilege of having recorded upon the minutes the letter which I had written to the 'Association Journal,' and which explained fully my views as to the unjustifiable action of the temporary officers in calling the Chicago meeting. I also made the public statement as to the failure of these officers to bring my letter before the committee at Chicago. Through the failure of the secretary to publish the minutes of the New York meeting my views were again suppressed, and hence the unpleasant necessity of having now to justify my action. It is due to the officers of the meeting to say that they disclaimed any intention of purposely suppressing my letter at Chicago, but, at the same time, they offered no very satisfactory reason for their singular omission.

"The next matter which duty to myself compels me to notice has reference to the alteration of the rule, as adopted at Chicago, determining the American membership of the Congress. This rule had been fixed, as was claimed, *in obedience to the voice of the American Medical Association*, so as to restrict the membership on ethical grounds. The determination of a few adroit members of the committee was now to undo what had been done, and in their own peculiar way. By management more suitable for a political than a professional or scientific body, and which I will not now comment upon, the rule, as prepared for presentation to the committee, which it was claimed opened the Congress to all members of the regular profession, was finally brought before the body. I asked the gentleman who had introduced the subject whether, under the proposed rule, all members of the Congress would be alike eligible for office, and whether he would favor the election of any member of the profession simply upon his merits, or whether there was not a mental reservation upon the part of those suggesting the change by which, upon ethical grounds, certain members would be members merely, and debarred from holding office.

"The answer came that in accordance with the 'resolution' of the American Medical Association certain parties must be refused high position. I asked for the reading of the 'resolution' referred to. I wanted to know whether the association had ever drawn any such fine distinction, opening the membership to all, but restricting the distribution of honors. It turned out that there was no such resolution ever adopted by the association. I then maintained that if the association and its implied sentiment were to guide the committee upon this occasion, it was more consistent to hold on to the Chicago rule than to accept the amendment as now proposed. I offered to support the amendment with all my heart if this was honestly offered, and if the mover would amend it further by stating that all members were equally eligible for office, or if he would agree to show that, practically, all were eligible by voting for men on their merit and regardless of ethical standing. If this was declined, I insisted I could not vote for the amendment, for I would not pretend to offer bread and give a stone. My proposition was not accepted, but the new rule was adopted without my vote, and *all in the name of the association*.

"One other point deeply interested me, and determined my rejection of office. It was well known that the rule, as adopted at Chicago, which restricted the membership of the Congress upon ethical grounds, had occasioned the resignation or withdrawal of many of the best and strongest men in the profession, regardless of their views on the code question. A conciliatory spirit on the part of the committee, as now newly constituted, was of supreme importance, for we could ill afford to do without so many of the good minds of the country. Under the resolution of the association, the committee had power to fill all vacan-

cies occurring in its owu body, aud to appoint officers to the Congress. This was regarded as implying the right to accept resignations from positions which had been previously filled by the original Committee of Eight, or by the present enlarged committee at its meeting in Chicago. The work of filling vacancies was being pressed on, *when the committee had no knowledge of resignations except the mere verbal report of the secretary.* The idea seemed not to have occurred to any one that all letters of resignation should be read before the committee, or that courtesy and justice to the parties sending such letters demanded such reading. It looked as if the officers of the committee, and not the committee itself, were, to use a trite expression, 'running the machine.' I desired, naturally enough I thought, to know the reasons for the resignations which had beeu sent in to the secretary, and therefore asked for the reading of the letters. We were surprised to learn from the secretary that the letters had been left in Philadelphia, and, besides, that they were so numerous that there would scarcely be time for their reading. I nevertheless urged that the telegraph should be used to insure the letters' reaching us in due time. The secretary finally arranged to send a special messenger for the papers, and they arrived in time for the second days' session. I now again called for the reading of the letters. They were, under resolutious offered in plea of press of business, twice put upon the table to await convenience. But at last I succeeded in having a few letters read. I heard enough to conclude that if the obstructions to membership and to the honors of the Congress were really removed, and a proper spirit of conciliation evidenced by the committee, most useful men could yet be saved to the Congress. Meantime the work of filling the so-called vacancies in the most important offices had continued without any questions as to the acceptance of resignations. The spirit of vindictiveness (I regret to have to use the term) under the presumed offense given by the parties who had proposed to withdraw seemed to me to be irrepressible, so I could not consent to occupy the position of vice-president in the Surgical Section which had been assigned me, both by the original committee and the present one. As an unavoidable engagement precluded my presence at the meeting of the committee toward the close of the session, when the list of vice-presidents of the sections was up for consideration, I left with a member of the committee my written reasons for declining office. These were read, but of course suppressed with other portions of the minutes.

"In conclusion, let me state that I think it not unlikely that some of my professional brethren will charge me with egotism, and condemn the course I have pursued in thus publicly announcing personal grievances. This I shall regret, but I apprehend there will be many who will agree with me that personal grievances may be blended or indissolubly connected with the interests of the whole profession. Had I not regarded those which I have here recorded as of that category, I should never have adverted to them.

"One word in relation to the gentlemen constituting the enlarged committee. Many of them are my personal friends. I dispute not the right of individual opinion. I claim no superiority over my brethren, but my own convictions are strong and sincere. There are many of the committee whom I know to be as conservative as I claim to be. I feel grateful to some for the support I received while striving to modify the determined policy of the majority. I intend no offense to the committee as a whole, unless it be an offense to offer the assurance that now and ever I do not mean to allow my individuality to be destroyed.

"R. A. Kinloch,

"*Member of Committee from South Carolina.*

"Charleston, *October 1, 1885.*"

The American Medical Association and the International Medical Congress.—"The more one considers the question," says the "Medical Times and Gazette," of London, "the more fatal do the objections appear to the principle of allowing a pre-existing medical association to play the sole part in organizing an International Congress. No medical organization whose aims are not purely and exclusively scientific can ever be truly representative of medical science. The men who are the real workers in the field of medical research, and who are therefore the only proper representatives of the profession in a scientific meeting like the International Congress, are hardly ever found playing a leading part in associations of a medico-political nature. Quite properly they leave such functions to those of their brethren who have business proclivities and time upon their hands. The latter class may be admirably fitted for the work of conducting a large medical association, but they are not qualified to greet on even terms the medical investigators of the world, and we doubt even if they are competent to decide who are best qualified to give that greeting. Thus there is always the risk, exemplified in the United States just now, of their dragging the political and ethical questions that are nearest to their hearts into competition with purely scientific questions. The ouly safe way of organizing a successful International Congress in any country is to leave it in the hands of the leading scientifie men, who are known and acceptable not only to the hosts of the Congress, but also to its guests. We hope that on some future occasion this principle, which has until now invariably been acted upon, will be formally converted into a standing rule."

Decline the Invitation.—Under this caption the "Medical Record," of New York, says: "The month of grace allowed for the return of the gentlemen who withdrew from the organization of the Ninth International Congress has passed. There are no signs yet of the hoped-for return. The possibility, as suggested by us last week, of affecting in some way the ruinous course of the present committee, is now destroyed by the recent action of the Executive Committee, which has formally assumed dictatorial powers. We think, therefore, that it would be better, for the credit and harmony of the profession, that the acceptance of the invitation to hold the Ninth International Medical Congress in this country be withdrawn."

Excipients for Permanganate-of-Potassium Pills.—Mr. Edgar L. Patch, of Boston ("Pharm. Record"), says that, when he first had occasion to dispense permanganate-of-potassium pills, he chose that excipient nearest at hand which seemed to meet the requirements of making a mass quite readily, and preserving the salt from rapid decomposition. This was resin cerate, and, the permanganate being used in very fine powder, the cerate met the first requirement so well that he persevered in its use after Martindale had suggested the use of kaolin and paraffin, and Proctor that of kaolin and water. He never kept the pills in stock, and argued that their comparatively slow solubility was of advantage in preventing the too powerful local action of the salt. Nevertheless, some of his customers asked if the pills should "cause distress in the stomach?" He also recommended resin cerate to others who had stray calls for the pills, and who found difficulty in obtaining kaolin. Inquiry revealed the fact that at that time few wholesalers handled kaolin, and that some who sold "China clay" informed their customers that they knew nothing of kaolin.

"*Pure* kaolin," he continues, "is a white elay, a hydrated silicate of aluminium, having the formula $H_2Al_2Si_2O8+H_2O$. Comiug largely from China, where it is found near the Kauling Mountains, it derives its name *Kaolin* from the locality mentioned. It is also found in France, Saxony, England, and various localities in America." Obtained from three different localities, its composition varies somewhat, ferric oxide, lime, magnesia, alkalies, and water being present in varying proportions. Hence samples differ in plasticity when mixed with water, and the many statements regarding its value as an excipient may be harmonized. After experimenting with the various excipients that have been suggested, he recommends one of the following: 1. Resin cerate, in proportion varied according to the size of the mass, from 15 to 20 per cent. of the finely powdered permanganate used. Five grains will make a mass with 25 grains of the salt; 15 grains will make a mass with 100 grains of salt. 2. One part of permanganate, $1\frac{1}{2}$ parts of kaolin, and water, q. s." (Proctor.) The amount of water required will vary from $\frac{1}{2}$ to $\frac{3}{4}$ of a part. 3. Permanganate, 2 parts; kaolin, 1 part; and petrolatum, q. s. The amount of petrolatum required depends upon its consistence. He uses ouly $\frac{1}{2}$ of a part; as, permanganate, 24 grains; kaolin, 12 grains; petrolatum, 4 grains, makes a mass somewhat more plastic than No. 1, and decidedly more so than No. 2, which has to be handled skillfully to get satisfactory results. Of the three masses, No. 2, with kaolin and water, disintegrates rapidly in contact with water; No. 3 more slowly; and No. 1 the slowest of all. Of their permanence he is unable to speak from personal observation, but it has been stated by Mr. George Smith ("Pharm. Journal," 1884)

that masses made with kaolin and paraffin lose from 50 to 70 per cent. by decomposition after six months' time. In view of this the pills should be freshly made, and the pharmacist may work by any of the three formulas suggested that best suits the case in hand.

Active Principles in Pharmacy.—Dr. R. G. Eccles, of Brooklyn, contributes to the "Pharmaceutical Record" an important article on "Infected Solutions," beginning with the following remarks:

"Aromatic waters, dilute solutions of phosphoric, citric, tartaric, oxalic, and other acids and their salts, as well as most alkaloidal solutions, encourage the growth of a variety of aquatic cryptogamous plants, whose polluting presence renders them unfit for use. They are unwelcome visitors everywhere, but in the last-mentioned places they are a great commercial misfortune, so that their suppression is a subject of growing interest. That it will continue so to grow is apparent from the trend of medical science. Every advance made by therapeutics discredits the use of tinctures, infusions, decoctions, extracts, etc., as at present indiscriminately prescribed.

"1. Because all medication is found to be an injury to the system, and on no account to be indulged in except to suppress a greater evil.

"2. Because these preparations almost invariably contain some drug not needed by the patient.

"3. Because they often contain drugs positively contra-indicated by the disease, combined with such as are pressingly necessary for the same.

"4. Because the strength of such preparations is never twice alike, and it is merely an accidental guess when the proper dose is given.

"5. Because the physiological effects of many drugs are found to border upon the toxic. If too much is given the patient is injured; if too little, he is insufficiently or not at all benefited.

"This is why the alkaloids of cinchona have, to so great an extent, displaced the older forms of administration. This is why those of belladonna, nux vomica, and opium are pressing forward in the same direction. This is partially why cocaine has been found so useful at a time when coca was about to be thrown aside as of little value. The day of active principles in pharmacy is only beginning. Every year must add to their popularity, and discredit to a great extent all that now take their places. Definite solutions like Magendie's will ere long be in daily call, and these will represent all the virtues of the vegetable world. There will then be no stimulating with alcohol when a depressant is desirable, nor constipating with tannin when heart pressure only is needed. Hypodermic medication points the way we are bound to travel, and in this method of practice all the old drug preparations are worse than useless. All the changes here foreshadowed will not come in our day. Enough, however, will come to make the loss from infection become an item of financial importance. Cocaine at ten cents a grain and eserine at twenty-five are worth saving. If we could calculate the loss upon the former from this cause during the past year it would no doubt amount to a snug sum."

The Health of Michigan.—Reports to the State Board of Health, tabulated by the secretary, Dr. Henry B. Baker, show that during the month of September diphtheria was noted at fifty-six places, scarlet fever at forty-two, typhoid fever at forty-nine, and measles at five. As compared with the averages for the corresponding month in the years 1879–1885, intermittent fever, remittent fever, dysentery, typho-malarial fever, cholera infantum, cholera morbus, diarrhœa, pulmonary consumption, and typhoid fever showed a diminished prevalence.

A New Journal of Therapeutics.—"Clinical Notes on the Local Treatment of Disease; a Record of Practical Therapeutics," is the title of a new journal, edited and published by Dr. Charles L. Mitchell, of Philadelphia. The first number, dated October, 1885, contains twenty pages of reading matter, all on subjects of practical interest. Like Dr. Squibb's "Ephemeris," "Clinical Notes" is designed for gratuitous circulation, and the publisher does not bind himself to issue it at stated periods, but only as material and circumstances may permit. From Dr. Mitchell's well-known interest in therapeutical appliances, it is to be expected that the journal will be one of value.

A Companion-Piece to "Per Orem."—The "Centralblatt für Gynäkologie" heads one of its abstracts "Anteflexio uteri mit Stenosis *ossis* interni," which can mean nothing else than anteflexion of the uterus with stenosis of the internal *bone!*

THERAPEUTICAL NOTES.

Digitalis as a Cardiac Stimulant in Children.—At a recent meeting of the New York Obstetrical Society a discussion took place on the treatment of bronchitis in children. Speaking on the question of stimulation, and limiting his remarks to cases of simple catarrhal bronchitis in children between six months and a year old, Dr. A. Jacobi said that in ordinary cases alcoholic stimulants were not necessary, but that he never omitted the use of such cardiac roborants as digitalis. Like a number of other drugs, digitalis, he said, was borne by children in relatively large doses, and he had found it act better as a cardiac stimulant if given in two or three large doses each day than if given in small doses frequently repeated. For children of the age mentioned he would gave a grain twice a day.

Cocaine in the Treatment of Whooping-Cough.—Dr. Moncorvo, of Rio de Janeiro ("União Med."), who has written forcibly in commendation of the use of resorcin in the treatment of whooping-cough, now recommends hydrochlorate of cocaine as an adjuvant. The throat is to be swabbed with a ten-per-cent. solution of cocaine. In a few minutes the parasiticidal solution of resorcin may be applied to the same parts without provoking either pain, vomiting, or a paroxysm of coughing.

Styptics and Depressants in the Treatment of Hæmoptysis.—Apropos of a recent article on the treatment of hæmoptysis, by Mr. W. H. Kesteven, Dr. Godwin Timms, senior physician to the North London Consumption Hospital, writes to the "Lancet" that, for the last twenty-five years, he has treated hæmoptysis with tartarized antimony, one sixteenth of a grain, in a saline draught, every hour or two. Where the profuseness of the hæmorrhage or the patient's anxiety makes it advisable to produce an immediate effect, forty minims of oil of turpentine are given every two hours, in a wineglassful of water. He adds that this treatment is most successful, except in the rapidly fatal cases in which the hæmorrhage comes from the bursting of a small aneurysm. On the other hand, Mr. F. W. Allwright, of Beaconsfield, writes to the same journal in recommendation of astringents. He can not imagine how depressants can stop bleeding, and says that he would never again try ipecacuanha.

Beef Powder in the Treatment of Simple Ulcer of the Stomach.—Under the inspiration of M. Debove, M. A. L. Pradet has written a work on the treatment of simple ulcer of the stomach, in which, as we learn from a review in the "Union médicale," he recommends the use of a mixture of beef-powder and bicarbonate of sodium. Small doses, he says, should be used for the first two days, but afterward 1,500 grains of beef powder (*poudre de viande*) and 450 grains of bicarbonate of sodium may be given daily to a man, and 1,125 grains of beef powder and 360 grains of the sodium salt to a woman. The treatment should be pursued until complete recovery has taken place, and it is only with extreme carefulness that the patient should be allowed to resume the use of ordinary food.

A Palliative of the Pains of Dyspepsia.—The same journal attributes the following prescription to M. G. Sée:

Tincture of hyoscyamus Tincture of conium	each	150 grains;
Tincture of gentian		75 "
Essence of anise		10 drops.

From ten to thirty drops are to be taken with each meal, as a remedy for the pains of dyspepsia and cancer of the stomach.

Oxygen in the Treatment of Leuchæmia and Pseudo-leuchæmia.—Kirnberger ("Dtsch. med. Wchnschr."; "Union méd.") reports a case in which, after the failure of arsenical treatment, inhalations of oxygen produced a rapid increase of strength, with diminution of the swelling of the spleen, the white globules becoming less numerous, and the red globules regaining their normal proportion. After a few months a relapse took place, but, although the red corpuscles were diminished in number, the white ones were not increased—a condition termed pseudo-leuchæmia. Finally, arsenic having again failed, the inhalations led to a definitive cure.

Original Communications.

CONTAGIOUS CONJUNCTIVITIS; ITS CAUSES, PREVENTION, AND TREATMENT.*

BY JOSEPH A. ANDREWS, M. D.,

MEMBER OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY; OPHTHALMIC SURGEON TO CHARITY HOSPITAL, NEW YORK, ETC.

THE literature of bacteriology fairly bubbles over with ingenious hypotheses; and yet the germ theory of disease is justly one of the chief principles of modern science, and substantial facts are steadily being brought forward to prove the influence of bacteria as morbific agents. It certainly is true that reports have reached us which would seem to negative the deductions from some of the experiments of prominent workers in this field of investigation; but there has been a great deal of hasty and groundless opposition to these researches. However, the inquiry into this matter is being vigorously pushed by skillful workers in the laboratories of Germany and France, and research of such vast importance to the whole human race deserves the greatest possible encouragement, and should not be regarded alone with the intellectual interest which theoretical inquiry excites.

The views which I shall have the privilege to lay before you this evening are the outcome of a practical inquiry into the cause and prevention of contagious conjunctivitis. I can only regret that the case of successful inoculation of a pure culture of the gonococcus which I made a short time since did not have for its field of operation a healthy human tissue; however, it is for others to decide whether the result obtained be of value or not.

In May, 1882,† Neisser declared that the gonococcus originally described by him in 1879 was the pathological principle of gonorrhœa; that it was the actual contagium of the gonorrhœal affection. That the presence of a micrococcus form is constant in the secretion of gonorrhœa has been confirmed by Bokai, Weiss, Aufrecht, Ehrlich, Brieger, Gaffky, Sattler, Leber, Haab, Hirschberg, Sternberg, and others; but all writers are not agreed that the micrococci they have seen in gonorrhœal pus were those occurring only in gonorrhœa, or the same which are found in all pus which has been exposed to the air, or that they differ in form and size or in other characteristics from the micrococci of other blennorrhœas. Neisser maintains that the "gonococcus" is a specific kind of coccus, which is not alone functionally but morphologically characteristic.

According to its discoverer (Neisser), the gonococcus is comparatively large, flattened on the side which is turned toward its neighbor, somewhat oval, seldom single, almost throughout double. It lies close to its neighbor with only a fine fissure between the two; in shape it is "*semmelförmig.*" It multiplies by division transversely, forming a pair, these dividing at right angles to the first line of division, thus forming a group of four; they never occur in the chain-form; they are found free in the fluid, or more frequently adherent to the pus-corpuscle and epithelium. The arrangement in groups of two and four is constant in gonorrhœal pus, and, although this grouping is sometimes seen in specimens of pus from other sources, the chain-form is the more common in them. Bockhart found the gonococcus group mostly on the pus-cells or their nuclei, never in their interior; Haab, on the contrary, found them within the nuclei.

Eklund* denies that the gonococcus is alone specific for gonorrhœa, because he professes to have found similar organisms in acute and chronic purulent processes in the lungs and intestines, in ulcerative stomatitis, etc. But the bacterium of gonorrhœa seems to possess an ability which all forms which resemble it do not—viz., that of penetrating into the living cell protoplasm and of multiplying in it; but this power is soon exhausted.

In the normal human saliva there are micrococci which resemble those of gonorrhœal pus; but, if there is a morphological resemblance, their functional characteristics are, at least, not the same as those of the gonococci. There is a short, thick bacterium in the vaginal secretion, swelled by coloring agents and looking like a diplococcus. Bumm and Bockhart profess to have found the "semmelförmig" diplococcus in the secretion of the female genitals, in diphtheritie sores, in ulcerative process in the mouth, and in a preparation of the sputum of a patient with whooping-cough. Welander† found Neisser's gonococcus in all cases in which he looked for it—among 129 cases of acute and 15 cases of chronic urethral blennorrhœa; even cases of eight to sixteen months' duration were not excepted.

Neisser twice saw profuse purulent discharge from the urethra of a man which occurred after very frequent catheterization preparatory to lithotrity. The secretion contained abundant evidence of the presence of bacteria, but no gonococci were found.

In my case of successful inoculation of a pure cultivation of gonococcus I proceeded in the following manner: The cultivation medium was serum of the blood of the ox, prepared according to Koch's directions, being heated daily one hour, for six successive days, to 58° C., and thus sterilized and gelatinized by subjecting the serum to a temperature of 65° C. A small quantity of fresh pus from a case of acute urethral gonorrhœa was allowed to drop from the urethra on to the sterilized platinum-wire, and then to drop off the latter, leaving only a thin layer of pus on the wire; the wire, thus charged, was thrust into the firm blood-serum in three or four different places, and the test-tube closed with sterilized cotton-wool; a number of test-tubes were thus planted and placed at once in the incubator, the temperature of which was maintained in different cultivations at 32°–36° C. After about twenty-four hours, further inoculations were made from the first tubes. With the seventh generation I inoculated a human conjunctiva. The case was one of granular

* Read before the New York Academy of Medicine, June 18, 1885.

† "Deutsche med. Wochenschrift," No. 20, 1882, p. 279.

* F. Eklund, "Note sur les microbes de la blennorrhagie," cited in Schmidt's "Jahrbücher," Bd. exevii, 1883, p. 139.

† Reviewed in "Vierteljahresschrift f. Dermatologie u. Syphilis," 1884, p. 178.

conjunctivitis *in stadio cicatricio* and with dense pannus, but without purulent secretion or any discoverable cocci in the conjunctival secretion. The choice of treatment lay between the use of jequirity and inoculation with gonorrhœal pus. Nothing was concealed from the patient, and he sanctioned the inoculation with full knowledge of what the consequences might be. I had unsuccessfully inoculated so many different animals with cultures of the gonococcus that I hailed with extreme delight this opportunity to make the trial in the case of a human being. Three weeks previous to this operation I had inoculated the same eye with a pure cultivation of the coccus taken from my own saliva, the result having been negative. I prepared the conjunctiva for the reception of the pure cultivation of the gonococcus by washing the conjunctival surface for several days with *pure water*. I then conveyed the cultivation to the conjunctival sac and bound up the eye with a roller bandage and absorbent cotton-wool, due attention having been given to the condition of these things. The result was a perfect picture of gonorrhœal conjunctivitis with abundant evidences of the presence of the gonococcus.

Bockhart * obtained a successful inoculation, from a pure cultivation (gelatin) of the *fourth generation* of the gonococcus, on the sound human urethral mucous membrane. The subject of the experiment was a forty-six-year-old paralytic whose death was expected daily. On the sixth day a typical gonorrhœa was formed, which increased in severity up to the twelfth day, when the patient died. The characteristic gonococci were found in the secretion.

Sternberg's criticism on this case is, that the fourth successive cultivation is not sufficient to insure the exclusion of the original material—"a hypothetical non-living virus"—"when the cultivation is conducted upon a solid substratum."

Sternberg did not succeed in producing urethral gonorrhœa in himself and two others with a pure culture of the gonococcus.

Loeffler and Leistikow † had negative results after inoculation of apes, dogs, and rabbits with a pure growth of the gonococcus.

Krause ‡ cultivated the cocci from ophthalmia neonati on blood-serum, and with the pure cultivation inoculated the cornea, conjunctival sac, and urethra of full-grown rabbits, and adopted the same procedure in the case of young cats, pigeons, and mice; but these experiments, as well as subcutaneous inoculation of rabbits and mice, were without result. Krause then inoculated the conjunctival sac of new-born rabbits (six to ten days old) with the same cultivations (from ophthalmia neonati), and produced a purulent conjunctivitis, which was present twenty-four hours after the transfer, and in the course of the following days became more intense. Three of the rabbits died, on the fifth and seventh days after the inoculation, from other causes; one animal lived for some time; in this one, on the tenth day there had developed a very profuse purulent discharge from the conjunctiva; the pus had the ordinary cheesy character of rabbit's pus, and contained, in addition to bacterial contaminations, numerous cocci which were somewhat smaller than those of Neisser. On the following day there was an abscess of the cornea, which perforated the latter. Krause does not assert that this result should be accepted as conclusive. He maintains that in this case Neisser's gonococcus was the active agent in the infection.

The successful inoculation of the urethras of three medical students with gonococci cultivated by Bokai can not be accepted as conclusive, because of the manner in which the cultivation was conducted.

It appears that animals are not susceptible to the poison of gonorrhœal pus, neither the cocci nor the pus itself being capable of reproducing the disease in them.

What interests us most is whether the gonococcus is the cause of gonorrhœa in the human subject; and when the objection, that the essential agent in the infection is a soluble unorganized substance contained in the pus used for inoculation of the cultivation medium, has been removed by isolation of the coccus, and the disease is induced with it alone, then we have very strong facts to argue from.

Ætiology of Ophthalmia Neonati.—According to von Graefe, all inflammations of the conjunctiva are contagious through the secretion which they furnish—contagious in the sense that this secretion must be conveyed to the conjunctival sac of a healthy eye. The more intense the swelling and discharge from the original diseased mucous membrane, and the more acute the inflammation of the latter at the time of the conveyance, the more active will be the poison. The hypothesis of contagion through the air was admitted by von Graefe, and is still held by some excellent observers; but infection through this source, I feel sure, is quite rare, and, when there seems to be no other source than the atmosphere to fall back upon in a given case of contagious eye-disease, we should still refer to the atmosphere as a probable source of infection with misgivings.

The chief cause of ophthalmia neonati is infection derived from the genitals of the mother, either at the time of birth of the child or a short time afterward, the poison in the latter instance being transferred to the child—healthy at birth—through the medium of the bath-water, but much more probably through sponges, towels, etc.

Credé maintains that a *pure catarrhal secretion* of the genitals does not produce blennorrhœa, but Haussmann * says that the vaginal secretion may be infectious. Zweifel † inoculated normal lochial secretion upon the conjunctiva of the new-born in six cases without producing blennorrhœa even once. I inoculated normal lochial secretion upon the conjunctiva of the new-born in three instances, the result being negative. In spite of these facts, it has been maintained that the normal lochia does give rise to conjunctival blennorrhœa. But there is no positive proof that this is anything more than a mere assertion.

* "Beitrag zur Aetiologie und Pathologie des Harntrippers:" "Vierteljahresschrift f. Dermatologie u. Syphilis," 1883, Heft i, p. 8.

† "Verhandlungen der Gesellschaft der Charité-Aerzte zu Berlin," Sitzung vom 16 Februar, 1882.

‡ "Centralblatt f. prakt. Augenheilk.," May, 1882, p. 137.

* "Archiv f. Gynäkologie," 1881, Bd. xxi, p. 523.

† "Archiv f. Gynäkol.," Bd. xxii, p. 329; see, also, his recent communication on these cases, same Archives, Bd. xxiii, p. 325.

We know that gonorrhœal pus, placed in a healthy human conjunctival sac, gives rise to the same disease with the precision of a physical experiment; therefore the view that normal lochial secretion produces conjunctival blennorrhœa in one person and not in another seems, according to this reasoning, to be untenable.

I believe that the infection occurs some time after the birth of the child much more frequently than is generally supposed, the original source of the infection being the same as in the first instance; and from this original cause many other eyes may be infected by direct conveyance of the poison to them by the mother or nurse. I could cite many instances in my own experience to support this statement. The cases of purulent conjunctivitis which occurred in my service at the Nursery and Child's Hospital (Country Branch) in 1879 originated in this way.

At the Foundling Hospital in St. Petersburg during six years 2,918 cases of ophthalmia neonatorum were observed, and simultaneously 345 wet-nurses of the children were attacked with the same disease.*

Theremin † has recorded a table from the same institution embracing six subsequent years, according to which 476 cases of "blepharo-blennorrhœa" occurred, and the relative frequency of the disease at and after birth is indicated as follows: On the first to the fourth day, fifty-seven cases; from the fourth to the eighth day, one hundred and thirty-four cases; from the eighth to the fourteenth day, ninety-four cases; later, one hundred and ninety-one cases. Olshausen thinks that when the disease occurs after the fourth day the child was infected after birth. Although ophthalmia is infrequent among the better class of patients, it is quite common among the ignorant poor, and the homes of such people are constantly menaced by the danger of a child at the breast, already a victim of the disease in question, infecting the whole family. Haussmann thinks that the purulent secretion from a sore nipple may become a source of infection.

The question has been freely discussed as to whether Neisser's gonococcus is the special bacterium of this disease. Whoever may be interested in reading over the contradictory views on this subject will find an abundance of material in Haussmann's work, "Die Bindehautaffection der Neugeborenen," Stuttgart, 1882. Leopold and Wessel ‡ tell us that, of eighteen mothers whose children were not placed under prophylactic treatment, gonococci were found only in the case of one mother, and, on the third day after the birth of her child, the latter presented the familiar appearances of conjunctival blennorrhœa. No gonococci could be found among the remaining seventeen women, and their children remained free from any inflammation of the eyes. Their article contains many instructive details which it would be quite impracticable to incorporate in the present paper, which has already assumed proportions much greater than I had originally prescribed for it.

* Froebelius, "Medicinische Zeitung Russlands," 1885, Bd. xii, No. 33, p. 257; cited by Haussmann.

† "St. Petersburger med. Zeitschrift," Bd. v, p. 97; cited by Haussmann.

‡ "Archiv f. Gynäkol.," 1884, Bd. xxiv, p. 93.

Haussmann * cites the statistics of Cederskjöld, of Stockholm, according to whom the eyes of the children of mothers with blennorrhœa were diseased in 14·6 per cent., and of the children of mothers free from blennorrhœa only 5·52 per cent. were affected. But the 5·52 per cent., were they not infected by the others?

Granular Conjunctivitis.—At the Ophthalmic Congress in Heidelberg, in 1881, Prof. Sattler announced that he had succeeded in finding in the conjunctiva of granular conjunctivitis micrococci which resembled those of Neisser, and that with a pure cultivation of those cocci he had reproduced the disease in question in a man. Leber confirms Sattler's statement as to the finding of cocci in the tissue of granular conjunctivitis. About thirty years ago Arlt † taught that there was an intimate relationship between granular conjunctivitis and struma, also tuberculosis. This view has been pretty generally abandoned by ophthalmologists of the present time, and Sattler's discovery might dispose us still further to differ with Arlt, but it is very probable that Sattler is in error in this matter. I have searched in vain for any micrococcus form in the tissue of granular conjunctivitis. In a paper published last year ‡ I gave the details of the manner in which I had proceeded in investigating this question. I had examined 1,500 sections taken from 37 cases of trachoma without being able to find any cocci in them. I have since carefully examined five cases of this disease, with the same end in view, but, although I have applied the proper staining agents and the other indispensable aids in such examinations—*i. e.*, Abbe's condenser and the homogeneous immersion of Zeiss—I have never succeeded in finding any cocci in these tissues, except in cases of trachoma accompanied by an active catarrhal process. But cocci are found in the secretion of granular conjunctivitis, and the disease is unquestionably contagious, and the secretion is the carrier of this contagion; but there is this peculiarity about the disease, that it requires that certain constitutional conditions shall obtain in order that the disease may be reproduced in another to whose eye the secretion has been transferred. It is a clinical fact that struma and trachoma generally go hand in hand, and *overcrowding, filth, and poor food* are the essential factors in the production of this terrible disease.

Diphtheritic Conjunctivitis.—Fortunately for us, diphtheritic conjunctivitis is a rare disease in this country. Its mode of origin and course harmonize thoroughly with the doctrine of its dependence upon pathogenic micro-organisms. Its contagiousness is undisputed, and the germ theory affords the best explanation of its phenomena; and yet, in spite of many elaborate researches, the precise nature of the diphtheritic virus is still a matter of doubt. The majority of those who have studied the question from the pathological and experimental side declare in favor of a specific micrococcus which is found imbedded not only in the membranous deposit, but also in the lymphatic spaces, beneath the mucous membrane, in the blood, and in the in-

* "Die Bindehautaffection der Neugeborenen," Stuttgart, 1882, p. 22.

† "Die Krankheiten des Auges," Prag, 1858, i, pp. 130, 131.

‡ "Archives of Medicine," vol. xi, June, 1884, p. 221.

ternal organs—Oertel, Eberth, and Klebs. Loeffler * details an extensive experimental inquiry upon diphtheria in animals and man. He confirms the fact that micrococci prevail in diphtheritic membrane mingled with other forms of bacterial life, which find a suitable nidus in the necrosed and decomposing tissue; but he lays special stress, from the ætiological point of view, upon the presence of a bacillus first made known by Klebs. This organism invariably occurs in association with the micrococci, but presents, far more than these do, the attributes of a specific virus.

The micro-organism which Emmerich † alleges to be distinctive occurs in the diphtheritic lesions both of the pigeon and of man, is neither a coccus nor a bacillus, but a short, thick bacterium, which, in gelatin cultivations, forms a pellucid, grayish color, assuming a whitish appearance as it develops, and not liquefying the gelatin. It grows luxuriantly on the potato, forming on it a thick yellowish-white layer, but in blood-serum the bacterium does not grow well. In form, size, and mode of growth the diphtherial bacterium of man is identical with that of the pigeon. Inoculations were successfully made with this organism. But very great difference of opinion prevails among bacteriologists themselves as to the morphology of the diphtherial fungus. Emmerich thinks diphtheria is essentially a *house-disease*, prevailing in those seasons in which dwellings are most likely to be overcrowded.

(*To be concluded.*)

GONORRHŒA IN THE FEMALE.

By ANDREW F. CURRIER, M. D.,
NEW YORK.

(*Concluded from page 426.*)

II.—Certain forms of this disease are much better known and much more readily recognized than others. With many physicians gonorrhœa in the female is synonymous with elytritis, and it will be readily conceded that this is by far the most common form, though not always the one which is most susceptible of successful treatment. I may here repeat the statement which I made in my first paper, that the loose tissue in the posterior vaginal fornix is very commonly a source of trouble when all other portions of the mucous membrane have been cured. This area can only be exposed by the use of Sims's speculum, or some similar instrument, with a good light either direct or reflected. The mucous membrane of the cervical canal may be involved as a primary or a secondary condition, and its rich glandular structure furnishes abundant opportunity for the accumulation of infectious material, to be propagated thence beyond the os internum. In many cases, however, it is limited by the os internum, and is wholly or in part eradicated by the use of suitable means. Less frequently the urethra and bladder are affected, this being especially true of the bladder. The anatomical relations of the meatus and urethra explain the infrequency of the disease, as a primary condition, in these parts in women. The discharges of the urethra in such cases abound with gonococci, and Welander, Belleli, and others have made observations upon this subject, Belleli having obtained specimens from a large number of prostitutes at the *bureau de visite* in Alexandria, Egypt (see "Unione med. egiziana," Nov. 1, 1884). An extension from the bladder to the ureters and kidneys is a possibility, and has been referred to by Sänger, but he mentions no cases which he has seen or heard of. The condition must be one of great rarity. The vulvar glands with their ducts and circum-glandular tissue, the rectum, and the skin around the external genitals, may all, or any of them, be the seat of the phenomena of this disease; likewise the mucous membrane of the body of the uterus and of the Fallopian tubes. That an extension of the process, by way of the Fallopian tubes, to the ovaries, the parametrium, and the general peritonæum may occur, and cause fatal peritonitis, is not only a possibility, but a fact which has been observed from a period at least as remote as 1846, when Mercier published the results of his investigations in the dead-house ("Gaz. des hôp.," 1846, p. 432). In fact, Sänger states (*loc. cit.*) that this disease is the cause of a larger percentage of grave chronic abdominal diseases than puerperal fever or syphilis. The weighty evidence of Lawson Tait as to its gravity is also given as a result of *his* extensive experience (see "N. Y. Med. Jour.," 1884, p 421). Thus the profession is approaching the views that Noeggerath enunciated in 1872, which, as he prophesied, have borne fruit with the years.

A form of the disease which, until recently, was overlooked, is that which involves the peri-urethral or pre-urethral glands, and upon which papers have been written by Martineau ("Bull. et mém. de la soc. de thérap.," Paris, 1884, 2 s., xiv, 81), by his pupil Guedeney (Inaug. Thesis, "Contrib. à l'étude de la blennorrhagie chez la femme," Paris, 1883), by A. Guérin, under the name of external blennorrhagic urethritis, by Hamonic ("Ann. de dermat. et de syphil.," August 25, 1883), and by Skene in the course of a lecture upon "Vaginitis and Vulvitis" ("Med. News," Philadelphia, 1884, xliv, p. 29). The glands or follicles, which are most often the seat of this trouble, were described in 1864 by A. Guérin, and correspond to the ancient descriptions of a body which is supposed to be the analogue of the prostate. They surround, or partly surround, the urethra near the meatus, sometimes being joined in the median line, at others being separated by a bridge of tissue. Their ducts pass upward within the vestibule and open on either side of, and just under, the clitoris. The inflammation which affects them may be acute, or it may be exceedingly chronic, persisting long after all apparent symptoms have disappeared. Martineau says (*loc. cit.*) he has repeatedly found gonococci in the discharges which he has obtained from these chronic cases. If, therefore, infectious power resides in the gonococcus, we can readily see how a woman who thinks herself cured may be suffering from latent gonorrhœa, and prove unintentionally and unknowingly a source of infection. This also explains the statement of Ricord, that a woman may communicate gonorrhœa

* Friederich Loeffler, "Mittheilungen aus dem kaiserlichen Gesundheitsamte," Bd. ii, 1884, p. 421.

† R. Emmerich, "Deut. med. Wochenschrift," 1884, No. 38, p. 614.

when she does not possess it herself, which was doubtless as much of an enigma to him as his statement was illogical and absurd. Allusion has already been made to a variety of this disease to which I wish to call especial attention, because it is one of the gravest varieties, and has received considerable attention within the past year or two, notably at the hands of Lawson Tait. It is that variety which affects the Fallopian tubes. The pathology of these organs has been sufficiently investigated to inform us that, in addition to simple catarrh, hydrosalpinx, and hæmatosalpinx, there are other more serious conditions which, according to Sänger (*loc. cit.*), are usually of an infectious nature, and are either tubercular, syphilitic, actinomycotic, or gonorrhœal in character. Of these the gonorrhœal form is the most frequent. It is usually met with as pyosalpinx, but the latter is not necessarily of gonorrhœal origin. The diagnosis rests upon the discovery of gonococci. If these are found in the discharges from the genital passages, and tubal disease is evident, removal of these organs will probably reveal the organisms in the secretions which they contain, or in the mucous membrane itself. The diagnosis of tubal disease by palpation is, however, a matter of extreme difficulty, in which very few men have ever attained expertness. Even Lawson Tait says he is mistaken once in every five cases ("N. Y. Med. Jour.," 1884, p. 421). In the light of such testimony too much caution can not be observed in pronouncing opinions respecting such conditions. Autopsies upon the bodies of prostitutes have frequently revealed an inflamed, dilated, and dislocated condition of the tubes, which is at least suggestive of gonorrhœal disease, an opinion which is shared by Sänger and Tait. Finally, Sänger has described a form of this disease which he calls puerperogonorrhœal salpingitis, which may be excited in a recently delivered woman by a latent or acute gonorrhœa of her husband. Such a distinction seems quite superfluous, as it does not appear that the phenomena differ from those which are manifested in other women. The influence which gonorrhœa exerts upon fecundity was elaborately expressed by Noeggerath in the paper to which allusion has been so frequently made. In a great many cases sterility is unquestionably the result. In prostitutes especially it is fair to presume that the infrequent pregnancies are influenced by this cause. Should gonorrhœa supervene after pregnancy has been established, I have never seen that it exerted an influence upon the mother severe enough to produce a miscarriage, nor upon the fœtus any that was analogous to that of syphilis. In cases of congenital *ophthalmia neonatorum* the theory has been advanced that the gonococci traversed the fœtal envelopes and the amniotic fluid and penetrated the fœtal conjunctiva. But why such a process of selection should be followed, the eyes being chosen instead of the urethra, or some other opening which is lined with mucous membrane, does not appear. It is also probable that the eyelids are always closed *in utero*, though this might not prove an efficient barrier to the penetration of the microbes.

III.—In discussing the question of treatment, attention must be given to the value of a wise and judicious prophylaxis. Especially should prostitutes—that large class of individuals which society tolerates at such an enormous cost to itself in every way—receive attention of this character. Leaving the moral aspect of the question out of consideration for the present, although this ought to be sufficient to arouse the sympathy of any one who has the welfare of his fellow-beings at heart, it is perfectly clear that any class of individuals which distributes infectious disease in the community should be under police regulations. It matters not what the disease is, so long as it is a source of danger to the community. The reply to this may be that there is a distinction between infectious diseases which one avoids and those which one dares or defies, of which small-pox will serve as the type of one and gonorrhœa of the other. My rejoinder is that the community—the Government, State and municipal—either tolerates prostitution by taking no steps to suppress it, or it licenses it; and therefore it ought to protect the citizen from the infectious diseases which it entails. I confess that I have no elaborate scheme to offer for the accomplishment of this great end, but the remedy lies in the direction of a properly systematized medical police, with suitable hospitals or stations properly equipped; and this will come when public opinion is aroused to the necessities of the situation through the enlightened instruction of the medical profession.

Injections of sublimate, carbolic acid, iodized alcohol, dilute nitric acid, nitrate of silver, and other germicides have been recommended as prophylactic means, both for prostitutes and those who consort with them; but any one who has had experience with these classes will readily realize that this plan simply places dangerous remedies in the hands of individuals who are usually either reckless or ignorant in their use of them. Another important point in connection with the subject of prophylaxis has reference to the consummation of marriage on the part of women who are suffering, or have suffered, from gonorrhœa, and such women are by no means confined to the class of prostitutes, as any physician of experience is able to testify. Any one who has seen the mischief which is wrought in families by the discovery of such a condition will surely make the requirements not less stringent before giving his professional consent to marriage than if the gonorrhœa had been in the male instead of the female. As long as gonococci can be found in the discharges, that consent should be unhesitatingly withheld. The pathogenic nature of the micrococcus being admitted, the treatment will naturally be directed chiefly at its vitality. Whatever theory be adopted as to the nature of the disease, those agents must be used which will stop the offensive discharges, relieve congestion, and produce a healthy tone of the affected tissues with their vessels and nerves. Oppenheimer has made a large series of experiments bearing upon this subject, which are both interesting and important (*loc. cit.*). He first tried to cultivate gonococci by using fresh gonorrhœal pus from a patient in the acute stage of the disease who had not yet been treated. The pus was mixed with one part urine gelatin, two parts water, and three per cent. of meat-peptone. This experiment was unsuccessful, but was followed by one which was successful, in which sterilized blood-serum was used as the cultivation-fluid. The microbes were developed

upon pieces of thread which were laid in the serum.* No effect was produced upon their vitality by solutions of subnitrate of bismuth, acetate of lead, or alum. Slight effect was produced by strong solutions of sulphate of copper, zinc, or iron, and chloride of zinc. Development was arrested by a two-per-cent. solution of nitrate of silver.†

Of the mercurials, a solution of 1 to 15,000 of the nitrate or sulphate retarded development, 1 to 10,000 destroyed vitality; 1 to 40,000 of sublimate retarded development, 1 to 20,000 destroyed vitality. Solutions of mercurial salts in glycerin were equally effective with watery solutions. Chlorate of potassium or of sodium in solution was ineffective, the former being used to the limit of saturation. Permanganate of potassium was destructive in 1-to-25 solutions; in 1-to-50 solutions it retarded development; it was entirely inert in the weak solutions which have been recommended by Zeissl. Moderately strong solutions of bromine, chlorine, and iodine destroyed the microbes, while methylic and ethylic alcohol, sulphuric ether, glycerin, and chloroform were effective only when used undiluted. Tannin and resorcin were inert. Five-per-cent. solutions of carbolic acid destroyed life in ten minutes; one-per-cent. solutions only retarded development. Watery solutions of thymol and salicylic acid of sufficient strength to excite inflammation in normal tissues did not kill the organisms, while alcoholic solutions of the same strength were efficient. This is the more remarkable since alcohol alone was not destructive. Fifty-per-cent. solutions of creasote were rapidly fatal. Turpentine was quite effective; balsam of copaiba and cubeb extract were harmless. It was thought possible that the well-known efficiency of cubebs and copaiba in the practical treatment of gonorrhœa might be due to chemical changes which the drugs underwent in the system. This matter was tested by using specimens of urine drawn from the bladder of a pregnant woman through a heated metallic catheter. The urine was normal in character and had no influence upon gonococci. Two doses of copaiba balsam were then given to the patient, of fifteen grains each, and with an interval of three hours between them. The urine was then drawn with the precautions mentioned, and was found to contain conversion products (Umsetzungsproducte) of the balsam. Threads upon which cocci had been developed were immersed in this, and allowed to remain eighteen hours. At the end of that time they were transferred to a cultivation-fluid, but no development occurred. The same result followed experiments with cubebs. The supposition is therefore warrantable that these substances undergo chemical change, and, after elimination by the kidneys, perform their work upon the cocci in the genital tract. Oppenheimer's conclusion is that only sublimate, creasote, and nitrate of silver are of any practical use for the destruction of gonococci, and he is entitled to a respectful hearing, for no one, apparently, has investigated this subject more exhaustively or patiently. There is a factor, however, which is not embraced in any investigation of this character—namely, that of idiosyncrasy or personal peculiarity, and the mysterious changes which occur within the tissues and cavities of the body can not be exactly reproduced outside the body, because the conditions can never be exactly the same. It is, therefore, clinical rather than purely experimental results by which we must finally be guided. To illustrate, Oppenheimer found solutions of chlorate of potassium inert in their effect upon gonococci, but a gentleman of extensive experience assured me that they were quite efficient, with him, in subduing all the phenomena of gonorrhœa. Oppenheimer found resorcin inert, but Martineau (*loc. cit.*) obtained good results from its use. Rebatel recommends a weak injection (vaginal) of salicylic and citric acids, or of a decoction of lemon, for their efficiency in the gonorrhœa of females, which would, doubtless, have little effect upon Oppenheimer's cultivated gonococci. On the other hand, I have found, in a large number of cases, that the sublimate treatment (that is, by local applications) was quite unsatisfactory, and this experience is similar to that of Kroner, Schatz, and von Tischendorf. Oppenheimer places it at the head of the list of gonococcicides. Von Tischendorf's best results were with irrigations of acetate of aluminium and applications of iodoform. I have tried the latter many times without positive results. The best results which I have seen have been mainly from free applications of a mixture of glycerin and subnitrate of bismuth. Allow me to narrate a typical case in which the results of this treatment were quite a revelation to me:

A young unmarried woman came under my observation with gonorrhœa in an intensely acute form. The urethra was evidently involved, the mucous and submucous tissues of the vagina were inflamed and infiltrated, and there was also inflammation of the mucosa of the cervix. There was no question as to the diagnosis, as the man with whom she had cohabited was also suffering with gonorrhœa. Applications of sublimate, eucalyptus, iodine tincture, etc., were tried for two or three weeks without success. The patient was then informed that she must give up her occupation (that of book-keeper), remain in bed for a season, and receive such treatment as seemed necessary. A mixture of subnitrate of bismuth and glycerin was at hand, and a tampon saturated with this was used empirically. Two days later the tampon was removed, and, to my surprise, the congestion and sensitiveness of the inflamed portions were greatly modified, and the offensive discharge had greatly diminished. This treatment was, therefore, continued, with applications of iodoform, every day, and after a week every other day, the tampon remaining ten or twelve hours. Vaginal douches of hot water were also very carefully given once or twice a day, after the removal of the tampon. Liquid food was taken, and an abundance of alkaline drinks. In three weeks every trace of the disease had disappeared, and the patient had resumed her occupation.

I have frequently used the subnitrate of bismuth and glycerin mixture since the experience described, and always with satisfaction. Its function consists in a free depletion of the congested tissues and a very decided astringent action. The proportion of a drachm of bismuth to an ounce of glycerin may be used, the mixture being, apparently,

* The vitality of the microbes was seen in the fact that they survived the drying of the cultivation-fluid, and this fact may be of importance in explaining some obscure cases of infection in which all necessary precautions are supposed to have been taken.

† This is the solution which was recommended by Credé a few years ago as a prophylactic against *ophthalmia neonatorum*, and has come into very general use for this purpose.

only a mechanical one. Such a mixture may not be directly destructive to gonococci, but, by the modifying action which it has upon the secretions, it deprives them of the qualities which are necessary to cultivation-fluids, and thus the microbes die of starvation. Whatever method of treatment is chosen, it must be carried out persistently and systematically, even to the last detail. It will not be enough to prescribe vaginal injections or uterine applications of this or that; the physician must be certain that they are used, and, if necessary, must attend to or superintend the details himself. Especially is this true in regard to those obscure forms of the disease which affect the glands and ducts of the urethra, vulva, vestibule, and fourchette. Abscesses and fistulæ may be results of the disease in these parts, and, in addition to the list of drugs for local application, it must be borne in mind that it may be necessary to use the knife or actual cautery before the disease can be overcome. Such a course has been recommended by Guedeney, Martineau, and Vidal de Cassis. If the given symptoms point to an extension of the disease to the tubes and ovaries, the question of abdominal section becomes a pertinent one. I believe that this operation is done too often. It is not sufficient that an operator can show a good percentage of recoveries after salpingo-ovariotomy; he must show positive results flowing from the removal of important organs in which, in many cases, no disease is traceable either by the naked eye or the microscope. Many plans of treatment are available before a woman should be submitted to the risks and uncertainties of a capital operation. Concerning the curability of the disease, Noeggerath's paper declared that he did not think this possible, and I have seen no statement from him to the contrary, though Neisser's doctrine was announced seven years after the first publication of that paper, and may have modified his views. Bumm believes that it may be entirely recovered from, and that it is amenable to treatment according as the area of infection is moderate in extent and near the surface. Arnaud has observed that it can be considered radically cured only when the menses have become regular and when metrorrhagia and other symptoms and complications have ceased ("L'Union méd. du Canada" [from "Abeille méd."], May, 1885, p. 223). This statement is unsatisfactory, however, for there are many cases in which neither metrorrhagia nor any irregularity of the menses occurs at any time. My own belief is that it depends upon the gonococcus for its activity; that if the mucous membrane, with its innumerable crypts, follicles, and glandules, is treated with sufficient thoroughness by either of the efficient germicides which have been mentioned for a sufficient length of time, which will vary with the extent of tissue involved and the potency of the secretions which serve as cultivation-fluids for the gonococci—that if these conditions are fulfilled the disease can be cured, for dead organisms can not reproduce themselves. Of course, this statement has no bearing upon the question of reinfection which, so far as I know, is at any time possible.

A few days ago I saw a lady who first came to me more than two years ago with gonorrhœa, which was very obstinate and rebellious to treatment. For more than a year she was almost constantly under observation, and at the end of that period I considered her cured. Since then there have been no clinical manifestations pointing to a recurrence of the disease, therefore I see no reason why her cure should not be considered positive, and I believe the same would hold equally true in any similar case.

38 West Thirty-sixth Street.

VALVULAR ANEURYSM.*

By ALBERT BRINKMAN, M. D.,
BROOKLYN.

The specimen I present is one of disease of the aortic and mitral valves, accompanied by valvular aneurysm of one of the leaflets of the mitral valve. The subject from whom it was taken was a man of tall and muscular physique, who entered my service at Charity Hospital, giving the following history:

John M., aged thirty-eight years, native of Ireland, and a blacksmith by occupation, enters complaining of œdema of both legs. Admits the abuse of alcohol, but denies all history of rheumatism; to use his own words, if he ever had rheumatism he was not aware of it. No evidences of syphilis obtainable. Two years ago he first noticed swelling of both ankles, and that he easily became short of breath on exertion. Applying to a dispensary, he obtained some medicine (presumably digitalis), which caused the œdema to disappear. Within the last few months the swelling has increased to such a degree as to extend up both legs to the knee joints.

Physical examination reveals an increased area of the apex beat, which, on palpation, is found displaced to the left, and downward on a line with the left nipple; the beat is not distinct, but rather diffused. A murmur is heard, commencing before and taking the place of the first sound of the heart. It is a continuous murmur, which begins before the ventricular systole and continues until the second sound of the heart; it has its maximum intensity at the apex. This murmur, or (presuming it to be a double one, mitral, obstructive, and regurgitant) part of it, is conveyed to the left and heard behind.

At the base there is a murmur with both sounds of the heart, or, as it is generally termed, a see-saw murmur. The systolic portion is heard in the vessels of the neck.

Diagnosis.—Aortic obstruction and regurgitation; mitral obstruction and regurgitation.

Urine examined. Albumin found, but no casts.

Treatment.—Inf. digitalis, ℥ ss., t. i. d., which caused great diminution in the œdema, but also the development of digitalis poisoning after one week's administration. The digitalis was stopped for a few days, and ext. convallariæ maialis fl., gtt. xv, t. i. d., substituted. In three weeks, the œdema growing worse, he was again put on digitalis.

The patient died after being in hospital one month.

The autopsy showed a greatly hypertrophied heart, the weight of which, after its cavities were freed from blood, was twenty-four ounces. This is a maximum weight for a heart with combined aortic and mitral disease, a heart with both of these lesions generally being intermediate in weight between that which obtains in the two separate forms of the disease, the organ being lighter than in aortic and heavier than in mitral disease. Sibson gives cases of this kind in the male as averaging from 14 ℥ 8 ℨ to 21 ℥ 8 ℨ. The extremes of mitral disease are 14 ℥ to 18 ℥; the extremes of aortic disease are 14 ℥ to 46½ ℥, the latter being that of a case of aortic obstruction mentioned by Bristow.

* Read before the Brooklyn Pathological Society, May 14, 1858.

Upon opening the heart, contraction and thickening of the aortic valves were found, with calcareous incrustations and vegetations. The mitral valve, besides being insufficient, shows a valvular aneurysm of its posterior leaflet.

Sibson, in "Reynolds's System of Medicine," gives the mode of development of these pouches, or aneurysms, as follows. After speaking of the ordinary pathological lesions found in mitral disease, he says: "Sometimes, however, the inflammation deepens at its original seat on the surfaces of contact of the mitral valves and extends beyond those surfaces, so as to affect a large portion of the flaps of the valves on their ventricular surface. Under these circumstances the inflamed, softened, and thickened structure may undergo granular degeneration, and its ventricular layer become broken or ulcerated. The auricular layer of the valve thus tends to yield before the pressure of the blood, which forces its way through the breach into the ventricular layer, and to form pouches or aneurysms protruding into the left auricle." I may mention that the process may stop here, or, as Sibson goes on to say, "the auricular layer may then be involved in the inflammation, and become in turn subjected to granular disintegration and breaking up of tissue, so that the flap of the valve may become perforated." This has been the case in the specimen before you, after the formation of the pouch perforation has occurred into the auricle.

Now, we know that the mitral valve is peculiarly liable to these aneurysms—more so than the aortic valves. It is comparatively seldom that we meet with them on the aortic valves. This predisposition is readily accounted for if we glance for a moment at the action of the mitral valve. "The mitral valve is closed on exactly the same principle as the aortic valve—namely, by the pressure of the blood, driven during the ventricular systole into the small open cells on the under or ventricular surface of the valve. The force with which the blood presses upon the closed mitral valve, the closure of which is caused by the contraction of the ventricle, is much greater than the force with which the blood presses upon the aortic valve, the closure of which is caused by the recoil of the previously distended walls of the aorta. The flaps of that valve—namely, the aortic—are pressed together by the backward portion only of the effect of the recoil of the aortic walls, which expends itself in every direction; and that force of recoil is itself but a portion of the original propulsive force of the left ventricle, which presses with its full power upon the closed mitral valve. The surfaces or lines of contact or closure of the mitral valve extend along and just within the borders of its two flaps. This border of contact is not a mere edge, but a surface or line of adaptation, made up of the small bead-shaped cells that dovetail into each other along the margins of the flaps; the result is that the margins of contact of the mitral flaps press against each other, when the valve is closed, with much greater force, tension, and concentration than the margins of contact of the aortic valve."

Taking this view of the action of the mitral valve, it is seen that this valve is subject to valvular aneurysm because of the great amount of pressure brought to bear against it in the ventricular systole, and also because endocarditis does not attack the very edges of the mitral valve, but the margin just within its edges; and after an endocarditis has occurred, with its production of new tissue, and this new tissue undergoes fatty, granular, or calcareous changes, ulceration sets in on the body of the valve; this ulceration either goes on to perforation, causing rupture of the valve and consequent regurgitation, or the structure of the valve becomes so attenuated that a portion of it yields to the blood-pressure and forms a pouch or valvular aneurysm. Again, the mitral valve, which is situated in the muscular center of the ventricle, and in the focus of its internal inflammation, must be more prone to these aneurysms than the aortic valve, which has broader surfaces of contact, less pressure of blood, and no tendinous traction. To demonstrate further that the pressure is greater against the mitral than against the aortic valve, take a case of aortic valvular aneurysm; instead of the pouch protruding in the direction of the aorta, the aneurysm protrudes downward into the ventricle. Therefore, to cause these pouches to protrude into the ventricle, the blood-pressure must be greater on the aortic side of the valves than on the ventricular; but the pressure produced by the aortic recoil is decidedly less than that caused by contraction of the ventricle, as I have before proved.

HYDRONAPHTHOL;
A NEW ANTISEPTIC.

By GEORGE R. FOWLER, M. D.,
SURGEON TO ST. MARY'S GENERAL HOSPITAL, BROOKLYN.

(*Continued from page 404.*)

At my request, Mr. Max Schwarz, of New York, Superintendent of the Technical School for Brewers, known as "The First Station of the Art of Brewing," etc., and late a pupil of Prof. F. Cohn, of Breslau, Germany, made the following experiments upon the antiseptic powers of hydronaphthol at his laboratory:

In the first instance the following incubation liquid was prepared, viz.:

Distilled water.....	1 litre;
Chemically pure grape-sugar.....	100 grammes;
Potassium phosphate.....	30 "
Ammonium nitrate.....	30 "

This was sterilized by boiling for thirty minutes.

This liquid was divided in ten equal parts as follows:

Part	I,	containing no hydronaphthol.						
"	II,	"	1	part in	9,000	parts	of	the liquid.
"	III,	"	1	"	8,000	"	"	"
"	IV,	"	1	"	7,000	"	"	"
"	V,	"	1	"	6,000	"	"	"
"	VI,	"	1	"	5,000	"	"	"
"	VII,	"	1	"	4,000	"	"	"
"	VIII,	"	1	"	3,000	"	"	"
"	IX,	"	1	"	2,000	"	"	"
"	X,	"	1	"	1,000	"	"	"

Of each of these above-named liquids four equal parts were incubated in the following sequence, after all had been sterilized by boiling beforehand, with the germs of the following fungi:

Penicillium glaucum,
Mucor mucedo,
Aspergillus niger,
Sterigmatocystis nidulans.

After incubation these culture-liquids, forty in number, were placed in an air water-bath (incubator) which was kept at a temperature of 24° C. for forty-eight hours. After the lapse of this time a strong fungoid growth could be perceived in all the control tests, which latter, of course, did not contain any hydronaphthol, while all the liquids containing hydronaphthol had remained clear and free from fungoid growth, and remained so for more than five days, when they were disposed of.

These experiments prove that hydronaphthol, in proportion of 1 to 9,000, prevents the development of these germs. Even more diluted solutions of hydronaphthol may possess antiseptic action, but exact observations have yet to be made in order to ascertain the limit of its antiseptic power. This, of course, would be of highly scientific interest, but for practical purposes the above given proportion of 1 to 9,000 may be sufficient in all cases where inhibition of the germs of this class is desired.

A second series of investigations into the antiseptic properties of hydronaphthol was conducted as follows.

To each of the above-named solutions the compound was added as follows:

1 part of hydronaphthol in 9,000 parts of the solution.
1 " " " " 8,000 " " "
1 " " " " 7,000 " " "
1 " " " " 6,000 " " "
1 " " " " 5,000 " " "
1 " " " " 4,000 " " "
1 " " " " 3,000 " " "
1 " " " " 2,000 " " "
1 " " " " 1,000 " " "

and a control-test, free from hydronaphthol.

After careful sterilization by means of boiling, to these were added three cubic centimetres of a suspension of the best, purest, and healthiest beer-yeast (*saccharomycis cerevisiæ*); these were well agitated, and then kept quiet for four days, all being well protected from the germs floating in the atmospheric air by closing the mouths of flasks containing these liquids with sterilized cotton-wool.

After four days' standing, about one tenth of each of these liquids was distilled off separately, and the ten different distillates tested for alcohol by addition of a solution of iodine in a potassium-iodide solution rendered alkaline by means of potassium hydrate.

After twenty-four hours' standing the precipitates thus formed were examined under the microscope, and the following results obtained:

In the distillate of the solution containing no hydronaphthol, iodoform was found.
In the distillate of the solution containing
1 part hydronaphthol to 9,000, iodoform was found.
1 " " " 8,000, " " "
1 " " " 7,000, " " "
1 " " " 6,000, " " "
1 " " " 5,000, " " "
1 part hydronaphthol to 4,000, iodoform was found.
1 " " " 3,000, " " "
1 " " " 2,000, no iodoform was found.
1 " " " 1,000, " " " "

From these experiments the conclusion is to be drawn that 1 part of hydronaphthol dissolved in 2,000 parts of a solution which, under ordinary circumstances, ferments readily with yeast, is capable of holding in check this fermentation. Microscopic examination showed that in the liquids containing hydronaphthol in the proportions of 1 to 1,000 and 1 to 2,000, the yeast-cells presented the appearances of a coagulated protoplasm, while those in the other liquids showed a good and healthy protoplasm.

The foregoing experiments confirm the observations made at the Johns Hopkins University laboratory concerning the inhibitory antiseptic effect of this compound. The hope that a positive germicide effect may yet be demonstrated is suggested by the results of these observations and the extremely dilute solutions found to be efficient in the inhibiting of these organisms.

The following series of cases is herewith presented, comprising my experience up to the present date, in the practical application of hydronaphthol to surgical practice. Some interesting points are worthy of mention, among others the fact that the application of the powder directly to the skin was not without some disadvantages, in that it produced irritation, and in two cases, at least, was responsible for a failure to secure union by first intention. These cases, however, continued to pursue an aseptic course. When the hydronaphthol was diluted in a two-per-cent. trituration with carbonate of magnesia, this feature was no longer noticeable, and the value of the new antiseptic was ully demonstrated.

Case I.—*Floating Body in Knee-Joint.*—Mrs. G., aged fifty-six, for several years past has suffered from sudden pain in knee joint, especially while ascending or descending a stairway. This was followed frequently by an attack of synovitis. Recently these attacks have recurred with increasing frequency, and she became clamorous for relief. Examination revealed the presence of a floating body in the joint. On September 14, 1885, I opened the joint, having failed in an attempt to fix the body for the purpose of cutting down directly upon it. I passed my finger into the interior and searched for and removed the body. It proved to be of the shape and character usually found under these circumstances, and of about the size of a hazel-nut. The joint was thoroughly irrigated with a warm solution of hydronaphthol, 1 to 1,000, a few strands of catgut introduced for purposes of drainage, the wound closed with a continuous catgut suture, pure hydronaphthol dusted over the wound, a sawdust cushion which had been saturated in a hot alcoholic solution of hydronaphthol and then dried was then bandaged over the wound, a well-padded back-splint applied, and the patient placed in bed. No pain, fever, nor other untoward circumstance occurred to give me any uneasiness in this, my first case of importance in which the new antiseptic was used. At the end of fourteen days I removed the dressings for the first time, flexed the limb at a right angle, and in a few days the patient was walking about—well. There was an excoriated spot near the line of union, which a subsequent experience led me to believe that the hydronaphthol, applied as it was in its undiluted state, was responsible for.

Case II.—*Excision of Entire Radius.*—E. I., aged nine and a

half. Osteo-myelitis of the left radius. Operation September 14th, at St. Mary's General Hospital. Incision entire length of radius, upon outer and posterior aspect of arm. Bone sawed through middle with chain-saw, and each half separated from periosteum and removed. Hydronaphthol solution, 1 to 1,000, used for irrigating; drainage-tube of soft rubber placed in position; sutures of catgut; pure hydronaphthol dusted along line of sutures and wood-flour dressing applied. Dressings first changed, on account of profuse discharge, on eighth day. Edges of wound united at intervals, primary union taking place, perhaps, in the aggregate, in about one half of the length of the incision. The skin about the points where union had not taken place was red, and in spots presented an excoriated appearance; this latter being due, no doubt, to the pure hydronaphthol dusted upon the edges of the cut surfaces. The wound was irrigated as before and redressed, and healing thereafter proceeded without interruption. No rise of temperature after third day.

Case III.—*Wry Neck; Open Section of Sterno-cleido Mastoid.*—M. S., aged eight. Wry neck resulting from measles four months ago. Sterno-cleido mastoid contractured. September 18th made section of the muscle, both at its clavicular and sternal attachments; irrigated with hydronaphthol solution; catgut drain and sutures. Dusted hydronaphthol and carbonate of magnesia (two parts to one hundred) along line of incision; dressed with wood-flour sterilized with corrosive sublimate, and rendered antiseptic by hydronaphthol. Head retained in position by plaster-of-Paris dressing, including chest, shoulders, and head. No fever, pain, nor other disturbance. Entire dressing removed on twentieth day. Wound healed perfectly; no pus.

Case IV.—*Wood's Operation for Radical Cure of Hernia.*—E. M., aged fourteen. Inguinal hernia, left side, of several years' standing. Has tried many trusses, but, owing to sensitive skin and extremely nervous condition of child, were abandoned. The parents solicited an operation for his relief. September 23d, operation of Mr. John Wood performed. Silver-wire suture. Hydronaphthol solution, 1 to 1,000, used for irrigating. Wound in scrotum left open; dressings of wood-flour and hydronaphthol applied. No fever nor other cause for anxiety. Wire and last dressings removed on fifteenth day. Needle punctures closed in twenty-four hours; wound in scrotum granulating in a healthy manner Ointment of hydronaphthol (ʒ ss. to ʒ j) ordered for latter. Discharged, cured, on twentieth day.

Case V.—*Ligature of Femoral Artery for Elephantiasis.*—Mrs. C., aged forty-eight, admitted to hospital September 23d. Elephantiasis arabum of both lower extremities below knee joint of four years' duration. Patient an opium *habitué*. Operation of ligature of femoral above profunda on September 24th. Irrigation by means of hydronaphthol solution, 1 to 1,000. Pure hydronaphthol sprinkled along line of sutures. Wood-flour-cushion dressings and a spica bandage applied. No fever, but dressings had to be removed on fourth day on account of profuse serous discharge. Skin along line of sutures irritated and in some places excoriated. Union for about one third of the length of wound only; deeper portions of wound united. Dressed thereafter with an ointment of hydronaphthol (ʒ ss. to ʒ j). Granulating healthily.

The limb was at first cold and of a yellowish gray color; in a few hours it became warm. In eight days it was found to have been reduced in size fully one third. Case still under observation.

Case VI.—*Strangulated Hernia; Operation.*—E. W., aged seventeen. Right inguinal hernia had existed for several years; for last two or three years had worn no truss. Hernia had not been reduced completely for four months. Admitted to St. Mary's General Hospital, September 24th. When seen by me was in acute general peritonitis, fæcal vomiting, knees drawn up, countenance drawn and anxious, pulse small and thready, surface cold and clammy. Symptoms of strangulation had existed for six days prior to admission. Stimulated freely; three hours later herniotomy performed; sac opened; gut believed to be yet in good condition, so far as could be ascertained. Large mass of omentum excised, and some portions adherent to canal were brought up and stitched with catgut to internal ring with neck of the sac. Hydronaphthol, 1 to 1,000, used for irrigating, and pure powdered hydronaphthol dusted along line of incision; wood-flour dressings applied. Patient rallied after vigorous stimulation. Dressings removed on fourth day, owing to their becoming disarranged by restlessness of patient. Deeper portions of wound found to be healed. Integumentary margins were found to have been irritated, swollen, and gaping. Sutures of catgut had softened by the copious exudation from the wound edges, and had given way. Granulation went rapidly on; peritonitis rapidly subsided; bowels moved spontaneously on the seventh day. Patient sat up on the twenty-first day. The wound rapidly granulated under the application of hydronaphthol ointment (ʒ ss. to ʒ j).

Case VII.—*Perforating Wound of the Elbow Joint.*—J. C., aged eight. Upon the evening prior to applying at my office, September 24th, while reaching up to unlatch an area-gate, his foot slipped from the stone step, and his left arm was caught upon one of the iron pickets of the gate. He called for assistance, and his mother lifted him from the sharp iron rod upon which he hung. A ragged wound was found upon the inner border of his arm, near the posterior surface. A dressing of vaseline was applied. The boy complained greatly of pain, and the following morning he was brought to my office. The joint was very much swollen, hot, and tender. Synovial fluid was escaping from the wound. A probe, passed along the wound track, entered the joint midway between the inner condyle of the humerus and the olecranon process of the ulna. Pulse 130, temperature 102½°. Wound surroundings and joint irrigated for several minutes with warm solution of hydronaphthol, 1 to 1,000, drainage-tube introduced, parts dusted with hydronaphthol and magnesia (2 to 100). Paper-wool and hydronaphthol dressing and trough-splint applied. In twenty-four hours temperature reduced to 99°; pulse to 80. Pain had entirely disappeared. Dressings removed on the fourth day for the purpose of removing the drainage-tube; for this latter catgut drains were substituted. Arm was found to be normal in size and appearance. On the fourteenth day following the injury the dressings were again removed, when the wound was found to be healed, with complete movement in the joint.

Case VIII.—*Osteo-sarcoma of Tibia.*—Mrs. M., aged fifty-four. Blow upon middle third of left tibia about four months prior to operation. Admitted to St. Mary's General Hospital, October 2d. Large mass of broken-down sarcomatous growth (fungous hæmatodes) upon anterior aspect of tibia, at about its middle. Amputation at knee joint performed October 5th by lateral-flap method. Hydronaphthol irrigation (1 to 1,000); rubber drainage-tube; hydronaphthol and carbonate of magnesia (2 per cent.) were well triturated together and dusted along line of sutures. Dressings of wood-flour cushions applied. No rise of temperature, pain, nor other inconvenience. Dressings not disturbed until tenth day. Parts aseptic; drainage-tube removed; union perfect; no irritation. Cushion of wood-flour reapplied to small opening through which drainage-tube had emerged.

Case IX.—*Compound Fracture of Leg.*—T. W., aged eight, school-boy. Brought in by ambulance October 8th. Heavy truck-wheel had passed over his left tibia and fibula at the junc-

tion of the upper with the middle third. Wound leading down to fibula admitting my index-finger; another over tibia, about an inch and a half long. Surrounding parts and wound itself thoroughly washed and deeper portions irrigated with hydronaphthol solution, 1 to 1,000. Several strands of catgut were passed from bottom of each wound through the soft parts; hydronaphtholated magnesia and wood-flour cushion dressings applied; limb supported in a wire-cloth splint and suspended. No pain since dressings were applied; slight fever at end of first twenty-four hours, which subsided in a few hours without any treatment. Primary dressings still *in situ* at present writing (October 19th, eleventh day), and these will not be disturbed, unless some special indications exist, until bony union is believed to have taken place.

Case X.—*Supra-condyloid Osteotomy for Genu-varum.*—Rosie K., aged thirteen. Three months previously I performed excision of the knee joint for tubercular osteitis of the inner femoral condyle and head of tibia. Owing to extremely thin shell of bone left after gouging out with Volkmann's sharp spoon cancellous tissue of condyle and head of tibia, good apposition of the parts was not obtained, and, when the dressings were finally removed, the limb was found to be in the position of genu-varum. To correct this, a supra-condyloid osteotomy, after the manner of Macewen, was done on October 8th at the hospital. The incision, however, was made upon the outer instead of the inner border of the thigh. Catgut drain inserted; wound sutured; hydronaphthol in carbonate of magnesia (2 per cent.) dusted along line of sutures; wood-flour cushion dressing and plaster-of-Paris splint applied. No fever, pain, nor discharge has occurred up to present writing (October 19th). It is not expected that the dressings will be removed in this case until union of bone is believed to be complete.

Case XI.—*Fibrous Tumor at Site of Pre-trochanteric Bursa.*—J. H., aged forty-seven, Egyptian sailor. Admitted to hospital on account of growth over right trochanter. Fell from rigging of vessel some years ago and received an injury to the bursa in this region, which led to suppuration. Since then there appeared the present growth, which has grown slowly, and of late has occasioned him some inconvenience, and at times been tender and painful. Operation of excision October 8th; hydronaphthol solution, 1 to 1,000 for irrigation, etc.; catgut drains. Hydronaphtholated magnesia (2 per cent.) and wood-flour cushion dressings held in position by spica. Dressings found disarranged, and therefore changed on fourth day. Union progressing along entire line of incision; no irritation or discharge; case thus far afebrile and painless (eleventh day).

(*To be continued.*)

COCAINE ANÆSTHESIA IN FEMORAL SUPRA-CONDYLOID OSTEOTOMY AND EXCISION OF THE HIP JOINT.*

By MILTON JOSIAH ROBERTS, M. D.,

PROFESSOR OF ORTHOPÆDIC SURGERY AND MECHANICAL THERAPEUTICS IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; VISITING ORTHOPÆDIC SURGEON TO THE CITY HOSPITALS ON RANDALL'S ISLAND, ETC.

The temporary character of the local anæsthetic effect of cocaine, thanks to the brilliant suggestion of Dr. Corning,† is a thing of the past. It is now possible to prolong this effect of the drug to any desired extent by simply obstructing the circulation of the blood through the tissues into which it is injected, thus effectually preventing its escape from the area desired to be rendered anæsthetic.

In the "Medical Record" of this date, October 17th, will be found a communication from me on cocaine in bone surgery, with a description of my first operation. I now desire to report two additional operations performed, under cocaine anæsthesia, this afternoon. These operations were both performed in one of the Randall's Island hospitals, and one or both of them witnessed by Dr. James R. Healey, Dr. E. L. Cocks, Dr. G. H. Cocks, Dr. C. C. Bradley, Dr. Stephen Vittum, Dr. O. C. Tarbox, Dr. M. J. Rockwell, Dr. G. D. Wheat, and Dr. R. Lewis, the six last-named gentlemen composing the house staff and assisting in the operations.

Before describing the operations in detail, however, I may remark that they were undertaken with the idea of making a crucial test of the efficacy of the method of local anæsthetization employed. Just what advantages this particular method possesses, and the determination of the range of its practicable applicability, are questions which can not be satisfactorily answered by the results obtained in a few experimental operations. It is possible, nevertheless, by the elimination of obvious sources of error, to determine the probable extent, profundity, durability, and regularity in the production of the local anæsthetic effects of the drug.

My first operation, above referred to, was for elbow-joint disease. It involved, in addition to the extensive division of soft tissues, the excavation of the entire inner condyle of the humerus and part of its outer condyle. Though a small drill-hole was made transversely through the upper end of the ulna, which bone, upon microscopical examination of the *débris* thus removed, was ascertained to be in a healthy condition, the main part of the operation was confined to the removal of diseased bone, and therefore the parts divided might not have been possessed of their normal degree of sensitiveness. This source of error, as will appear, does not require to be considered in the operations now to be reported upon. Again, my first patient, though a delicate female in an exceedingly apprehensive frame of mind, was an adult. The question arose, Was the method also applicable to operations on children? Then, too, there was the question of fear and mental excitement, which forced itself into recognition, when considering the possible causes of the manifest absence of pain during the operation.

Femoral Supra-condyloid Osteotomy for Genu Valgum.—The first operation which I have to report was performed upon a boy about four years of age. Some months ago, the patient being ætherized, I did four cuneiform osteotomies upon the bones of his legs in their lower third for the correction of anterior curvatures. There remained marked genu valgum of the left limb. When placed upon the operating-table on this occasion, the little fellow showed some signs of fear. Applying a fine needle, half an inch in length, to a hypodermic syringe containing a freshly made five-per-cent. solution of cocaine (Merck's), I made super-

* Reported to the Clinical Society of the New York Post-Graduate Medical School and Hospital, October 17, 1885.

† "On the Prolongation of the Anæsthetic Effects of the Hydrochlorate of Cocaine when Subcutaneously Injected. An Experimental Study." By J. Leonard Corning, M. D. "New York Medical Journal," September 19, 1885.

ficial injections over the inner anterior aspect of the thigh just above the knee. The successive injections, for the most part, were made into the periphery of the area of redness (ischæmia) resulting from previous injections. Whenever this rule was deviated from the child would wince and complain of pain, though he did not cry out. For the purpose of anæsthetizing the deeper tissues, the short needle was replaced by one an inch long and the injections were continued. Having secured anæsthesia along the line of Macewen's incision, an Esmarch's bandage was applied from the toes up to the knee joint, where it was fastened. A second Esmarch's bandage was continued from this point up the limb to about five inches above the joint. Here the thigh was encircled by a strong elastic band, and the Esmarch's bandage last applied removed, exposing that segment of the limb to be operated upon. The bandage first applied was left in position throughout the operation. Three or four injections down to the bone were made along the proposed line of incision. The knife was now carried down to the bone along the same line, making an incision two inches and a half long. The child made no complaint whatever. Introducing the needle of the syringe through the wound thus made I injected six or eight minims under the periosteum and into the tissues above (in front) and below (behind) the bone, in order that the passage of my retractors between the bone and soft parts, as well as the subsequent section of bone, might be rendered painless. Upon my attempting to introduce the retractor, the child evinced discomfort when I reached the outer aspect of the bone. I immediately withdrew the retractor and injected about four minims down to the bone and under the periosteum, on the outer aspect of the thigh. This enabled me to proceed with the introduction of the retractors without complaint on the part of my little patient. The retractors being introduced and the soft tissues drawn back, freely exposing the bone, I quickly removed a cuneiform segment from the femur just above the epiphysis, by means of my electro-osteotome. Again no pain was manifested by the child. The Esmarch's bandage and elastic girdle about the thigh were removed, the wound was closed and covered with antiseptic dressing, and the limb brought into line and secured in position by means of a gutta-percha splint. During this latter procedure and the first punctures of the hypodermic needle the child complained slightly of pain. At all other times during the operation he manifested no discomfort. He was laid upon a cot near by and watched the subsequent operation with apparent delight, for whenever I looked at him he smiled pleasantly, and, when questioned, answered cheerfully. In this operation three grains of cocaine were injected.

Excision of the Hip Joint.—Encouraged by the results thus obtained in the cocainization of bone and overlying soft tissues, I proceeded at once to try the efficacy of local anæsthesia in excision of the hip joint, there being a patient in the ward awaiting this operation. The subject of the second experimental operation was a girl about six years old who had suffered from hip disease for many months. An abscess, the result of the morbid process going on in the bone, had opened spontaneously and was discharging its pus through a fistulous opening.

The superficial and deep structures were cocainized in the same manner as before, a two-and-a-half inch needle being used for the deepest injections. I had not proceeded far when I was informed that my supply of cocaine was exhausted. A messenger was immediately sent for more cocaine solution, but could only procure a four-per-cent. solution which had been made up several days. With this I continued the injection until I had apparently secured profound anæsthesia along the intended line of incision. A strong elastic band was tied about the proximal end of the thigh. With his fingers placed under it on the outer aspect of the limb, an assistant stretched this band and drew it upward over the crest of the ilium. The pressure thus produced was sufficient to interfere with the superficial circulation. No means were at hand for compressing the abdominal aorta. The usual incision for exsection of the joint was made down to the bone. The patient complained considerably of pain, but did not cry out. Cocaine was injected through the wound into the tissues about the upper end of the bone. Injections were also made into or under the periosteum. The venous hæmorrhage was considerable, and seemed to wash the cocaine out of the tissues into which it had been injected. On this account, or in consequence of being obliged to use a weaker solution, and one not freshly made, the anæsthesia was not so profound or so enduring as in the previous operation. A longitudinal incision through the periosteum did not cause the patient any pain, but, when the periosteum was peeled off from the bone, the pain experienced was considerable. Section of the bone below the great trochanter with the electro-osteotome was without pain. Upon removal of the bone, the head and most of the neck of the femur were found to have been destroyed by disease. The acetabulum did not appear to be involved. The wound was closed with strong catgut sutures, drainage-tubes having been previously introduced, antiseptic dressings were placed over the line of suture, and a gutta-percha splint was molded to the contour of the limb and body, and allowed to harden.

105 Madison Avenue.

Book Notices.

Minor Surgical Gynæcology. A Treatise of Uterine Diagnosis and the Lesser Technicalities of Gynæcological Practice, including General Rules for Gynæcological Operations and the Operations for Lacerated Cervix and Perinæum and Prolapsus of Uterus and Vagina, for the Use of the Advanced Student and General Practitioner. By Paul F. Mundé, M. D., Professor of Gynæcology at the New York Polyclinic and at Dartmouth College, Gynæcologist to Mount Sinai Hospital, etc. Second Edition, Revised and Enlarged, with three hundred and twenty-one illustrations. New York: William Wood & Co., 1885. Pp. xxii-552.

(*First Notice.*)

We are glad to welcome a second edition of this excellent book, which now appears in a form more worthy of it. The author was very happy in the original idea of his manual, since

he wisely confined himself to just those minor technicalities which had been previously described in a most imperfect manner by the writers of more ambitious treatises. The real practical value of the book was at once apparent on comparing it with even such manuals as Chrobak's. It was, in a word, the difference between pure didactic construction and object-lessons. Not to dwell at length upon the reasons for the popularity attained by Dr. Mundé's work on its first appearance, it will be safe to assume that the present edition possesses additional claims to the reader's esteem. Part III is entirely new, while Part I and Part II have been carefully revised, and contain a considerable amount of fresh matter and several new illustrations. "Many cuts of instruments," as is aptly stated in the preface, "have been omitted for æsthetic reasons." It will be impossible, in the brief space allotted to us, to review critically the minor improvements of the new edition; but a glance at the more important points will serve to indicate the general scope of the volume.

In the section on the vaginal touch several new paragraphs will be noted, while Figs. 14 to 20, inclusive, have been added. Figs. 21 to 28, inclusive, also bear the author's initials, and are worthy of commendation. Pages 66 and 67, which describe the disinfection of instruments, contain most valuable advice with regard to an important subject which is too often overlooked by general practitioners, and, indeed, by not a few specialists, who are either too careless or too "conservative" to employ the simple precautions here given. One thing is certain: there would be a far smaller number of unfortunate results following gynæcological manipulations if the routine practice suggested by Dr. Mundé was more general. The omission of the usual confusing array of specula will be remarked as a decided improvement, while the additions to the section on holding the speculum (pages 85 to 91), including the excellent illustration (Fig. 45), must render the subject perfectly clear even to one who had never seen Sims's instrument in use—a condition of ignorance which is happily rare in these days of post-graduate instruction. Among the new paragraphs in the section which describe the use of the sound we note with approval the author's emphatic statement that this instrument is to be used *to confirm, and not as a substitute for, the bimanual examination.* Due stress is laid upon the dangers and contra-indications. Traction upon the uterus is deservedly reprehended as a pure diagnostic aid.

Part II, including pages 127 to 409, has received a thorough revision, but the interpolations are only apparent after a careful comparison of the two editions page by page. There are several new illustrations, some of which it must be confessed are not so clear as they might be (see page 220). The process of dilating the cervical canal, both by the bloodless method and by discission, is thoroughly described, and the advantages and disadvantages of each are fairly stated. The long and valuable section on pessaries has not been essentially altered. There are still rather too many illustrations for practical use.

Part III, on "Gynæcological Operations," being the new portion of the book, merits a careful examination. Under the head of "General Considerations" the author discusses the time of operating, the treatment of patients before and after operations, and the different varieties of sutures, disinfection, and anæsthetics. These pages will be of great value to the inexperienced operator, since they furnish just that information which his less fortunate predecessors have been able to acquire only by a long apprenticeship. Although no new facts are brought forward, the old ones are arranged in a compact, yet most readable, form. Nearly fifty pages are devoted to the operation of trachelorrhaphy, so that we are safe in assuming that the subject has been treated exhaustively. This otherwise excellent chapter is marred by the presence of a number of cuts which rather suggest, than actually illustrate, the conditions which they are intended to portray. To the experienced reader they are sufficiently clear, but, as works of art, Figs. 233 to 244, inclusive, are not lovely to look upon. The fault certainly does not lie with either the author or the artist, and the former deserves praise for his attempt to emancipate himself from the custom of copying the old cuts that have gone the rounds of all the text-books.

The Climate of Canada, and its Relations to Life and Health. By W. H. Hingston, M. D., D. C. L., L. R. C. S. Edin., etc. Montreal: Dawson Brothers, 1884. Pp. 266.

The author gives us, in this scholarly production, the result of many years' interest in and study of the climate of Canada. The nucleus for his essay was a discourse delivered before the Natural History Society of Montreal several years ago. Thi has been added to from time to time as relevant material came to hand, resulting in a book which retains the familiar colloquial style, and contains considerable matter which would not, perhaps, have appeared in a complete homogeneous essay on the subject, which Dr. Hingston expressly states this is not. He has succeeded, however—in the chapters on Climate proper, the Relations of this Climate to Health and Life, and on the Habits of the People—in giving us much new and valuable information about the country.

A short Introduction is given for the benefit of those who are not familiar with the constituents of climate and their effects on the human economy.

We learn from a study of Part I that, while there is great variety in different regions of the country, the climate as a whole may be set down as belonging to the dry, stimulating class—one especially adapted for a residence to those with a tendency to consumption, or in whom early signs of pulmonary disease have already developed.

On turning to Part II to obtain the author's *opinion* of the effect of the climate on mortality and disease (for statistical information is scant), we fall upon the opinions of an enthusiastic friend to whose sensation heat is never so hot, or cold so cold, in Canada as anywhere else, and by whom any deterioration in the people, or relatively great mortality (as in young children), is charged entirely to the habits of the people themselves. Unfortunately, as we have said above, accurate statistical information is wanting even of causes of death, except that which is furnished by the surgeons at the army stations, which makes a very favorable exhibit compared with that of the British stations. Fevers are, as a rule, mild, especially those of malarial origin. In regard to consumption, the army statistics support the modern theory of the superiority of a cold, dry climate over a warm, moist one for those predisposed to it, showing that Bermuda has 8·9 cases of it to 1,000 of mean strength of the army there, while Canada has only 5·6. According to the author's experience, affections of the skin are less frequent here than elsewhere; cataract is more common, but, nevertheless, blindness much less frequent. Scrofulous inflammation, so common a cause of blindness in Europe, is rare here. Blindness in Canada is commonly caused by small-pox, cataract, or injury. Contagious diseases—such as small-pox, measles, and whooping-cough—are more common than in Europe, especially in winter, when fuel is saved at the expense of ventilation. In the whole of Canada the proportion of the insane is one to seven hundred and twenty. In speaking of seasons, Dr. Hingston notices that the mortality commonly diminishes with the temperature, and that the colder parts of the country are in reality the more wholesome. The closing chapter—on the habits of the people in regard to eating, drinking, clothing, etc.—shows such a

bad condition of things, in the author's judgment, that it is certainly wonderful he is still able to maintain, as he does, that there is no evident deterioration of the European physique in Canada. At least a table of contents, but, better, a table of contents and index, should be added to another edition.

Clinical Lectures on Scrofulous Neck. By T. Clifford Allbutt, M. A., M. D. Cantab., F. R. S., F. R. C. P. And on *The Surgery of Scrofulous Glands.* By T. Pridgin Teale, M. A., M. B. Oxon., F. R. C. S. London: J. & A. Churchill, 1885. Pp. 32.

These two clinical lectures on scrofulous glands of the neck—one by a well-known physician, the other by a practical surgeon, the one treating of their cause and dangers to health, the other dealing with their surgical treatment—are well worthy of careful study. Dr. Allbutt insists upon the secondary nature of the enlargement of these glands of the neck, and considers that, in the vast majority of cases, the irritation, which is the cause, has its starting-point in a pathological condition of the mucous membrane of the pharynx, nose, or ear; that when once this increase in the size of the glands begins it is apt to go on to caseation, and adhesions form between the capsule and the gland, and also between the former and the surrounding tissues of the neck, terminating in the formation of an abscess; that, when once suppuration has taken place, it will undermine and perforate the skin and leave sinuses, which will continue to discharge until the diseased gland has been entirely eradicated.

He is very skeptical in regard to the spontaneous subsidence of these swellings, if the gland has attained much increase in size, as caseous matter has in all probability formed, and suppuration will take place. Medical treatment is of little use. When, however, the enlargement is not great and caseation has not taken place, much can be done by general constitutional treatment and a residence by the sea. He considers that after one is satisfied that cheesy matter has formed, the time for surgical interference has been reached, and that extirpation of the diseased gland or glands is called for.

Mr. Teale in his portion of the book treats of the surgical management of these enlarged glands. He advocates their removal by cutting down upon the gland and shelling it out of its capsule, if the latter has not become incorporated with the gland, and if the former has not become entirely degenerated. For, if this state has been reached, suppuration is almost inevitable, the skin will become undermined, sinuses form, there is great danger of other glands becoming involved, and disfiguring scars result. When abscesses have formed he advocates enucleating the diseased gland with a "spoon" and scraping the sinus. By these means the cause of the abscess is removed if pus has not formed, and, if suppuration has taken place, limits its duration and amount. In the former case the scar left after the operation is represented by a line, and in the latter case is much less noticeable than where the suppuration has been allowed to go on.

The volume is a practical and useful one, and should be generally read.

BOOKS AND PAMPHLETS RECEIVED.

A Text-Book of Pharmacology, Therapeutics, and Materia Medica. By T. Lauder Brunton, M. D., D. Sc., F. R. S., F. R. C. P., Assistant Physician and Lecturer on Materia Medica at St. Bartholomew's Hospital, etc. Adapted to the United States Pharmacopœia by Francis H. Williams, M. D., Boston. Philadelphia: Lea Brothers & Co. Pp. 1035.

A Text-Book of Medical Chemistry, for Medical and Pharmaceutical Students and Practitioners. By Elias M. Bartley, M. D., Adjunct Professor of Chemistry, etc., in Long Island College Hospital, etc. With Forty Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1885. Pp. 376. [Price, $2.50.]

Milk Analysis and Infant Feeding. A Practical Treatise on the Examination of Human and Cows' Milk, Cream, Condensed Milk, etc., and Directions as to the Diet of Young Infants. By Arthur V. Meigs, M. D., Physician to the Pennsylvania Hospital and to the Children's Hospital, etc. Philadelphia: P. Blakiston, Son, & Co., 1885. Pp. 102. [Price, $1.]

De l'emploi du chlorhydrate de cocaïne dans le traitement de la coqueluche. Par le Docteur Moncorvo, professeur de clinique des maladies de l'enfance à la Policlinique de Rio de Janeiro, etc. [Extrait de "l'União Medica."]

Correspondence.

LETTER FROM WASHINGTON.

The Coming Meeting of the American Public Health Association.—Sanitary Inspection on the Canadian Border.

Washington, *October 20, 1885.*

Arrangements are being made for the meeting of the American Public Health Association, to be held here in December next. It is thought that by the earlier date of the meetings heretofore held much of the influence that would otherwise have been extended to legislative circles has been dissipated, but that a meeting during the opening week of the session of Congress, when the members are all here, will be much more effective in securing such legislation as is thought necessary. Dr. Toner and the health officer called on the President this week, and, it is said, secured from him a promise that he would be present at the opening exercises of the association. The "Conference" of health officers will take place at some time during the meeting, and, as they are the ones directly interested in the practical execution of State and local health laws, they naturally exert a much greater influence upon Congress than the association itself.

The revival of the Quarantine Act of 1878 has given the Government the only authority it has had in the management of national quarantine, since the expiration by limitation of the act of June 2, 1879, which substituted the National Board of Health for the Surgeon-General of the Marine-Hospital Service. Under the act mentioned it is possible to have a pretty strict land or sea quarantine at any place where the States have made no provision for it. There is now an inspection service organized along the Canadian frontier which will no doubt prove equal to the emergency. Michigan and New Hampshire are managing their own inspections—all, however, in harmony with the Marine-Hospital Service—but the States of Vermont, Maine, Massachusetts, and New York, through their respective governors, asked the Government to establish the service. Surgeon H. W. Austin, of the Marine-Hospital Service, has had immediate charge of the work on the frontier. The inspections, however, were apparently begun too late to insure absolute safety, although great good is done by the systematic vaccinations now for the first time imposed on travelers crossing our Northern border.

Work is progressing on the new Medical Library building foundations; the excavation is complete and the concrete is being filled into the trenches preparatory to laying the stonework.

A meeting of the local Committee of Arrangements of the International Medical Congress was held at Dr. Garnett's office last week. Nothing transpired of public interest.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, OCTOBER 24, 1885.

THE GOVERNOR OF NEW YORK AND THE STATE BOARD OF HEALTH.

We lately charged that the Governor of the State of New York was directly responsible for the attitude that we presumed the State would be obliged to take in asking aid from the General Government in the task of preventing an extension of the Canadian small-pox epidemic over the border. It has now transpired that such aid has been asked for by the State, and therefore the State is now depending upon the General Government to do for it what it would have been amply able to do for itself, but for the Governor's action in vetoing the appropriation of the moderate sum of fifteen thousand dollars made by the Legislature for the use of the State Board of Health.

Some of the newspapers, recognizing the awkwardness of the situation, have endeavored to palliate the Governor's course by making it appear that he simply vetoed an appropriation intended to cover a deficiency, that he pursued that course in consequence of his having discovered that there was really no such deficiency as had been alleged, and that the current impression concerning the veto is the result of misrepresentation.

In answer to all this, we have simply to remark that, long before the Legislature took any action in the matter, a document signed by all the members of the State Board of Health was submitted to Mr. Hill, setting forth the financial needs of the board in the following terms:

"As will be seen by reference to the report of the Executive and Finance Committee, the expenses of the board during the past fiscal year have exceeded the amount of its appropriation, the sum voted by the Legislature for the prosecution of its work being but $20,000, while the actual expenditures foot up to $21,971.36. Fortunately, an unexpended balance to its credit at the beginning of its last fiscal year enabled the board to discharge its obligations without incurring indebtedness; but the large growth of its registration work and the unprecedented demand for its engineering and sanitary counsel warn the board of threatened financial embarrassment during the coming year unless the $20,000 granted by the last Legislature for the continuance of its work is supplemented by a suitable subsidy in the supply bill. Urgent appeals are frequently received from local boards of health and citizens of various parts of the State for advice and assistance in questions of supreme moment to public health, requiring for their elucidation skilled sanitary inspection and often exact analytical examination. As far as the pecuniary resources of the State Board have permitted, prompt response has been made to such appeals; but, as they increase in number, lack of means compels reluctant neglect of some of them. Furthermore, under the duties imposed upon the board, to 'make inquiries in respect to the causes of disease, and especially of epidemics, and investigate the sources of mortality, and the effects of localities, employments, and other conditions upon the public health,' it is evident that a system of sanitary investigation was contemplated far beyond the present possibility of attainment, but absolutely needful to enable it to take 'cognizance of the interests of health and life among the people of the State.' Toward the fulfillment of these, the most important duties of the board, the sum of $15,000 is asked, and even with this, in view of a threatened epidemic visitation, the demands upon the board during the coming year will probably exceed its powers of compliance. The regular appropriation of $20,000 barely suffices to defray the expenses incident to the reception, recording, filing, and indexing of the State vital statistics at the central office, together with the voluminous correspondence necessitated by the wide range of questions constantly referred for reply."

It was in consideration of these facts that the appropriation was asked for, and the document from which we have quoted was transmitted by the Governor to the Legislature. The Ways and Means Committee granted the $15,000 asked for, and it was the committee's wording—not the Board of Health's—that made the item in the Supply Bill read for "deficiency." But the fact that the word "deficiency" did so appear now serves as the technical quibble on which the veto is sought to be justified; because, forsooth, the Comptroller's books do not show any balance on the wrong side of the account. Of course, the Comptroller will not pay anything in excess of the sum actually in his hands, so that there can never be a "deficiency" shown on his ledgers. It is puerile, therefore, for the Governor's apologists to urge that the State Board of Health asked for an appropriation to cover a deficiency, and that the non-existence of any deficiency was the Governor's reason for vetoing the bill. The Governor knew perfectly well at the time that he was depriving the board of money which it sorely needed to enable it to carry on the work that it was its duty to carry on; he knew, too, that, if the board had had a million dollars at its disposal, it could not legally spend more than $5,000 in any one year for sanitary inspection. When we add to this restriction the fact that another veto—that of the appropriation for the State survey—has deprived the Board of Health of the gratuitous services of Mr. Gardner, who, as director of the survey, was *ex-officio* a member of the board, in consequence of which the board has had to set apart $3,000 out of its $5,000 for engineering work imposed upon it in various acts passed by the last Legislature—when we take these facts into consideration, the full measure of Mr. Hill's blow at sanitation may be imagined.

THE PROPOSED NEW NATIONAL MEDICAL SOCIETY.

The plan of which we gave an outline some weeks ago, being that of a correspondent who had devoted a good deal of thought to the subject, and had found that it commended itself to a number of the leading members of the profession before whom he had laid it, has been favorably spoken of by several of our contemporaries, some of which have suggested modifications that are certainly worthy of consideration.

One of the suggestions thus brought forward is to the effect that an excellent society might be formed by the simple amalgamation of the various national special societies that now exist. The obvious objection to this is, that the general practitioners would not be represented, and it is undeniable that they include,

and always will include, a large proportion of the strong men of the profession. Except for work in a special line, no organization that leaves out the general practitioner can become of much consequence to the profession as a whole. We doubt if the suggestion was seriously intended, but it is one that has been made before, and therefore is worthy of notice, although, we think, only to be rejected.

The "Medical Record" approves of our correspondent's plan in the main, but thinks that, unmodified, it would not be sufficiently "democratic." We presume that by this our contemporary means that it would not be representative in the geographical sense. Our own idea is that it ought not to be. A strictly regional representation is of consequence only where legislation is involved, and the less legislation the new society attempts, or is designed to attempt, the better. We are just now suffering from too much legislation. Does any one suppose that the Royal Society and the French Academy fail to "represent" the learning and the culture of Great Britain and France? Yet the geographical notion, we fancy, would be scouted by both of them. The "deestrick" system has never yet led to anything very high-minded.

Nevertheless, the geographical idea may prove tolerable in this instance, provided it is hedged about by certain safeguards, and, if it should prove to be dear to the great majority of American physicians, we should not oppose it; neither, we suppose, would our correspondent.

MINOR PARAGRAPHS.

INTERNATIONAL COLLECTIVE INVESTIGATION.

We have received a very carefully prepared pamphlet designed for the guidance of individual observers in the work of the collective investigation of disease set on foot at the last meeting of the International Medical Congress. The pamphlet deals with rickets, acute rheumatism, chorea, cancer, and urinary calculus, and contains blank forms, which those who receive them are asked to fill out and return to Dr. Jacobi, one of the American members of the Congress's committee on the subject, the other being Dr. N. S. Davis.

The pamphlet is interesting in itself, and doubly interesting as suggesting the query, How can the undisputed holder of an official position under the Congress—and Dr. Jacobi is undoubtedly to be so reckoned—be looked upon as having been ineligible to any office the committee charged with organizing the ninth Congress saw fit to confer upon him? Yet that is precisely the illogical position that the New Orleans meeting of the American Medical Association took when it virtually instructed its enlarged committee to displace him from the organization as it then stood.

AN "INDORSEMENT" OFFERED FOR SALE.

In another column we publish a letter from Dr. W. Oliver Moore, calling attention to an injustice that certain competing pharmacists have practiced toward Messrs. Mariani & Co. in "pirating" published records of the successful use of the Mariani preparations of coca, and at the same time craftily making those records appear to apply to their own preparations. It is very much to be regretted that a house that has been so punctilious in avoiding even the semblance of any offense against the courtesy of trade should have been treated in this shabby way by some rival manufacturers. It is still more to be regretted, however, that a member of our own profession should have shown such a willingness to exchange his "indorsement" of the Vin Mariani for money, as is apparent in a letter lately received by Messrs. Mariani & Co., from which we quote as follows:

"Will you kindly favor me with four (4) copies of your essay on 'Erythroxylon Coca,' and oblige? If you will refer to the 'Med. Record' for ....., advertising page vi, you will see me quoted by ——— & Co. for indorsement of fl. ext. coca. That is indeed a very good preparation, but your *Vin Mariani* is *very fine*. If we have the cholera, I should give it as a leading tonic. If my indorsement, *as the first user of coca in the U. S.*, will advantage you any for advertising purposes, I will furnish it to you for $25. If, also, you will honor me with some samples of your Pâte Mariani, you will oblige."

It is consolatory to know that the firm in question looked upon this bit of impudence as quite phenomenal. We would advise this "first user of coca" to keep on using it—upon himself—in the hope of ultimately raising himself above pseudo-scientific mendicancy.

THE PENNSYLVANIA STATE BOARD OF HEALTH.

The State of Pennsylvania has been somewhat tardy in establishing a State board of health, but perhaps she has only been making haste slowly. Quite likely, this fact has not been altogether to her disadvantage. At all events, she has constituted her first board, as we learn by a recently published "Address of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania to the People of Pennsylvania," almost entirely of medical men, the single exception being that one member of the board is an engineer. We at once recognize the value of an engineer in the board, but we have always been at a loss to estimate the precise advantage of having broken-down "statesmen" or political "workers" in such positions. The board's "Address," to which we have alluded, is a remarkably simple and cogent exhortation to the people of the State to further the work of the board in their own behalf, quite free from the cant that so often figures in such documents. It must be said that the new board seems to be entering upon its work in a most commendable spirit, and we wish it the fullest measure of success.

THE PROFESSION OVER-CROWDED ABROAD.

Much having been written about the over-crowding of the ranks of the medical profession in this country, some dreary consolation may be drawn from the state of things that is represented to prevail in at least two foreign countries, one of which is even newer than our own. It seems from a recent article in the "Lancet" that the repletion of the ranks has lately been made the subject of serious inquiry by a medical society in Belgium. It appears that certain "specialists" are allowed to practice in that country without having taken a medical degree, and the complaint is made that the preliminary examination is not severe enough.

The other country referred to is Australia, from which a member of the British Medical Association writes a long letter to the "British Medical Journal," complaining of the enormous difficulties in the way of success in practice. He says that at Ballarat there are more medical men to-day than there were when the population was greater by fifteen hundred.

NEWS ITEMS, ETC.

The New York Obstetrical Society.—At the annual meeting, held October 20th, officers were elected as follows: Dr. Paul F. Mundé, president; Dr. H. T. Hanks, first vice-president; Dr. Louis A. Rodenstein, second vice-president; Dr.

Henry C. Coe, recording secretary; Dr. Emil Noeggerath, corresponding secretary; Dr. Edward L. Partridge, treasurer; Dr. James B. Hunter, pathologist; Dr. Colin Mackenzie, Dr. Bache McE. Emmet, and Dr. Clement Cleveland, members of the committee on admissions (to hold office from 1885 to 1887, acting in conjunction with Dr. Robert Watts, Dr. H. T. Hanks, and Dr. J. B. Hunter, who continue in office until 1886).

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the three weeks ending October 20, 1885:

DISEASES.	2 weeks ending Oct. 6.		Week ending Oct. 20.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	2	1	3	1
Typhoid fever	78	16	33	12
Scarlet fever	40	3	21	3
Cerebro-spinal meningitis	2	2	4	4
Measles	6	1	6	0
Diphtheria	79	33	53	22
Small-pox	11	0	1	1

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, October 7th: *Montreal, Canada.*—October 1st to 13th: 391 deaths from small-pox, in the city, and 101 deaths in adjacent municipalities. *Kingston, Canada.*—October 2d: Free from epidemic diseases. *Three Rivers, Canada.*—For the week ending October 10th: 6 cases and 2 deaths from small-pox. *Toronto, Canada.*—For the week ending October 10th: 1 case of small-pox reported; 3 cases are now being treated in hospital. *Havana, Cuba.*—For the week ending October 8th: 20 cases and 10 deaths from yellow fever. *Cardenas, Cuba*, September 26th; *Matanzas, Cuba*, October 7th; *St. Thomas*, October 2d; *San Domingo*, September 28th, and *Cape Haytien, Hayti*, September 26th: All free from epidemic diseases. *Acapulco, Mexico.*—For the week ending September 27th: 4 deaths from yellow fever. *Guaymas, Mexico.*—For the month of September: 200 cases and 47 deaths from yellow fever; 26 of the deaths were among officers and soldiers. *Callao, Peru.*—September 5th: 1 death from small-pox. Yellow fever has disappeared. *La Guayra, Venezuela.*—For the week ending September 12th: Free from epidemic diseases. Yellow fever is, however, prevalent and fatal at *Caracas. Buenos Ayres.*—For the months of July and August: 205 deaths from small-pox. *London, England.*—For the three weeks ending October 3d: 15 deaths from small-pox. *Glasgow, Scotland.* For the week ending October 3d: 1 death from small-pox. *Edinburgh, Scotland.*—For the week ending September 12th: 1 death from small-pox. *Bradford, England.*—September 19th: 1 case of small-pox reported. *Paris, France.*—September 26th to October 8th: 4 deaths from small-pox. *Bordeaux, France.*—For the week ending October 3d: 2 deaths from small-pox. *Antwerp, Belgium.*—For the week ending October 3d: 2 deaths from small-pox. *Barcelona, Spain.*—From September 10th to 20th: 425 cases and 170 deaths from cholera; also 1 case of small-pox reported. Cholera is abating and assuming a milder form in all the districts. *Cadiz, Spain.*—September 19th: Total mortality during the week, 186. Average mortality, 40. The excess is attributed to cholera. September 26th: 118 deaths from cholera during the week. *Valencia, Spain.*—September 19th: 3 cases and 1 death from cholera. The port (Grao) of Valencia is now supposed to be free from cholera. *Gibraltar, Spain.*—For the week ending September 27th: 2 cases and 2 deaths from cholera. From August 1st to date of report there had been 24 cases and 19 deaths from cholera. October 4th: No new cases of cholera within the past eleven days. *Tarragona, Spain.*—From September 1st to 28th: 75 cases and 37 deaths from cholera. No new cases reported since the 24th. *Genoa, Italy.*—From September 20th to October 4th: 5 cases and 2 deaths from small-pox. *Venice, Italy.*—From September 5th to 19th: 17 cases of small-pox. *Trieste, Austria.*—From September 2d to 26th: 23 cases and 6 deaths from small-pox. *Prague, Bohemia.*—September 24th: 1 death from small-pox. *Zurich, Switzerland.*—From September 12th to 30th: 2 deaths from small-pox. *Warsaw, Russia.*—From September 12th to 26th: 5 cases and 4 deaths from small-pox. *Calcutta, India.*—From August 2d to September 5th: 19 deaths from cholera. *Jerusalem, Palestine.*—For the months of May, June, and July: Small-pox reported prevalent. *Colombo, Ceylon.*—August 15th: 34 cases and 24 deaths from cholera reported.

The following is the number of cases and deaths from cholera in Spain, from March 4th to September 17th, inclusive: 259,684 cases and 96,094 deaths. In Italy, from August 4th to September 13th, there were 165 cases and 89 deaths from cholera.

The Washington Obstetrical and Gynæcological Society.—At the annual meeting, held on the 16th inst., officers were elected for the ensuing year as follows: Dr. A. F. A. King, president; Dr. W. W. Johnston and Dr. J. Taber Johnson, vice-presidents; Dr. C. H. A. Kleinschmidt, recording secetary; Dr. S. S. Adams, corresponding secretary; Dr. G. B. Harrison, treasurer; Dr. C. F. Hagner, Dr. L. Tyler, and Dr. Adams, committee on business; Dr. G. N. Acker, Dr. H. H. Barker, and Dr. H. D. Fry, committee on admissions; Dr. T. C. Smith, Dr. J. R. Bramwell, and Dr. Kleinschmidt, committee on publicaton; and Dr. Acker, Dr. G. W. Johnston, and Dr. Harrison, committee on pathological specimens.

The New York Academy of Medicine.—A special meeting was held on Monday evening, the 19th inst., for the purpose of founding a section in ophthalmology and otology. Dr. C. R. Agnew was chosen president, and Dr. J. A. Andrews secretary. The meetings will be held on the third Monday of each month, excepting July, August, and September.

The late Professor Charles Robin is thus spoken of by the Paris correspondent of the London "Medical Times and Gazette": "The history of Professor Robin was for a long space of time the history of medical microscopy itself, and he stood prominent as the representative of that branch of study in opposition to Velpeau and other practical and clinical teachers, who endeavored to cast ridicule upon the microscope and histology as viewed in relation to medical science. The triumph of Robin appeared complete when, in 1861, a chair of histology was created at the Faculty of Medicine, of which he became, of course, the first occupant. His success was great at first, but he soon became unpopular with the students on account of his extreme severity as an examiner; while, on the other hand, the clerical party, then predominant, were incensed at the so-called materialistic tendencies of his lectures and writings. The combination of these two hostile forces led to violent scenes, in which the professor was hissed, abused, and prevented from speaking. At a later period he regained his popularity through the petty persecutions of the clerical party, which, among other annoyances, excluded him from the list of persons qualified to sit upon a jury, although at this time Robin was unquestionably one of the most celebrated men of science in Europe. He had become, in spite of strenuous opposition, a member of the Institute in 1866. When the Senate was created in 1870, Robin was named a Senator by his native department (Ain). He re-

mained a member of the Assembly till his death, although in politics, like many scientific and literary celebrities, he was content to play a dumb part. Indeed, both his qualities and defects made him unfit to play the part of a Demosthenes; he had neither the eloquence nor the assurance which are the stamps of the political orator, and which are seldom developed by a severe process of scientific training. Robin was one of the chief disciples of Auguste Comte, and one of the founders of the celebrated *Société de biologie*, along with his intimate friend, Claude Bernard. He was also closely connected with Littré, and became with him one of the joint editors of the *Dictionnaire de Nysten*, which, although in the beginning a mere vocabulary of words employed in medical science, became a stumbling-block to orthodox believers and a sort of gospel to the followers of positivism, through the extreme boldness of some of its definitions, those, for instance, of *Ame*, *Homme*, and a few others of the same description. In private life Robin was a most amiable and disinterested man. All his pupils were much attached to him, and he will be sincerely regretted by his numerous friends."

Obituary Notes.—The death of Dr. William Workman, of Worcester, Mass., took place on Saturday, October 17th, in the eighty-seventh year of his age. He was born in Colerain, Mass., was graduated from Harvard Medical School in 1825, and became a member of the Massachusetts Medical Society in 1831. After practicing in Shrewsbury, Mass., for ten years, in 1835, he settled in Worcester, where he has since resided. He was for ten years a trustee of the Worcester State Lunatic Hospital.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department United States Army, from October 11 to October 17, 1885:*

Irwin, B. J. D., Lieutenant-Colonel and Assistant Medical Purveyor. Ordered from Department of Arizona to New York city for temporary duty in charge of Medical Purveying Depot at that place, relieving Captain Henry Johnson, Medical Storekeeper. S. O. 233, A. G. O., October 10, 1885.

Morris, Edward R., First Lieutenant and Assistant Surgeon (recently appointed). Ordered for duty in Department of the Missouri. S. O. 233, A. G. O., October 10, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending October 17, 1885.*

Baldwin, L. B., Passed Assistant Surgeon. Detached from Naval Hospital, Philadelphia, and ordered to Navy-Yard, Mare Island.

Dickinson, D., Surgeon. Detached from Naval Hospital, Mare Island, and ordered to Training Ship Portsmouth as relief to Surgeon A. M. Moore.

Moore, A. M., Surgeon. Detached from Training Ship Portsmouth, and to await orders.

Shafer, Joseph, Assistant Surgeon. Detached from Receiving Ship St. Louis, and ordered to Naval Hospital, Philadelphia, as relief of Passed Assistant Surgeon Baldwin.

Hester, F. A., Assistant Surgeon. Detached from U. S. S. Minnesota, and ordered to the Tennessee as relief of Passed Assistant Surgeon Nelson H. Drake.

Drake, Nelson H., Passed Assistant Surgeon. Detached from the Tennessee 31st inst., and to await orders.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ended October 10, 1885.*

Bailhache, P. H., Surgeon. To proceed to Tuckerton, N. J., as inspector. October 7, 1885.

Austin, H. W., Surgeon. To proceed to Albany, N. Y., on special duty. October 6, 1885.

Gassaway, J. M., Surgeon. To examine surfmen at Ellsworth, Me., and other ports of First District Life-Saving Service. October 9, 1885.

Society Meetings for the Coming Week:

Monday, *October 26th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

Tuesday, *October 27th:* New York Dermatological Society; New York Surgical Society; Buffalo Obstetrical Society (private); Medical Societies of the Counties of Putnam (quarterly), Queens (semi-annual—Garden City), and Rockland (semi-annual), N. Y.; Boston Society of Medical Sciences.

Wednesday, *October 28th:* New York Pathological Society; American Microscopical Society of the City of New York; Philadelphia County Medical Society (conversational); Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield); Medical Society of Gloucester County, N. J. (quarterly); Middlesex, Mass., North District Medical Society (Lowell); American Academy of Medicine (New York—first day).

Thursday, *October 29th:* New York Orthopædic Society (at 214 East Thirty-fourth Street. Two or three short papers on "Rotary Lateral Curvature"); Cumberland County, Me., Medical Society (Portland); Massachusetts Medical Benevolent Society (annual); American Academy of Medicine (second day).

Letters to the Editor.

LACERATIONS OF THE CERVIX UTERI.

Jersey City, N. J.

To the Editor of the New York Medical Journal:

Sir: In your report of the proceedings of the Medical Society of Virginia, on the 10th inst., I noticed an abstract of a paper read by Dr. Bedford Brown, of Alexandria, on the "Treatment of Lacerations of the Os and Cervix Uteri without Surgical Operation." I read the same with great interest, and fully indorse the treatment he suggests. It has been followed by me for many years with excellent results. The graduated solutions of nitrate of silver, ℈j to ℈ij, and ʒj to 1 oz. of water, enable the physician to select the required strength adapted to the particular case. I have always used cotton on the end of an applicator, in preference to a camel's-hair brush, as it can be thrown away and a new piece used for each application; or, when there is enlargement of the cervix, I moisten or saturate the same with glycerin, which has the property of causing a serous discharge, and thereby tends to reduce the size of the cervix. When the cervix is large and indurated, I know of nothing equal to hot-water injections, once or twice a day, and continued until the desired results are obtained—softening and a return to the normal size. For this purpose I prefer the fountain syringe to any other I know of. I have lately finished the treatment of two patients who had suffered from lacerations of the os and cervix uteri. They were treated principally with the nitrate-of-silver solutions, Lugol's solution, hot-water injections, and occasionally scarifications of the cervix. Both entirely recovered.

James Craig, M. D.

RIVAL PREPARATIONS OF COCA.

133 East Thirty-eighth Street, N. Y., *October 14, 1885.*

To the Editor of the New York Medical Journal:

Sir: In your issue of January 3, 1885, page 19, in a report of a paper read before the New York Medical Society, on "The Physiological and Therapeutical Effects of the Coca-Leaf and its Alkaloids," occurs the following: "For the past ten years Dr. Fauvel has used it, both internally in the form of Vin Mariani, and also by local applications to the pharynx and larynx in spray or by brush, in the form of a fluid extract, or, more recently, of a concentrated non-alcoholic preparation more of the nature of a cordial (prepared by Mariani & Co.)."

Several manufacturers of coca preparations have taken occasion to quote from this paper, each in turn substituting the name of *his own* production instead of the one mentioned in the original.

As the preparations of coca mentioned in my paper were personally tested and found to be the best of a large number experimented with, I wish to call attention to these misquotations and substitutions.

Very truly, W. Oliver Moore.

*** We have taken the trouble to compare the report of Dr. Moore's remarks with the little book on coca prepared by M. Mariani, and the latter with the circulars issued by a number of manufacturers of coca preparations; and we certainly think that some of these manufacturers have taken an unwarrantable liberty in appropriating work that evidently cost M. Mariani a good deal of time and no little outlay of money.

Proceedings of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of October 14, 1885.

Dr. George F. Shrady, President *pro tem.*

Melano-Sarcoma of the Face.—Dr. John A. Wyeth presented a woman seventy years of age who showed the results of an operation for removal of a melano-sarcoma of the face. Fourteen years ago a small tumor appeared at the left of the nose, and remained nearly stationary for several years, after which it enlarged gradually. The integument alone seemed to be implicated. Four years ago it was burned with some escharotic. A short time ago Dr. Fox made a diagnosis of melano-sarcoma, and sent the patient to Dr. Wyeth for operation. Dr. Wyeth carried the incision from well up on the nose outward an inch and a half, and a quarter of an inch below the palpebral border. The gap was filled with integument drawn over the malar bone. The operation was done only two weeks ago, but perfect union existed at present and there was no ectropion.

A Cast of the Bladder.—Dr. H. J. Boldt presented a cast of the bladder of a woman aged eighteen years who had recently given birth to her first child. Delivery was normal. Soon afterward, September 21st, she complained of pain in the hypogastric and lumbar regions. There was tenderness on pressure. Micturition caused no pain. The urine contained albumin, blood-casts, and a small quantity of pus. The diagnosis was made of catarrhal nephritis. At this time the temperature was 102·6° F., but some days later it rose to 106°. The patient felt something in the urethra while urinating, and, on examination, Dr. Boldt thought the sac to be a portion of the inverted bladder. He replaced it, and did so several times subsequently. Dr. Lusk, who saw the patient in consultation, thought it to be an inversion of the bladder, and, as the presenting portion was becoming putrid, it was dusted with iodoform. Finally it was expelled and was found to be, as Dr. Boldt believed, the mucous membrane of the bladder with some submucous tissue and perhaps some of the muscular fibers. He had not examined it microscopically, and consequently wished that it be referred to the Microscopical Committee. After its expulsion, the bladder-walls seemed to be entirely denuded of their lining membrane, and became thickened, and the cavity greatly decreased in size. A large quantity of urine was passed during the twenty-four hours. The patient died, on the 10th of October, with cerebral symptoms, probably of a septic nature.

Large Sarcoma of the Ovary.—Dr. Cushier presented a sarcomatous tumor, probably of the ovary, as large as a bucket, removed post mortem. The patient, forty-nine years of age, otherwise healthy, had first noticed an enlargement of the abdomen about a year previously; the increase in size was then very rapid. Her health had become greatly impaired when she was seen by Dr. Cushier. Dr. Hunter saw her in consultation, and an exploratory incision was made, but the operation was discontinued. The patient died on the fifth day afterward, probably of disappointment at not having the tumor removed, and of exhaustion. There was found to be slight red hepatization of the left lung, with some pulmonary nodules of the nature of the abdominal tumor, and nodules in the retro-peritoneal glands. The tumor involved the left ovary and the uterus, and was pronounced to be a spindle-and-round-celled sarcoma, probably originating in the ovary, the more common origin of such growths.

Dermoid Cyst of the Ovary.—Dr. Cushier also presented a dermoid cyst of the ovary removed last Thursday. It had been of comparatively rapid growth. There was some elevation of the temperature prior to the operation. Adhesions existed throughout, but were not firm. The larger cavity was filled principally with sebaceous material; only a small pouch was occupied by hair.

Congenital Cyanosis.—Dr. L. E. Holt presented the heart, lungs, and kidneys of a child which had died of congenital cyanosis, forty-eight hours after birth. There was a distinct syphilitic history; the child was born about the eighth month; it weighed between four pounds and four pounds and a half, and was cyanotic. The respiration was very rapid, and the pulse could not be counted. Examination of the lungs showed over both sides marked diminution in resonance and many fine râles. At the autopsy the lungs were found to be solid, did not crepitate at all, and sunk in water; it was difficult to find with the unaided eye any air cells which had been distended. The foramen ovale was sufficiently large to admit two fingers; the right ventricle was slightly thickened; there was no disease of the valves. The spleen was enlarged and hard, and showed venous congestion. Externally the kidneys were slightly softened; the cortex was quite pale, and the pyramids were somewhat congested, showing uric-acid infarctions. There was interstitial nephritis.

PHILADELPHIA PATHOLOGICAL SOCIETY.

Meeting of September 24, 1885.

The President, Dr. E. O. Shakespeare, in the Chair.

Tænia Echinococcus.—Dr. William Osler presented specimens of this rare parasite, which had been reared experimentally by feeding a dog with hydatids from the liver of a pig. The animal was killed about seven weeks after the feeding, and the small intestine was found to contain many hundreds of the ma-

ture tape-worms. The portion of bowel exhibited had many adherent to the mucous membrane. From the small size of the worms, only a few lines in length, they were very apt to be overlooked. Cobbold stated that the only specimens procured in England had been experimentally reared. Dr. Leidy had never met with the adult worm in this country. That it must occur here in the dog was very evident from the frequency with which echinococcus cysts (the larvæ) were met with in the hog and other animals.

Cysticercus Cellulosæ.—Dr. Osler exhibited the heart, the brain, and a portion of the flesh of a pig, containing the "measles," as the larvæ of the *Tænia solium* were called. Both organs were thickly studded with the cysts, which were also very numerous throughout the muscular system. The animal was fat and had seemed to suffer very little inconvenience. Attention was called to the cysts beneath the tongue and to the possibility of telling whether an animal was measled by an examination of this part during life. Microscopic slides of the parasites were shown and a slide of a cysticercus, with a very large caudal vesicle, from the omentum, in which situation it might grow to the size of a walnut.

Distoma Hepaticum; its Effects on the Liver.—Dr. Osler also showed the liver of an ox, showing enormous enlargement of the bile-vessels and calcification of their walls, due to the chronic inflammation excited by the presence of the flukes. The main ducts were thicker than the thumb, and even the smaller tubes were as hard as the stem of a clay pipe. The liver substance was wasted but not cirrhotic. In spite of this extensive disease, the animal was well nourished. Specimens of the flukes in spirit and mounted were also shown.

Tænia Flavopunctata.—Dr. William Pepper presented the specimens of *Tænia flavopunctata* described by Prof. Leidy in the "American Journal of the Medical Sciences" for July, 1884. This species had never but once before been seen and recognized, and then by Weinland, of Boston, in 1858. Both specimens had been expelled from young children and averaged twelve inches in length.

Tænia Mediocanellata.—Dr. Pepper also presented the head and neck of a *Tænia mediocanellata*. It had occurred in a young man. A course of starving, followed by castor-oil and pelletierine, had removed a portion of the worm; afterward a repetition of the starving process, without the castor-oil but with the alkaloid, had brought away the entire worm dead. Dr. Pepper said he was particularly interested in this series; it spoke forcibly of the necessity of studying comparative pathology. The specimens were very perfect and more instructive than more highly organized species. In practice he had found the *Tænia mediocanellata* as difficult to expel as the *Tænia solium*. The exhibition of the small variety, the *Tænia flavopunctata*, taught the necessity of careful examination of the stools.

Litholapaxy.—Dr. de Schweinitz exhibited the kidneys, ureters, and bladder of a man who had died after this operation. The patient, aged seventy-three years, had for two years previous to the operation suffered with straining during the act of micturition and other symptoms of hypertrophy of the prostate gland, and of vesical calculus. The urine contained albumin, pus, epithelium, and granular casts, and had a specific gravity of 1·018. The patient's habits were intemperate. The operation of litholapaxy was performed, marked difficulty having been experienced in the introduction of the instruments. After the operation the patient exhibited great restlessness, præcordial pain, and a rapid, feeble pulse. Subsequently he became comatose, and died twenty hours after the operation, the immediate cause of death being, apparently, the formation of a heart-clot. A post-mortem examination was made about ten hours after death. Old pleuritic adhesions were found on the right side. The muscular structure of the heart was flabby; there was a firm "chicken-fat" clot in the right ventricle. The liver was slightly enlarged and soft. Both kidneys were granular and contained cysts. The bladder was thickened, and showed ecchymoses on its mucous surface. The prostate was enlarged.

Dr. Tyson thought this case added one more to the list showing the impropriety of crushing for stone when kidney disease was present. He did not know why, but under such circumstances the cutting operation was more suitable. He cited the case of Louis Napoleon as an instance of the danger of crushing in the presence of kidney disease. In answer to a question of Dr. Barton's regarding the kidneys, he said that they were contracted, though not decidedly so, as there was good secreting structure left. The cysts were part of the pathological anatomy of granular kidney. He believed the cause of death to have been uræmia.

Dr. G. G. Davis said that in such cases a post-mortem examination was in reality of the nature of an investigation. Death might be due to direct violence done the nrethra, the prostate, or the bladder; or it might be due to extension of inflammation to the peritonæum, or to some unknown cause, as in the present case.

Dr. de Schweinitz said that the urethra was not examined, and agreed with Dr. Tyson that the cause of death was uræmia. This was the more probable because an officious attendant, against orders, had administered rather full doses of morphine.

Syphilitic Abscess and Necrosis of the Tibia.—Dr. Henry Beates presented a specimen of syphilitic abscess and necrosis of the tibia removed by amputation at the middle of the thigh. The patient was a strumous man who three years previously had suffered from an attack of obstinate sciatica accompanied by a marked degree of muscular atrophy of the affected limb, followed by lameness. Two years later a swelling developed at the femoral side of the gluteo-femoral crease, which opened and discharged small fragments of necrosed bone. The sinus was finally healed and fair health enjoyed for several months. Seventeen weeks ago osteitis of the tibial head developed, followed, in a short time, by suppurative synovitis. The pus perforated the ligamentum posticum and burrowed beneath the gastrocnemius, elevating it and the posterior tibial muscular structures from the bone. Free incision evacuated this, but the destructive process continued, resulting in the formation of sinuses and complete disintegration of the joint. Hectic was pronounced, and, to save life, amputation was performed on the day previous. Longitudinal section through the femur, joint, and tibia disclosed the extensive destruction effected in so comparatively short a time. The articulating surface of the condyles was denuded of its cartilage and the surface of the bone was roughened. The patella was bound firmly to the trochlear portion of the condyles. The articular elements were destroyed. The head of the tibia was completely necrosed and broken down. The medullary canal of the tibia, throughout its entire extent, was infiltrated with pus. The surface of the bones was also the seat of the morbid process. The pus from the joint had burrowed upward beneath the internal and external vasti muscles and deprived the femur of its periosteum for a considerable distance. The anterior face of the tibia was denuded in like manner, while the crest, at the middle, was the seat of ulceration. At the time the disease occurred the patient first noticed a chancre. Six weeks later the secondary phenomena developed and were promptly met with anti-syphilitic remedies. Was the strumous disease influenced by the syphilis? The specimen was referred to the Committee on Morbid Growths for microscopical examination, with instructions to look for tubercle bacilli and for those said to be peculiar to syphilis.

Dr. Davis was desirous of knowing if the disease of the head of the tibia was due to scrofula or syphilis; the worm-eaten character of the ulcer on the tibia looked like syphilis.

Dr. C. M. Wilson inquired if there had been fever, rigors, and evidences of pyæmia in this case. It was undoubtedly one of osteo-myelitis, and in a similar case of traumatic origin, which he had exhibited, rigors had been present.

Dr. Jurist asked how the presence of acute syphilis in the patient would affect the prognosis of the operation.

Dr. Beates replied that there had been symptoms of septic fever, and, as the acute symptoms of syphilis had been absent for some weeks, he did not think this would affect the prognosis.

Sudden Death from Laryngeal Obstruction.—Dr. Louis Jurist presented the larynx and trachea removed post mortem from the body of man, aged thirty-eight, a book-keeper, who had suddenly died. He had not had syphilis. He had taken cold on Saturday and had a sore throat; on Tuesday he chatted with the doctor, and an examination gave no evidence of anything except ordinary pharyngitis; on Wednesday he went to his business; on the evening of this day the doctor was sent for in haste, and, on going at once, found the man dead. Nevertheless, a hurried laryngotomy was done, and efforts were made to restore the heart, but without avail. Dr. Jurist removed the larynx through the thoracic cavity. He was in doubt as to the mode of death. The lungs were fairly healthy, though cheesy on one side. There must have been an abscess present.

Dr. Tyson was surprised that marked improvement should have followed the treatment by emetics and sedatives, as the abscess must have been present; perhaps the outlying œdema was subdued and the condition thus improved.

Dr. Wharton had had no experience in such cases, but agreed with Dr. Jurist that the operation of tracheotomy, and not laryngotomy, was indicated.

Dr. Jurist was in doubt in regard to the diagnosis; it rested between perichondritis and a subsequent abscess or phlegmonous laryngitis. He was inclined to the former view.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of May 14, 1885.

The President, Dr. B. F. Westbrook, in the Chair;

Dr. A. H. P. Leuf, Secretary.

Pulmonary Abscess and Pyæmia.—Dr. Glentworth R. Butler read an account of a case, for Dr. Lewis S. Piloher. [It was reserved for publication.]

A Cranio-rhachitic Monster with Exomphalos was shown by Dr. W. J. Brandt.

Valvular Aneurysm.—A paper with this title was read by Dr. Albert Brinkman. [See page 455.]

Pulmonary Miliary Tuberculosis.—A fresh specimen was shown by Dr. A. H. P. Leuf.

Meeting of June 11, 1885.

Intra-capsular Fracture of the Femoral Neck.—Dr. J. H. Hunt presented a specimen of this kind, in which there had been an impaction of the neck into, and the formation of a false joint within, the great trochanter.

The President considered it a remarkable case because of the site of the false joint.

Dr. Z. T. Emery presented a specimen of the same injury, with a false joint.

Dr. Hunt remarked that it was peculiar in that there were fibrous connections, like so many chordæ tendineæ, between the false-joint surfaces in place of a ligamentum teres. He asked if it was possible for a heavy woman, as this one was, to have her hip give way spontaneously instead of its being due to violence.

The President could not account for the impaction except by violence. He questioned whether a spontaneous fracture could have caused the fall of the woman, and this, in turn, have given rise to the impaction.

Dr. Hunt rejoined that she was very intelligent and disclaimed having stumbled. There was no history of tripping. The fall seemed to be spontaneous. He simply desired to know whether it was possible that the fracture could have preceded and caused the fall and the latter the impaction. He hardly supposed it probable, but did not consider it impossible.

Acute Lepto-meningitis.—Dr. Arnold Stub read the history of a case as follows:

"A gentleman, thirty-seven years of age, of steady habits, whose former history gave no clew to any previous disease, and who for years past had no other complaint except an occasional severe neuralgic pain in the face, for which it seems, however, he never consulted a physician, returned from a theatre during a cold and stormy night (March 28th) at 11.30. It seems he went to bed perfectly well, but awoke at 2 A. M. (March 29th) and called the members of his family to his room, on account of a severe attack of vomiting he had been seized with. It seems he offered no explanation as to how he felt, but lay in bed constantly vomiting and moaning, and, upon being asked what ailed him, only said: 'It is awful.' It seems that his family thought he had been eating or drinking something unusual, and waited until morning before they sent for me. Upon my arrival, about 9 A. M., March 29th, I found him lying in bed, continually tossing about, smiling and grinning in a peculiar, almost idiotic manner, and talking at random. Upon being asked how he felt, he declared he felt all right, and had no pains, but he pointed toward his abdomen if the question was pressed. He still vomited occasionally. The pulse was 80 and, like the temperature, the heart's action, and the pupils, perfectly normal. Upon inquiry, I could not learn when he had urinated last. He certainly had not done so since 2 A. M. Percussion showed the bladder to be empty. The introduction of a catheter was impossible on account of his restlessness. I diagnosticated uræmia. Taking into consideration the entire absence of all symptoms tending toward brain trouble, his apparently empty bladder, the fact that he had been sitting in a hot, closely packed theatre, and afterward returned home during a snow-storm, I felt justified in coming to such a conclusion, and I ordered fifteen grains of calomel to be given at once, and, two hours afterward, one ounce of castor-oil, which he took and retained. I also ordered liq. ammonii acetatis, ʒ ij, every hour, and hot bran-bags to be applied to the lumbar region. About noon of the same day I found no effect from the calomel and castor-oil. An enema passed his bowels without producing a fæcal evacuation, and there was no change in the symptoms or improvement of the patient. I then called Dr. Wallace in consultation, who, upon examining the patient, coincided with my views and suggested that two drops of croton-oil be given. It was done and repeated in two hours, but without effect until late in the evening, when an enema, consisting of castor-oil, soap, salt, and warm water, produced one copious stool. No urine having passed, I managed to introduce a catheter, and, to my surprise, I succeeded in withdrawing one quart of urine, which proved to have a specific gravity of 1·024, and to contain no albumin, no casts, no blood-coloring matter, but to contain a normal quantity of urea, no sugar being present. No change of symptoms had taken place since morning, so I concluded to continue the treatment, and prescribed only thirty grains of bromide of potassium at bedtime. Early in the morning of March 30th Dr. Wallace and I met again and concluded to call in Dr. Gray for consultation.

The latter, after examining the patient, came to the conclusion that, provided we were able to exclude kidney disease, meningeal trouble, with a strong suspicion of syphilitic origin, would have to be considered next, and therefore he recommended the use of iodide of potassium, gr. viij, three times daily, bromide of potassium, 3 ss., three times a day, and hyoscyamine, gr. $\frac{1}{50}$, every four hours. From the time I introduced the catheter the day previous the patient did not urinate. I catheterized again at 4.15 P. M., March 30th, and withdrew a pint and a half of urine, which corresponded exactly with the urine of the day previous. The patient had been fed March 29th and 30th with gruel and beef-juice and water whenever he showed any inclination to take them. Thirst did not seem to trouble him. His general condition remained the same as upon the day previous; he would answer questions in a rather incoherent way. Upon being asked to get up and walk, he would do so without any apparent effort. At 6.15 of the same evening he was taken with a cough and expectorated a good deal of mucus. At 6.35 he became very restless, and his pulse ran up to 112. Five minutes later he had a convulsion. I administered at once some chloroform by inhalation, but without effect upon the convulsions. I telephoned at once to Dr. Wallace and Dr. Gray. The former was not at home. The latter responded to my call and recommended the use of amyl nitrite by inhalation, and, no effect being produced upon the convulsions, a hypodermic injection of thirty drops of tincture of veratrum viride. As already mentioned, the pulse was 112 five minutes before he had the convulsions; at 7.15 it was 140; at 7.25, 180, with a respiration of 28 a minute. The pulse varied between 180 and 160, with a respiration of 40, until 8.55, when I administered thirty drops of tincture of veratrum viride hypodermically. Three minutes afterward the pulse fell to 144. Five minutes later it was 140, and then it gradually fell until it came to 96, at 9.35, and remained so until the patient died, in convulsions, at 10.30 of the same evening. The following day Dr. Leuf performed the autopsy, and will relate to you the details of the same."

Report of the Autopsy, by Dr. Leuf.—"The patient was a strong, well-built male. The autopsy was held about twenty hours after death, and rigor mortis was well marked. Both kidneys was found in a state of the most intense congestion it was possible to see. The blood almost welled out of them as soon as the tension of their substance was relieved by section. Pressure caused additional free sanguineous exudation. They had a very deep purple color and were both alike. The bladder was empty. The other abdominal and the thoracic viscera presented nothing unusual in appearance as to congestion or other anomalous conditions. The pia mater was intensely injected and perfectly dry on the surface, while beneath it, upon the cerebral surface, there was a large amount of widely diffused extravasated blood. The hæmorrhage most likely originated in the smaller vessels of the pia at the bottom of the sulci, because when no blood appeared upon the surface it was found in abundance at the bottom of the fissures, and none was found on the surface of a convolution without its being discovered in the adjacent furrows in sufficient amount to distinctly separate the contiguous walls. In my opinion the meningeal inflammation was caused by the kidney congestion, but, as there is room for honest difference of opinion on this point, I prefer to leave its consideration to others."

Dr. William Wallace had been puzzled with the case. He had thought that there was no brain trouble, and had considered it renal. The condition of the brain surprised him. He considered the kidney trouble primary. He had never seen bloodier kidneys. He thought that Dr. Leuf's theory might be correct, but acknowledged that the results of the autopsy made him more puzzled than ever.

Dr. Stub was able to quote but one authority in favor of renal disease producing meningeal affections. A man in "von Ziemssen," in a long letter, held that kidney disease often produced meningeal trouble. Dr. S. G. Armor, he then recollected, had also made a similar statement at the Kings County Society. Acute hyperæmia resulting from nephritis might end in sudden death, but in this case it was more than a hyperæmia.

The President asked if Dr. Stub still considered the case one of uræmia.

Dr. Stub replied that he did not, and that he had made out the death certificate for lepto-meningitis.

Dr. Albert Brinkman remarked that Loomis said that renal disease often caused serous inflammations, and especially if an acute attack occurred during the chronic disease.

The President thought that the intense vomiting, without any other symptom, excluded uræmia. Inasmuch as much fluid would be evacuated by continuous emesis, it could not be expected that a normal amount of urine would be passed. The paralysis of the bladder was indicative of cerebral or spinal trouble. He thought the renal congestion accidental. We often found many internal congestions in case of sudden death. He thought there was hardly enough uræmia to account for the meningeal trouble. He would ask if there had been any other symptom besides vesical paralysis to indicate disease of the cord.

Dr. Stub answered, "No." In reply to the question, whether there had been anything noticed in the vomited material to indicate poisoning, Dr. Stub said that there had not.

Dr. Leuf explained that he believed the kidney trouble to have caused the meningeal inflammation for several reasons. The meningitis was in the first, or dry, or congestive stage, a condition rarely met with of so marked a type. The kidney congestion must have been of several days' duration, as the extensive and universal corpuscular infiltrations of the kidney substance demonstrated as seen by the microscope. Renal disease was not infrequently the cause of not only cardiac, but also cerebral and meningeal disorders; and, while it was easy to explain this on the supposition that the increase of arterial tension all over the body, resulting from renal affections, caused secondary congestions and inflammations in remoter organs, the vascular apparatus of which was weakest, the reverse could not be rationally inferred. It had just appeared that only three authoritative statements could be adduced to uphold the views he had just expressed. There certainly were many more, and he knew of none just now that upheld the contrary view, that meningitis was ever the cause of nephritis. It also seemed to him that the urine that had been drawn off by catheterization had been in the bladder for some time. The catheter was not passed at first, because percussion over the hypogastrium elicited a tympanitic sound, but then a partly filled bladder did not project up into the abdomen and was usually covered by coils of the ileum distended more or less with gas. The president had thought fit to assume a very recent origin of the nephritis, because of the lack of uræmic symptoms, and accounted for the small amount of urine voided by the copious discharge of liquid in continuous emesis. Now, it seemed just as plausible to suppose that in spite of urinary retention, due to intense nephritis, sufficient urea was passed by the mouth in the vomited matter to prevent uræmic symptoms. Concerning the chair's allusion to the congestions so common in cases of sudden death, he would only say that, having made a very large number of autopsies in just such a class of cases, he had not only never seen anything like such a congestion in such cases, but even not in *any* kind of case whatever.

Dr. Stub asked if the coagulability of the blood was not a sign of ante-mortem extravasation, and its non-coagulability of post-mortem effusion.

The PRESIDENT replied that it was not a safe rule to follow, as some poisons might prevent coagulation.

Dr. STUB wished to know of what kind of poisoning the case under discussion could have been.

Dr. SEWUNY suggested poisoning with arsenic.

Dr. STUB rejoined that that could not be, because there was no gastro-intestinal disturbance visible at the autopsy, no purging during life, and no reason to suspect it in any way.

Dr. ECCLES asked if it might not have been poisoning with iodide of potassium.

Dr. STUB thought it might more likely have been with chlorate of potassium.

Dr. W. H. FARRINGTON wished to know if there had been any evidence of blood in the urine drawn during the patient's illness.

Dr. STUB replied that there had not.

Dr. LEUF alluded to a case of poisoning with chlorate of potassium, in which he had made an autopsy for the coroner. It was that of a girl about fifteen years of age, and her mother had given her by mistake about eight drachms of this drug in as many hours. The kidneys in that case were almost exactly like those he had described this evening, except that the Malpighian corpuscles appeared as *black* punctate bodies, and so did all the solitary follicles of the intestines.

Dr. SULLIVAN was not satisfied with the diagnosis. He thought the conditions of the kidneys and brain were caused by the convulsions. He had had a similar case some time before—that of a man who came home, ate his dinner, became unconscious (apparently apoplectic), regained consciousness later in the evening, rambled in his conversation, was almost well next morning, and wholly so in a few days. This man did not know whether he had had convulsions or not, although such was stated to have been the case. He was a chronic dyspeptic. The whole trouble was probably due to some disturbing article of food. The speaker believed the case under discussion to have been similar to his, and death to have been due to exhaustion of the nervous system. Sudden cold might have caused the attack. He was still not satisfied as to the cause of death and would like to be enlightened.

Dr. STUB replied that the last speaker's remarks would have been more to the point if the case under discussion had begun with convulsions. He would like Dr. Leuf to answer the question as to the cause of death, because he ought to know it best.

Dr. LEUF informed Dr. Sullivan that it was acute leptomeningitis.

The PRESIDENT did not believe that the arterial tension caused by renal congestion could be sufficient to cause a meningeal hæmorrhage.

Dr. FARRINGTON recalled a statement of Dr. Stub's about Dr. Gray's having suspected syphilis, and desired to know if any evidence of it had appeared.

Dr. STUB replied that there had not, and that Dr. Gray was himself satisfied of it.

Malignant Tumor of the Sacrum.—Dr. LEUF presented the specimen with the following abstract from the notes of the last attending physician: On October 11, 1883, the diagnosis was compression of the spinal cord, but was only inferential. Eight days later, upon consultation with Dr. John C. Shaw, a small tumor of the sacrum was noticed to the right of the median line. On January 10, 1884, the diagnosis was changed to sacral caries, but with a doubt as to its correctness. From May 9, 1884, the diagnosis of sacral tumor was positively adhered to until the day of death, January 6, 1885. Neither lower limb was wholly paralyzed. Slight motion was always possible. There was marked œdema below the knees, and later all below the hips was very much swollen. Acetate of potassium was given to relieve the dropsy. A large bed-sore formed at the site of the tumor and in the vicinity. There were always marked pain and insomnia unless morphine injections were given. Fainting spells were frequent. The temperature ranged from 101° to 102° F., and some tenths of a degree above; the pulse from 96 to 120 a minute. Occasionally there were hæmorrhages from the ulcerated tumor. Microscopical examination of some of the tumor obtained with a hypodermic syringe caused a diagnosis of encephaloid sarcoma to be made, based upon the presence of a profusion of round cells with very little stroma. The mode of death was by syncope. From puberty the patient had always been a poor eater. He never liked good substantial food, such as meat and vegetables, but only pies, cakes, and sweets. He had always been below par in appearance, looking thin, pale, and delicate. Several years before the beginning of the disease he had a fall upon the sacrum, causing severe local pains for several days, but from this he apparently fully recovered.

The speaker had been requested to make the post-mortem examination, and the following was an outline of what was found. All the thoracic abdominal viscera presented the usual appearances noticed in those who died of inanition. They were all pale and atrophied, and the intestines contracted to their utmost. A tumor was found projecting forward and upward from the anterior surface of the sacrum so as to fully half fill the pelvic cavity. Upon pressure it yielded a slightly crepitant sensation like the yielding of a very fine and incomplete calcareous shell, a sensation quite common in osteo-sarcomatous growths, on account of the distension and thinning of the bone by the contained growth. There was no discoloration of the coverings of the intra-pelvic portion of the tumor. Posteriorly, there was a gangrenous opening about 2 ctm. in diameter on a line crossing the two posterior-superior iliac spines, and a little to the right of the mesial plane. It was located on the summit of a lump projecting about 4 ctm. The skin of the whole posterior pelvic region was destroyed and the bone laid bare by a deep and extensive bed-sore, involving to some extent the exposed bones. The odor was very characteristic of malignant tumor. The growth had extended laterally so as to involve the auricular surfaces of both ossa innominata, and the muscles in contact with them in the immediate vicinity of the sacro-sciatic foramina. The pyriformes were wholly changed to the appearance of the growth itself, except that they were a little softer. The outlines of the muscles involved were also so blended that they could hardly be discerned. The sacrum, the lower two lumbar vertebræ, the coccyx, and the posterior thirds of the innominata were removed, and, on section being made through the growth, it appeared in spherical sections united by a connective tissue, gelatinous and fluid substance.

Both lower limbs were enormously distended with œdema, from the center of the thigh down. They appeared much as if affected with elephantiasis. Otherwise the body was as extremely emaciated as it could possibly be. Additional bed-sores were found along the spines of the scapulæ, extending at least 2 ctm. above and below, and exposing the aponeurosis and substance of the trapezius and deltoid. There were some even on the back of the elbows. Every spinous process, from that of the vertebra prominens to the large sore at the site of the tumor, had button-holed its way through the skin, forming a series of irregular circular openings all along the spinal column.

Dr. ECCLES said the patient had been in his hands for four months. Two consultations had been held with Dr. Shaw, and for some weeks Dr. Benjamin Westbrook had attended with him. When he was first called the patient complained of intense pain in the lumbar region combined with sciatica. The character of the lumbar pain suggested a rheumatic complication. Treat-

ment with large doses of salicylate of cinchonidine speedily relieved this, leaving the neuralgia as intense as ever. After this treatment he no longer endured such excruciating pain when in a recumbent position. Up to this time no one had thought of his trouble having any mechanical cause. It was looked upon as a simple neuralgia. Later on, however, the symptoms began to appear in the other leg, suggesting some common cause in the abdominal region. A condition of hyperæsthesia of the feet and lower part of the legs began to trouble him. He could not endure the lightest touch. The liniments applied hurt him when first put on. Sometimes he complained of prickling pains in the soles of the feet as if needles were being inserted. After this œdema set in, beginning with the toes and working up both limbs in a slowly progressive manner to a considerable distance above the knees. The urine was carefully watched from time to time for kidney trouble, but none was found. Constipation was a constant symptom, and required continual attention. As the trouble progressed the young man became less and less able to move around, even with the aid of his crutches, and was at last permanently confined to his reclining chair. To give him some rest and change, Dr. Westbrook devised an adjustable cot upon which he could be placed occasionally. From quite an early date in his trouble the temperature kept above 101°, sometimes running as high as 103°. This suggested to Dr. Shaw tuberculosis as a complication, but the post mortem did not confirm it. Before the speaker had called in Dr. Westbrook two homœopathic practitioners had been invited to see the patient without his knowledge. Their diagnosis, as afterward discovered, was aneurysm of one of the iliacs. They first heard the distinct *bruit* which then appeared but afterward passed away. The patient survived by several months the time they set for his death. Up to and beyond this time every attempt at discovering an enlargement by pressure through the abdominal wall failed. A slight enlargement, however, did appear over the right sacro-iliac synchondrosis looking more at first like an œdematous spot than anything else. This gradually grew larger, spreading toward the sacrum. From the time when the symptoms first appeared bilaterally until the tumor became too large for its presence to be doubted, his diagnosis had hung between disease of the sacro-iliac joint and sarcoma. Dr. Benjamin Westbrook first demonstrated the presence of the tumor by touching it through the rectum. The aneurysm theory of the homœopathists was rejected by all the regular physicians who saw the patient. Dr. Wight, some two months after Dr. Westbrook's examination, pronounced it osteo-sarcoma. The case was a remarkable one in every way. It was treated by all sorts of practitioners during some part of its career. Even the spiritualists had a trial of their skill. The patient was an unusually bright young man, a student of Columbia School of Mines, and had just returned home from an extended tour in Egypt, Palestine, and Central Europe, when he was attacked. He took the Oriental trip because of ill-health.

Dr. Stub had not seen the case under discussion, but had met with a similar one. A man had a slight sciatica; afterward both legs were affected; for a period of several weeks he steadily persisted in efforts to walk in this condition. Then he had to go to bed; he could hardly shift his position in bed without suffering excruciating pain; there was fever with loss of appetite; he could not get up even with the aid of machines; the pain only existed in the lower limbs. Dr. A. Jacobi came over from New York and diagnosticated myelitis. The patient was blistered and counter-irritated in various ways, and received all kinds of medication. The diagnosis was adhered to, until a movable tumor of the sacrum was discovered and a diagnosis of cancer made. Subsequently there occurred what was believed to be a general cancerous nodular infiltration.

Dr. Eccles stated that a diagnosis of myelitis had also been made by the attending physician in the case reported by Dr. Leuf, and adhered to almost to the last, although the physician was acquainted with the diagnosis of sacral tumor made by the preceding attendants. We sometimes saw strange coincidences. While he was in Europe the preceding summer, in Kilmaurs, Ayreshire, Scotland, he met with the case of a young man of about the same age as the patient whose case had been reported, and with almost exactly the same history, who died at almost the same time. There was no autopsy in that case.

The President said that there were two or three clinical points in the case to which he would like to call attention. The arterial *bruit* which had misled the so-called homœopathic physicians was synchronous with the radial pulse, of about the same character as the sound produced in an artery of medium size by pressing upon it with the stethoscope, and audible over the vertebral column from the upper dorsal to the upper sacral region. He was unable to give any explanation of it, but thought that no experienced auscultator should have mistaken it for an aneurysmal *bruit*. The second fact of interest to the clinician was the elevation of temperature which prevailed throughout the time that he had had the patient under observation. It suggested the idea of vertebral caries, and the diagnosis, so far as he was concerned, had lain between caries and a malignant tumor. After several aspirations of the swelling, which occupied the sacral region, between the posterior spinous processes of the ilia, more marked upon the right side, it was pretty certain that there was no pus, for nothing but blood ever appeared in the hypodermic syringe. At that time he was not aware that sarcomatous growths gave rise to pyrexia, but he had since seen an account of some observations by a European physician, whose name had escaped his memory, which went to show that this did occur. Palpation of the tumor through the rectum had not been very satisfactory, as it could barely be reached with the finger, and was too distant to be accurately mapped out. He remembered a similar case in which he had made an autopsy for Dr. McCorkle and Dr. Barker, in which also the growth had made its way through the greater sacro-sciatic foramen. In that case there had been a sciatic neuritis, presumably excited by the irritation from the pressure of the growth, and the perineurium was thickened to such an extent as to enlarge the nerve to at least twice its ordinary dimensions.

He had been informed by a credible person that, toward the last, the unfortunate boy had been put under the care of a female whose method of treatment was to occupy the same bed with the patient and impart to him some of her "vitality," "animal magnetism," or whatever she called it. This was, to him, a new system of practice.

Dr. Stub remarked that there had been an elevation of temperature in his case.

The President thought that it might have been due to the erosion of bone.

Dr. Eccles: "Isn't the age unusual?"

Dr. Leuf: "For carcinoma it is, but for sarcoma it is not."

An Incompatible of Antipyrine.—Dr. Eccles announced that some days previous, while making pharmaceutical investigations, he had had occasion to mix some sweet spirits of niter with a solution of antipyrine. At first the mixture was clear and colorless, but, after some hours' standing, became green. The optical appearances of this fluid were identical with those of the anilines, and, as antipyrine was a coal-tar product, he supposed the change was due to the formation of a green aniline, and so it had proved to be. This incompatibility was all the more important as both substances were used for antipyretic purposes, and might be prescribed together.

Miscellany.

The International Medical Congress.—In an editorial article entitled "A Medical Star Chamber," the "Boston Medical and Surgical Journal" says:

"The Executive Committee of the committee appointed to arrange for the meeting of the International Medical Congress in America in 1887 has recently held a meeting in New York city. An editorial in the 'Journal of the American Medical Association' contains all the information concerning it that is made public. The little that is vouchsafed us has certainly the merit of exciting curiosity as to what has been left untold. To prevent all further misunderstanding, both at home and abroad, the committee unanimously adopted the following declaration of independence: 'That the actions of this Executive Committee are final, not being subject to revision, amendment, or alteration, by either the Committee of Arrangements or the American Medical Association.' How will the Committee of Arrangements and the American Medical Association like that? The opinion of Mr. Randall, delivered no longer ago than last May, was urged in support of interference with the original committee for alleged too great independence of action. If of force at that time it is equally good authority at present· 'I might add, in addition,' said Mr. Randall, 'that the theory that a select committee created by a body with certain defined powers and duties gives any *vested rights*—so to speak—which places it above or beyond the power of the creating body to review or regulate, is one not only without precedent in parliamentary law, practice, or history, but is untenable on any ground of parliamentary principle.' Prof. Frederic S. Dennis was appointed Associate Secretary-General, and *another* was appointed Chairman of the Finance Committee. Why *another's* name should be concealed from an anxious public we can only conjecture. Is the anonymous gentleman too modest to allow his name to appear? Is some nameless individual to assume the expenses of the Congress? Is secrecy necessary as a safeguard against theft, or is the committee ashamed of its appointment? It must be a very bad choice indeed which can be worse than such ostentatious secrecy. It would seem as though this branch of the enlarged committee was bound to destroy what little respect was left for the proposed International Congress."

The same journal publishes the following letter from Dr. Henry I. Bowditch:

"Boston, *October 8, 1885.*

"Mr. Editor: Since Dr. J. S. Billings, as general secretary of the committee for arranging the International Congress for 1887, informed me that I was selected as one of the vice-presidents of the Congress, I have had no *official* notice either of my summary displacement by the new committee at its meeting in Chicago (June 24th) or of my reinstatement by the same committee (September 3d). For this and other reasons to be named, I ask a place in your journal for the following statement: When urged by some friends to sign the protest made in several cities by gentlemen opposed to the action taken at New Orleans, I replied, 'It would be absurd for me to do so, because the committee has already expelled me from office.'

"Since that time I have watched with interest the course pursued by the 'Journal of the American Medical Association,' and also that of the new committee for the International Congress. I have read with pain the perpetually recurring bitterness and insinuations against all those who had dared to express opinions adverse to the doings of the association, or those of its new committee. I was surprised and disgusted while reading the editorials of August 1st, entitled 'The International Medical Congress and its Enemies,' and that of August 29th, 'International Medical Congress of 1887 and the American Medical Association.' From these editorials any foreigner reading them would not have the least suspicion that the controversy on the 'code' had any share in the imbroglio at present existing. I wholly deny that those who now disapprove of the course the association and its committee have taken are the 'enemies of the International Congress.' On the contrary, they are, in my opinion, its best friends.

"Notwithstanding my objection to such editorials, I have continued to decline to sign the protest in the hope that, by so acting, I might perchance do something toward the promotion of professional harmony in America.

"But the last manifesto of the committee and gross assumption of despotic power for making all future arrangements for the Congress (*vide* 'Executive Committee of the Ninth International Congress,' 'Journal of the American Medical Association,' September 3d) convince me that I can remain no longer in the position in which the new committee (as I learn from the journals) placed me without my knowledge or consent at their meeting in September.

"That manifesto by the new committee is equaled by nothing in the history of medicine in this country, save the arrogant position taken by the Judicial Council of the American Association at its meeting in Cleveland in 1883. The Council, through its chairman, declared that the Council 'took the responsibility' of requiring every member to sign *annually* the code of ethics, or to lose his right to meet his fellows at the gatherings of their association for the advancement of the sacred cause of Medical Learning!

"That decision of the Council was disgraceful alike to the Council as declaring its assumption of power which it did not legally possess, and to the association for its pusillanimity in submitting, *even to the present day*, to the insult then inflicted upon it—a so-called scientific and learned body.

"To one who looks behind the scenes and knows whose intellectual power, combined with honest but misguided bigotry, has influenced the Council of the American Association, there is no difficulty in understanding the present position of the 'Committee for the International Congress.'

"The same dominant mind governs both. I loathe all such ungenerous and bigoted work, and therefore retire from office in the same public manner that I have been placed there. In declining thus publicly the honor it would confer on me, I am only imitating the example set by the committee in its intercourse with me.

"Respectfully yours,

"Henry I. Bowditch, M. D.

"P. S. By a singular *coincidence* I have received to-day, since the above was in type, from the chairman and secretary of the committee, official notice of my appointment to the office of vice-president of the International Congress. Upon mature reflection I can not alter my decision as above given."

The "Medical News," of Philadelphia, announces the declinations of Dr. Henry F. Campbell, of Augusta, Ga.; Dr. E. O. Shakespeare, of Philadelphia; Dr. Henry G. Beyer, of the navy; Dr. John J. Mason, of Newport, R. I.; Dr. Jerome H. Kidder, of Washington; and Dr. J. M. Flint, of the navy.

Editorially, the "News" says:

"In the beginning of the Congress controversy extreme solicitude was expressed by some members of the association for the assertion of its supreme authority in everything pertaining to the organization of the Washington meeting, and its journal devoted many pages to advocating this point. Now, however, that the new Executive Committee has proclaimed its independence of the parent committee and of the association, by formally declaring that its acts are 'not subject to revision, amendment, or alteration by either the committee of arrangements or the American Medical Association,' the journal has not a word to say against their usurpation of power, or about the propriety now of maintaining the authority of the association in the premises. It does not point out how the *new* committee have laid themselves open to 'the charge of having ignored the body from which its existence and all its powers had been derived,' or how *they* 'coolly turn the association into a "foot-ball" and contemptuously kick it out of their way.' It no longer talks about members making 'a bold attempt to use the national character and prestige of the American Medical Association as a "decoy duck" to obtain their own appointment to office.' The authority of the association is openly defied by its own committee, and its journal suddenly becomes silent on the subject."

The "Pacific Medical and Surgical Journal," of San Francisco, closes an editorial article as follows:

"The American committee had one chance to retrieve itself, but that is past, for it has ignored the representations of the profession, both in Europe and our own country. Now we shall have no compro-

mise. Those blatant notoriety hunters, with the impudence which has characterized them from the very commencement of their action at New Orleans, have endeavored to carry out their plans in defiance of the wishes of the professional world, and to the disgrace of their own country. They have shown themselves to be utterly regardless of everything but vainglory. Through a premeditated and carefully arranged plan, suddenly sprung upon the association, they jumped into a position of power, and that power they have abused until their very names are becoming execrable in the ears of their countrymen. The profession must either indorse the action of Dr. Billings's committee, or request that the Congress be held in some other country, and we advise our brothers to withhold all subscriptions until one or other of these conclusions has been adopted. In the event of no action being taken in the matter, then let those men play at having a congress, and handle their puppets like any other showmen; but never let the American nation forget itself so far as to countenance such mimicry as a national event."

Regulations for the Maintenance of Quarantine Inspections on the Northern Frontier of the United States.—The following circular, dated October 10th, has been issued by Surgeon-General Hamilton:

To the Medical Officers of the Marine-Hospital Service, Customs Officers, and others concerned:

The act approved April 29, 1878, entitled "An Act to prevent the introduction of contagious or infectious diseases into the United States," provides that no vessel or vehicle coming from any foreign port or country where any contagious or infectious disease exists, or any vessel or vehicle conveying persons, merchandise, or animals affected with any contagious disease, shall enter any port of the United States, or pass the boundary-line between the United States and any foreign country, except in such manner as may be prescribed under said act.

Attention is now directed to the prevalence of the contagious and infectious disease of small-pox in Montreal and other places in the Dominion of Canada, and the law referred to is held to apply alike to trains of cars and other vehicles crossing the border and to vessels entering ports on the northern frontier.

Because, therefore, of the danger which attaches to the transportation of persons and baggage, and articles of merchandise, or animals, from the infected districts, the following regulations are framed, under the direction of the Secretary of the Treasury, and subject to the approval of the President, for the protection of the health of the people of the United States against the danger referred to:

1. Until further orders, all vessels arriving from ports in Canada, and trains of cars and other vehicles crossing the border-line, must be examined by a medical inspector of the Marine-Hospital Service before they will be allowed to enter the United States, unless provision shall have been made by State or municipal quarantine laws and regulations for such examination.

2. All persons arriving from Canada by rail or otherwise must be examined by such medical inspector before they will be allowed to enter the United States, unless provision has been made for such examination as aforesaid.

3. All persons coming from infected districts, not giving satisfactory evidence of protection against small-pox, will be prohibited from proceeding into the United States until after such period as the medical inspector, the local quarantine, or other sanitary officer duly authorized, may direct.

4. The inspectors will vaccinate all unprotected persons who desire, or are willing to submit to, vaccination free of charge. Any such person refusing to be vaccinated shall be prevented from entering the United States.

5. All baggage, clothing, and other effects, and articles of merchandise, coming from infected districts, and liable to carry infection, or suspected of being infected, will be subjected to thorough disinfection.

6. All persons showing evidence of having had small-pox or varioloid, or who exhibit a well-defined mark of recent vaccination, may be considered protected, but the wearing-apparel and baggage of such protected persons who may come from infected districts, or have been exposed to infection, will be subjected to thorough disinfection as above provided.

7. Customs officers and United States medical inspectors will consult and act in conjunction with authorized State and local health authorities so far as may be practicable, and unnecessary detention of trains or other vehicles, persons, animals, baggage, or merchandise, will be avoided so far as may be consistent with the prevention of the introduction of diseases dangerous to the public health into the United States.

8. Inspectors will make full weekly reports of services performed under this regulation.

9. As provided in Section 5 of said act, all quarantine officers or agents acting under any State or municipal system, upon the application of the respective State or municipal authorities, are empowered to enforce the provisions of these regulations, and are hereby authorized to prevent the entrance into the United States of any vessel or vehicle, person, merchandise, or animals prohibited under the act aforesaid.

10. In the enforcement of these regulations there shall be no interference with any quarantine laws or regulations existing under or to be provided for by any State or municipal authority.

The Transportation of Dead Bodies.—At a recent meeting of the Michigan State Board of Health the secretary reported that, by invitation, he had attended, September 16th, in Lansing, a meeting of the Michigan Association of General Baggage Agents, and taken part in the discussion of the subject of the meeting, "The Transportation of Dead Bodies." At that meeting a committee was appointed to draft rules for the guidance of agents of railroad companies in the transportation of dead bodies. The chairman of that committee, Mr. H. P. Dearing, the general baggage agent of the Michigan Central Railroad, appeared before the board and presented the rules as adopted by the committee. He said the design was to make a set of rules that would meet the views of the several State boards of health, and be adopted by all the great lines of railroad in the United States, so that there should be uniformity of practice, thus better protecting the lives of railroad employees and those of travelers. Rule 1 absolutely prohibits the transportation of bodies dead from small-pox, Asiatic cholera, typhus fever, and yellow fever. Rule 2 provides that all other dead bodies may be transported, provided they are incased in an antiseptic interment sack, hermetically sealed, in addition to being in a coffin, and this in a tight wooden box, except those dead of diphtheria, scarlet fever, typhoid fever, erysipelas, measles, or other contagious and infectious diseases, which must be wrapped in a sheet thoroughly saturated with a strong solution of chloride of zinc (one half pound of the chloride of zinc to a gallon of water) before being incased in the hermetically-sealed sack. The coffin must be surrounded by sawdust saturated with a solution of chloride of zinc of the same strength. Rule 3 specifies that no person or article that has been exposed to the infection may accompany the body. Rule 4 provides that some one must accompany the body; and forms for certificates are given. After discussion of the subject, the board approved of the rules.

The American Academy of Medicine.—At the ninth annual meeting, to be held at the New York Academy of Medicine, on Wednesday and Thursday of next week, papers are expected to be read as follows: "The Study of Medicine as a Means of Education," by Dr. Robert Lowry Sibbet, of Carlisle, Pa.; "Medical Supervision in Student Life," by Dr. Charles McIntire, of Easton, Pa.; "Western North Carolina as a Health Resort," by Dr. Henry O. Marcy, of Boston; "The Importance of Climatology considered as a Regular Branch of Study in Medical Colleges," by Dr. E. H. M. Sell, of New York; the president's address, entitled "What is Medicine?" by Dr. Albert L. Gihon, of the navy; "Medical Evidence," by Dr. Thomas J. Turner, of the navy; "Report on Laws regulating the Practice of Medicine in the United States and Canada," by Dr. Richard J. Dunglison, of Philadelphia, and Dr. Henry O. Marcy, of Boston; "Health Officers, Ancient and Modern," by Dr. Benjamin Lee, of Philadelphia; "Micro-organisms and their Relation to Disease," by Dr. Samuel N. Nelson, of Cambridge, Mass.: "Observations on the Relation of Bacteria to certain Puerperal Inflammations," by Dr. Ernest W. Cushing, of Boston; "Medical Licenses and Medical Honors," by Dr. Edward Jackson, of Philadelphia; "The Physician and his Patient," by Dr. John Devin Kelly, of Utica, N.Y.; "Physicians of Delaware in the Eighteenth Century," by Dr. Lewis P. Bush, of Wilmington, Del.

Georgetown University.—The Washington correspondent of the Philadelphia "Medical News" says that, at the time that Surgeon-General Hamilton, of the Marine-Hospital Service, handed his resignation to the President, he also resigned the professorship of surgery in the Medical Department of Georgetown University. It was accepted with reluctance, and ex-Surgeon-General Wales, of the navy, was finally appointed to the vacancy. When, however, it was learned that the President would not accept Dr. Hamilton's resignation, Dr. Wales at once resigned the professorship, whereupon Dr. Hamilton was re-elected to the chair.

Diphtheria of the Œsophagus.—Dr. H. D. Fry, of Washington ("Am. Jour. of the Med. Sci."), contributes an interesting study of this rare affection, and reports a case which occurred in his own practice. The diagnosis of diphtheria of the œsophagus is extremely difficult. In most cases it is absolutely impossible to recognize the disease. This difficulty is met with not only when the œsophageal mucous membrane is primarily the seat of diphtheritic inflammation, but also when it is implicated by extension of the false membrane from the pharynx or larynx. In the vast majority of the reported cases its presence was not suspected until revealed by post-mortem examination. Symptoms, at most, only warrant a suspicion of the existence of the affection. An important indication is the expulsion, by the mouth, of bands of false membrane, provided no symptoms exist to indicate that the air-passages are involved. The expectoration of a membranous cast of the œsophagus is the only positive sign of the disease. The obscurity which accompanies nearly all affections of the œsophagus is well illustrated by the experience of Steffen. Out of forty-four cases, including diphtheria, hyperæmia, catarrhal inflammation, ulceration, ecchymosis, and gangrene, the diagnosis was made in only three; the remainder were found on post-mortem examination. Dr. Fry concludes his paper with a careful analysis of the symptoms which were observed in the twelve cases which he has been able to find fully reported in literature.

The Limitations of Colotomy in Disease of the Rectum.—Dr. Charles B. Kelsey, of New York (*Ibid.*), defines the following as the indications for colotomy: 1. In congenital malformations of rectum or anus in children in which a tentative operation in the perinæum has failed to reach the rectal pouch. 2. In intestino-vesical fistulæ. 3. In tumors occluding the rectum which can not be relieved by any other means—dilatation, division, hot water, or electrolysis. 4. In non-cancerous, simple, or specific stricture and ulceration of the rectum (with or without fistulæ), where the disease can not be relieved by proctotomy or dilatation, or division of the fistulæ and local treatment of the ulceration. 5. In cancer where the disease can neither be removed nor the passage re-established, and where death is probable from obstruction—except in cases where the immediate dangers of the operation more than counterbalance any good likely to be gained by it. 6. In volvulus or intussusception of the colon or sigmoid flexure, where reduction by the aid of laparotomy has been found impossible.

The Choice of Methods in Abdominal Delivery.—Gastro-hysterotomy has been improved by the introduction of the uterine suture, and lives have been saved that must otherwise have been lost; but no change in the old operation can compensate for the delay and intermeddling so generally indulged in (where the knife is the only remedy that promises success), to the fatal termination of the case. In an instructive article, Dr. R. P. Harris, of Philadelphia (*Ibid.*), shows that it is in vain to practice this operation in the United States unless it is done in good season. Since January 1, 1875, 29 out of 38 cases have ended fatally, and 21 children were extracted dead, leaving 17, of whom 4 soon perished from causes occurring before delivery. Twenty-eight women were in labor from one day to two weeks, and fifteen of them more than three days. The Sänger modification with its simplifications has been performed 12 times, saving 6 women and 10 children, of which 5 cases belong to the credit of Dr. Leopold, of Dresden, who saved 4 women and 5 children. Of 8 German cases, 6 ended in recovery. These women were in labor respectively 12 hours, 8, 30, "some hours," and 16 hours, and in 1 case the time was not mentioned. The women whose cases were marked "favorable" by reason of their condition before the operation all recovered. A tabular record of cases is given by Dr. Harris.

Laparo-elytrotomy also numbers 12 cases, with 6 recoveries and 7 children saved. Nine of the cases belong to New York city and Brooklyn, where 6 women and 5 children were saved. These 6 women were in labor respectively 11 hours, 4 days, 16 hours, a week, 8 hours, and 22 hours. There were 4 "*favorable*" cases among the 12, all of which ended in recovery. These two cities have a credit of 11 Cæsarean operations, saving but 2 women and 2 children. In 10, the prognosis was "*unfavorable*." In cases made more serious by delay, laparo-elytrotomy promises better than gastro-hysterotomy, and should be preferred to it. It also promises more favorably for British cases, so far as we can judge by New York, where the mortality was formerly equal to that of England. A table of the operation is given.

The Porro-Cæsarean operation, Dr. Harris shows, is *par excellence* the method for hospitals, where the women should be under anticipative treatment and operated upon very early in, or just prior to, labor. The Müller modification is preferable where the placenta is upon the anterior uterine wall, or the fœtus dead and putrid. Dwarf subjects require that the delivery under the knife should be effected very early, as exhaustion occurs after a short effort of nature, and death is apt to result in such cases. The Porro operation has been the most successful in the cases of dwarfs.

The Causal Relation of Obstructed Cardiac Circulation to Lymph Stasis.—In a learned article, Dr. S. C. Busey, of Washington (*Ibid.*), points out that retardation, or arrest of the current of the fluid in the thoracic duct at or near its outlet into the subclavian vein, may produce dilatation, distension, and rupture of lymphatic vessels, and consequent effusion of chyle and lymph into the serous cavities. The remoteness of the effects from the obstacle interrupting the current of the fluid may depend upon various concomitant conditions, especially upon the anatomical integrity and the distensibility of the vascular walls. When the impediment to the flow of chyle and lymph occurs at or near its outlet, the area of stasis and ectasis will necessarily depend upon the duration and extent of such obstacle; and hence, when the area of ectasia is extensive, the manifest inference is that the cause has been one of gradual development and protracted duration. The influence of partial obliteration or stenosis of the thoracic duct at or near its termination in the causation of dilatation or rupture of some part of the lymph-vascular system can not be doubted. The evidences of experimentation must be accepted as conclusive. The effects of stenosis produced by the gradual encroachment from disease of the duct or of surrounding and contiguous tissues and structures are shown by clinical and post-mortem citations. In this latter class of cases the ectasia is gradual in its development and more extensive in its field. In cases where the lymphangiectasis was consequent upon the slowing or interruption of the venous blood-current in the left subclavian vein, the relation of cause and effect seems equally well established. Dr. Busey shows that such diseases of the heart as slow, impede, or stagnate the venous blood-current in the left subclavian or innominate vein may also produce lymph-stasis.

The Predisposing Causes of Aneurysm.—In a valuable paper Surgeon-General Hamilton (*Ibid.*) presents an elaborate study of the predisposing causes of aneurysm. So far as his inquiry has extended, the only constant element among all the alleged causes of aneurysm is that of climate. Neither syphilis, nor alcoholism, nor occupation, nor heat, alone, appears to have an appreciable influence on the causation of this disease. As to how far the influence of diet may extend in the production of aneurysm he has been unable to form any conclusion, but it is possible certain kinds of food may have a powerful influence.

The Academy of Medicine's Section in Practice of Medicine held a regular meeting on Tuesday evening, the 20th inst., at which Dr. Laurence Johnson read a paper on "The Choice of Remedies," and a general discussion took place on the question, "Is Typhoid Fever ever of Spontaneous Origin?" We would suggest that a somewhat closer approach to accuracy in the cards of announcement would not be amiss. On the card announcing that meeting Dr. Laurence Johnson figures as Dr. Lawrence Johnson, Dr. W. H. Thomson as Dr. W. H. Thompson, Dr. J. Haven Emerson as Dr. F. Haven Emerson, and Dr. S. Oakley Van der Poel as Dr. J. Oakey Vanderpoel.

The Brooklyn Pathological Society.—Dr. Daniel Ayres will deliver his second lecture on "The Pathology of the Inflammatory Process" at the next meeting of the society, to be held at the Brooklyn Eye and Ear Hospital on Thursday evening, the 29th inst.

The New York Academy of Medicine.—At the meeting of the Academy held on Thursday, the 15th inst., Dr. F. A. Castle, the treasurer of the Board of Trustees, reported the final payment of two thousand dollars on the mortgage on the Academy's property. This leaves the Academy entirely free from debt.

THERAPEUTICAL NOTES.

The Use of Iodoform Collodion, especially in Neuralgia.—Dr. William Browning, of Brooklyn ("Am. Jour. of the Med. Sci.") gives his experience with this remedy for external application, together with notes on the preparation itself, and a brief study of its action. The strength usually employed is one part of iodoform to fifteen of collodion. Half an ounce is usually sufficient for a single application. Dr. Browning has found it most effective when painted on in very thick layers, which may be conveniently done with the usual camel's-hair brush. As soon as one coating becomes a little firm another is applied, and so on until it appears to have an average thickness of $\frac{1}{2}$ mm. In the neuralgic cases a cure, when effected, was usually accomplished with one or two applications. The troubles found most amenable to this treatment were narrowly localized neuralgias, especially when corresponding to some particular nerve and not dependent on any demonstrable lesion. In fact, if a neuralgia, or what is thought to be one, proves intractable to this means, we should doubt its being a purely functional affection, and look carefully for some tangible cause. It has thus a certain diagnostic, as well as a therapeutic, value. Several times its complete or partial failure has led to a more searching and successful examination. Even in such cases much temporary relief is often afforded. Supra-orbital neuralgias, even of malarial origin, particularly if the miasmatic infection dates back some time, seem quite amenable to this treatment. It is not recommended as a substitute for the use of quinine, but only as an adjuvant where the latter fails or acts too slowly.

The Use of Strychnine in Nervous Disease.—Dr. Landon Carter Gray, of Brooklyn (*Ibid.*), reports five cases which show that strychnine was not well borne in two cases of severe acute myelitis, or in two cases of subacute poliomyelitis; that doses of $\frac{1}{25}$ of a grain, continued for four days, three months after the onset of transverse myelitis with early extension to the lateral columns, suddenly induced alarming symptoms of poisoning; that one patient with chronic general myelitis of traumatic origin was greatly benefited, as was likewise one with general myelitis in which the onset had been gradual; that in five cases of progressive muscular atrophy it acted remarkably as a stimulant; and that, as Dr. Weir Mitchell has indicated, it was decidedly beneficial to persons with neurasthenia who, after eight or ten weeks' treatment with rest and forced feeding, were taken out of bed, although it failed to agree with three subjects of the same affection treated in the ordinary way.

The Treatment of Extra-uterine Pregnancy with Electricity.—Dr. Henry G. Landis (*Ibid.*) remarks that it may be regarded as proved that electricity in some form is a specific cure for extra-uterine pregnancy. It arrests the growth and destroys the vitality of the embryo and cyst, and its use is followed by a truly remarkable disappearance of all or the greater part of the growth in a short time. This at least is true when the electricity is used during the first half of the pregnancy. As we approach the period of viability in the child the risk of rupture of the cyst diminishes, and the propriety of surgical interference at or near term becomes greater. The great advantage of the faradaic current over all other forms of electricity has been shown, but opinion is not yet settled as to whether we should use a local current for a long time or a strong current briefly, and how many repetitions of the application are necessary. To determine these points, Dr. Landis has conducted a series of experiments based upon the supposition that success is achieved by the death of the embryo, the *specific* value of the method being that the fœtus will surely be killed if it gets a large enough dose of the current. The experiments are also based upon the supposition that the fœtus is in the matter of vitality to be compared with some of the lower forms of life. Dr. Landis draws the following conclusions: 1. In using the faradaic current in extra-uterine pregnancy, the applications should be protracted for an hour, if the patient can bear it. 2. The current should be repeatedly applied, in order that the vitality of the fœtus may be finally exhausted. 3. The current should be used in great strength for at least one sitting. 4. The current probably acts, not only by destroying the fœtus, but by its action upon the placental circulation; an additional reason for a long application.

Bismuth as a Dressing for Wounds.—M. Gosselin and M. Héret ("Progr. méd.") have been studying the mode of action of subnitrate of bismuth upon wounds. It is known that this drug has the effect of diminishing the oozing of blood after an operation. Although, in itself, it has no coagulating power, it acquires such a property by virtue of the disengagement of nitric acid upon the mouths of the capillaries. Moreover, it has an astringent action, due at the same time to the nascent nitric acid and to the oxide of bismuth, a germicidal effect, and a special sedative operation. The subnitrate should be preferred, as the other salts have not, of course, the coagulating and constrictive power that is due to the acid. It may be used either in powder or by irrigation in the proportion of 1 to 50.

Formulæ for the Use of Iodoform.—"Nouveaux remèdes" quotes the following formulæ from the "Courrier médical":

An Injection for Chronic Catarrh of the Bladder, Urethritis, etc.—

Iodoform	1 part;
Glycerin	5 parts;
Distilled water	100 "

For Hypodermic Injections in Syphilis.—

Iodoform	1 part;
Sulphuric ether, Olive-oil, each	5 parts.

For Internal Use in Convulsions.—

Iodoform	18 grains;
Iodide of potassium	1 drachm;
Red wine	$2\frac{2}{3}$ drachms.

From three to fifteen drops are to be given, in a glass of wine, three times a day.

Pills for Bronchitis and Emphysema.—

Iodoform	$1\frac{1}{2}$ grain;
Lycopodium	6 grains;
Extract of phellandrium	15 "

Divide into ten pills. From three to five to be taken daily.

Chloroform in the Treatment of Post-partum Hæmorrhage.—Dr. F. Betz ("Memorabil.") was lately led by Robinson's reports of the efficacy of alcoholic injections into the uterus to try the effect of inserting a sponge saturated with chloroform. Severe burning pain was at once produced in the whole parturient canal, but brisk uterine contraction supervened promptly, and the bleeding was stopped. In another case he pressed against the cervix a tampon moistened with a mixture of chloroform, sulphuric ether, and a little acetic ether. The same results followed. The styptic action, he remarks, is wholly due to muscular contraction, and not at all to the coagulation of blood.

Belladonna as an Adjuvant to Iodide of Potassium.—Aubert ("St. Petersb. med. Wchnschr."; "Memorabil.") states that the use of belladonna prevents the unpleasant effects sometimes produced by iodide of potassium on the naso-pharyngeal mucous membrane. Three quarters of a grain of extract of belladonna, in pill form, given with the iodide, are sufficient, and the use of the adjuvant need not be continued long, for after a short time the disposition to the unpleasant effects referred to disappears and does not return.

Antimony in the Treatment of Psoriasis.—Mr. James Mason ("Glasgow Med. Jour.") says that in some of the most inveterate cases antimony "acts like a charm," causing a rapid disappearance of the scaling. He alludes to the case of a man whose face and head became almost entirely free from scales after a week's use of five-minim doses of wine of antimony. The author adds that the antimonial treatment of psoriasis has been practiced for several years by Dr. Cavafy, of St. George's Hospital, London.

Original Communications.

A CONTRIBUTION TO THE TREATMENT OF CERTAIN FRACTURES OF THE BONES OF THE LEG, AND OF THE PATELLA, BY DRILLING AND WIRING OF THE FRAGMENTS.*

BY J. WILLISTON WRIGHT, M. A., M. D.,

PROFESSOR OF SURGERY IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK; VISITING SURGEON TO BELLEVUE HOSPITAL, ETC.

MR. PRESIDENT AND GENTLEMEN: The following five cases of compound fracture of the bones of the leg, together with three of simple fracture of the patella, which I have treated during the past three years by drilling and wiring of the fragments, are presented, not so much with the view of taking a new departure in the management of this class of injuries as for the purpose of inviting a discussion of the subject at large, and with the object of determining, as far as may be from a limited amount of material, whether the method by wiring in the worst cases of compound fracture of the leg, and in certain exceptional cases of simple fracture of the patella, to which the plan has been restricted in my own practice, possesses any advantages over the older and more usual means of treatment, either in the way of greater safety to life, additional opportunities for avoiding an amputation, primary or secondary, in favoring the reparative processes, or, finally, in the direction of a saving of time and a mitigation of suffering for the patient.

CASE I.—John Sheridan, Irish, liquor dealer, aged twenty-seven, healthy.

February 6, 1884.—Was injured by street-car this morning, the wheels passing obliquely over the right leg near the knee. Compound fracture of the tibia, two inches below the tubercle, associated with a contused and lacerated wound, four inches long, extending upward and inward from the seat of fracture. Fracture exposed, under bichloride irrigation, by an incision four inches long, made parallel with the crest of the tibia, and communicating with the original wound. The fracture was found to be oblique from above downward and from within outward. Deep pockets, filled with coagulated blood and sand, extended upward in the subcutaneous tissue to above the knee joint, and downward for a distance of four or five inches. The fascia of the leg was extensively lacerated, the tibialis-anticus muscle badly torn and contused, and the periosteum stripped from the fragments of the bone for some distance.

The blood-clots, sand, and shreds of tissue were removed by washing, scraping, and the use of the scissors; the fragments drilled and wired together with a double strand of No. 26 silver wire.

The wounds were closed with carbolized catgut sutures; the pockets drained with rubber tubes through counter-openings; the limb was dressed antiseptically, and suspended in a cradle made of heavy wire netting.

18th.—Highest temperature since the operation 100·6°, and during the last week it has been normal. No pain. Dressing changed to-day for the first time (twelve days). No pus in the dressings. The incision made with the knife has healed throughout by first intention; a small linear dry slough is found on one edge of the original wound, where the skin was much contused; there is no swelling, no inflammation, and the leg looks remarkably well; drainage-tube removed, and the limb dressed as at first. From this time all went well; the remainder of the wound cleaned, granulated, and healed kindly, and the patient was discharged June 2d (sixteen weeks after the injury) with no shortening or other deformity, and able to walk well. Patient seen April 23, 1885, and says his injured leg is "nearly as good as ever."

CASE II.—Nellie Murphy, Irish, tailoress, aged thirty, good health.

Her left knee has been partly flexed and ankylosed for several years past, due to an old synovitis.

February 15, 1884.—Fell down stairs to-day and sustained a fracture of the left tibia just below the tubercle, compounded by an opening in the skin one inch in length; fracture slightly oblique, with considerable displacement of fragments. Another simple fracture of the same bone was discovered at the junction of the lower and middle third.

16th.—Under bichloride irrigation, an incision, three inches long, was made at the seat of the upper fracture, over the crest of the tibia.

The soft parts were not seriously lacerated, but considerable dissection of the connective tissue had taken place from a large amount of effused blood.

The wound was thoroughly cleared of clots and cleansed; the fragments were drilled and wired as in Case I. Wound closed with catgut, drained through counter-opening; limb dressed antiseptically and suspended.

In this case I ventured to predict delayed union of the upper fracture on account of its locality and from the fact of its being complicated by another fracture lower down, my experience in similar cases having taught me that any fracture at the upper end of this bone is less likely to unite promptly, *cæteris paribus*, than one in the middle of the shaft, due, probably, to its greater distance from the principal trunk of the nutrient artery; and, furthermore, that when a multiple fracture is present, the one which is nearest to the nutrient foramen will be the first to unite; or, in other words, the lower fracture, under these conditions, seems to appropriate to itself whatever reparative material is brought to the injured bone through this channel, leaving the upper fracture mainly dependent upon the small vessels which have first ramified in the periosteum before entering the bone.

17th.—Temperature 101·4°.

26th.—Temperature normal since last report. Dressings changed to day for the first time (eleven days). No pus; wound healed; tube removed and new dressing applied.

March 15th.—Dressing removed; union of fractures not firm; plaster splint applied.

Subsequent History.—The lower fracture united with slight deformity, owing to the impossibility of keeping the lower end of the middle piece in position, in about the usual time; but the union of the upper fracture was delayed for many weeks.

Patient discharged July 26th (five months after the wiring), able to support the weight of the body on the limb.

November 20th.—Union not absolutely perfect, but patient able to walk well by the aid of a cane.

* Read before the New York Clinical Society, April 24, 1885.

Case III.—Thomas Rafferty, Irish, laborer, aged forty-three, healthy.

July 21, 1884.—To-day, while working in a quarry, a heavy stone fell from a derrick, striking an iron bar which he held in his hand, and driving it, with great force, against his right leg. On examination, I found a small incised wound at the junction of the lower and middle third, on the inside of the leg, which communicated with a fracture of the tibia, and also with a large hæmatoma extending from the wound to below the internal malleolus. The patient had lost much blood and was still bleeding freely. Under irrigation, an incision was made, beginning two inches above the wound and curving downward to include it and the hæmatoma, four or five inches in length.

The fracture of the tibia was found to be oblique from above downward, forward, and inward, with some comminution of the bone; one fragment, one inch and a half in length, and several smaller ones were removed. The internal malleolus was denuded, bruised, and roughened; the sheath of the tibialis-posticus muscle was opened and the muscle itself badly torn; the connective tissue was lacerated and extensively infiltrated with blood; the fibula was fractured higher up, but not compounded.

The wound was cleansed, the hæmorrhage controlled, the fragments drilled and wired with heavy copper wire coated with silver, and the limb dressed like the others.

August 2d.—Highest temperature since the operation 100·8°.

11th.—First dressing to-day (twenty days). Wound healthy and healing, with the exception of a small dry slough at the center of old hæmatoma.

30th.—Redressed. Slough separated and wound nearly healed.

September 6th.—Wound healed and plaster splint applied.

24th.—Plaster splint removed; found twisted portion of wire protruding through a small ulceration of the skin; wire cut and removed; union not firm; percussed the bone above and below the seat of fracture with small rubber mallet. This was followed by a mild attack of simple cutaneous erysipelas, lasting two weeks, at the end of which time the union was found to be firm and bony.

Patient discharged, March 29th (eight months from the date of the injury), with good union of the fracture, but with some stiffness of the ankle joint, due chiefly to his great timidity in using the limb.

Case IV.—Henry Hall, American, wall-paper maker, aged forty-six; healthy.

February 22, 1885.—Fell in the street to-day while intoxicated and sustained a compound fracture of both bones of left leg, about three inches above the ankle joint. The fracture of the tibia was very oblique from above downward and inward, the fractured surfaces being four inches long and the ends of the fragments very sharp. Two small wounds of the skin, caused by puncture of the upper fragment, were found on the inner side of the ankle just above the malleolus. Under irrigation, an incision, five inches in length, was made to expose the fracture. There was much overriding of the fragments, and great difficulty in effecting reduction, even with the patient profoundly under the influence of ether, and it was impossible to maintain apposition except by powerful extension and counter-extension. A bleeding vessel of some size, probably the internal malleolar, was ligated. The fragments were then drilled and wired in two places with heavy silver wire. Dressing and after-treatment like the others.

March 16th (twenty-two days).—First dressing; wound nearly healed; highest temperature since the operation 100·4°. Applied plaster splint with fenestra opposite wound.

April 1st.—Wound healed; union pretty firm.

Discharged July 10, 1885 (twenty weeks), with good union; good position of foot; good motion in ankle joint and with no perceptible shortening of the limb.

Case V.—Leopold Marks, German, tinsmith, aged forty-three; healthy.

July 10, 1885.—A heavy slab of marble fell on his left leg to-day, producing a compound and comminuted fracture at the junction of the lower and middle third.

11th.—Under irrigation, an incision four inches long over the crest of the tibia showed the fracture to consist of five fragments. Its general direction was first from above downward and outward, then from above downward and inward, the two lines including a large wedge-shaped piece of bone, measuring three inches in length on its longest side, and including at its apex nearly the whole of the diameter of the bone. This, together with two smaller fragments, was found to be so completely isolated from all vascular supply that its removal from the wound was rendered necessary; in fact, the large fragment was turned upon itself so as to occupy an antero-posterior position with regard to the long axis of the tibia, while one of its sharp points had seriously lacerated the deep muscles of the leg and was lying in dangerously close proximity to the posterior tibial artery. Deep pockets, filled with clotted blood and reaching for two or three inches above and below the wound, were exposed and cleansed. The main fragments were then drilled in two places and brought together with heavy silver wire; the wound closed and drained through one of the bone punctures; the limb dressed antiseptically, and put up like the others.

The patient had no symptoms worthy of note. Dressings changed on the twelfth day, and the wound found healed; tube removed and limb redressed.

August 1st.—Plaster splint applied. Patient still under treatment.

Through the courtesy of Dr. L. W. Hubbard, formerly house surgeon to Bellevue Hospital, I am accorded the privilege of bringing to the notice of the society the prominent features of one of the most interesting and instructive cases of this kind which have ever fallen under my observation.

This case, in which I had the pleasure of assisting Dr. Hubbard, will be reported in full in the "New York Medical Journal" in connection with my own.*

Case I.—*Fracture of the Patella.*—Henry Vilner, Hebrew, peddler, aged twenty-four; feeble health, badly nourished.

June 9, 1883.—Patient was knocked down in the street to-day and sustained a transverse fracture of the right patella. When admitted to the hospital there was a large effusion of blood into the joint, with great swelling and ecchymosis. The fragments of bone were separated about three inches, and it was impossible to approximate them at any time. He was treated with cold applications, ice to the joint, position, and various forms of apparatus without benefit until July 12th, when the joint was opened, under irrigation, by a crucial incision, and thoroughly cleaned out. The fractured surfaces were then scraped, the fragments drilled and wired, and the joint drained. The wound was then closed with a continuous suture of carbolized catgut, the limb dressed antiseptically, and the knee joint immobilized. The operation was followed by some sloughing of the edges of the skin-wound and by the formation of a circum-articular abscess; but all eventually repaired, and the patient was discharged, October 1st (sixteen weeks after the injury), with bony union of the patella, able to walk well, and with about twenty degrees of motion in the joint.

* Brief history of case given.

Patient seen eighteen months after the injury, with full motion of the joint, with perfect bony union of fragments, and he stated that he had walked twenty miles the day before without inconvenience and without artificial support of any kind.

Case II.—*Fracture of the Patella.*—James Klein, German baker, aged forty-five; healthy.

January 9, 1885.—Fell in the street to-day, striking the bent right knee on a stone and fracturing the patella transversely. The joint was greatly distended with blood and very painful. I was unable to determine the exact nature of the fracture on account of swelling and effusion.

The limb was suspended and treated with cold applications.

February 2d.—Knee still very much swollen, hot, tender, and painful, and I fear a suppurative inflammation of the joint.

Opened joint, under irrigation, by a crucial incision.

The capsule of the joint and the aponeurotic structures were all extensively lacerated, with their ragged edges turned into the cavity of the joint. The patella was fractured transversely about its middle, with the upper fragment split longitudinally into two portions, but not entirely separated from each other, while three smaller fragments were found loose in the joint. The cavity of the joint was enormously distended with clots, in which the main fragments were deeply buried.

The joint was thoroughly cleaned, the fragments drilled and wired in two places; the capsule and aponeurosis trimmed and sewed up with fine catgut; the skin-wounds closed separately in the same way, and the joint drained. Antiseptic dressings were then applied, and the limb suspended in a wire cradle.

14th.—First dressing (twelve days); wound healed; no fluid in the joint; tubes removed and new dressings applied. Highest temperature since the operation, 100·2°.

28th.—Fragments in good position and apparently united; applied plaster splint. Discharged about the middle of March.

April 22d (twelve weeks after injury).—Can bend knee to right angle, and union seems to be perfect. Walked ten miles with cane two days ago.

Case III.—*Fracture of the Patella.*—J. H., laborer, American, aged thirty-three, healthy.

June 10, 1885.—Six months ago patient was thrown from a wagon and sustained a transverse fracture of the right patella. The knee joint is now nearly useless; the fragments are three inches apart, and apparently held together by a very thin fibrous band. Joint opened under irrigation; the fractured surfaces freshened, and the fragments drilled in two places, wired, and the limb put up like the others. The patient had no constitutional disturbance whatever as a result of the operation. At the end of ten days the wound was dressed and found healed throughout; drainage-tubes removed and joint redressed.

29th.—Limb put up in plaster splint.

Patient left hospital about the middle of July, still wearing splint, but apparently with good bony union of the fragments.

The chief points of interest in these cases are, first, the facility which the method affords for the removal of blood-clots, foreign bodies, and torn tissue, thereby leaving a comparatively clean wound, which is likely to repair with little, if any, suppuration or sloughing, provided the operation is done antiseptically.

Secondly, the ability which it gives the surgeon to effect a complete and immediate reduction of the fracture, and the subsequent maintenance of the fragments in perfect apposition by means of the wire suture—an important indication, and one which it is impossible to fulfill in many cases by other means; and the consequent avoidance of such irritation of surrounding soft tissues as must necessarily occur when rough fragments of bone are allowed to move more or less upon each other.

Thirdly, the avoidance of frequent dressing, which always necessitates the disturbance of the reparative processes to a greater or lesser extent with each repetition; the increased probabilities of speedy union when the fragments are securely put together and held in apposition during the whole course of the treatment, not to mention the saving of pain for the patient, and of time and trouble for the surgeon.

Fourthly, and perhaps most important of all, the ability which the method gives to the surgeon to save certain limbs, the seat of bad forms of compound fracture, which would otherwise seem to demand primary amputation, or which, if treated in any other way, might seriously endanger life from prolonged suppuration, sloughing of soft parts, necrosis, osteo-myelitis, septicæmia, pyæmia, etc.

A CASE OF COMPOUND FRACTURE OF THE TIBIA TREATED BY WIRING.*

By LEROY W. HUBBARD, M. D.,
LATE HOUSE SURGEON TO BELLEVUE HOSPITAL.

F. L., aged thirty-six years, native of Germany. Patient was admitted to the hospital about midnight May 15, 1884, having been transferred from another institution in the city. The following history was obtained: Four days ago he had fallen through the floor of a new building and sustained a compound fracture of the left tibia. At the time of his admission to Bellevue the man was in an active delirium, presenting the usual symptoms of delirium tremens. As the limb appeared to be well supported and dressed, it was deemed advisable not to disturb it before attempting to control the delirium.

May 16th.—Less troublesome to-day, though still delirious. Temperature somewhat elevated, and pulse rapid and compressible.

During the evening it was discovered that considerable hæmorrhage had taken place, and, as the patient was now quiet, the dressings were changed. On exposing the leg, the fracture was found to be very oblique and situated about three inches above the inner malleolus. Owing to the displacement of the fragments, the sharp point of the upper piece had again punctured the skin, making an additional wound. The skin for several inches around the seat of fracture was dark and had a sloughy appearance. Several free incisions were made in it, and drainage-tubes inserted. All hæmorrhage had apparently ceased, and the leg was redressed with a thick antiseptic dressing and supported by side-splints.

17th.—The patient was etherized and examined by Dr. Stephen Smith, Dr. J. W. Wright, and several of the hospital staff. On removing the dressing, it was found that venous hæmorrhage had taken place, and a large, soft clot lay between the dressing and the skin; that the connective tissue of the entire limb from the ankle to the knee was extensively infiltrated with blood, and the leg presented the appearance of the first stage of moist gangrene. Indeed, it seemed almost hopeless to make the attempt to save it, and I have no doubt that a few years ago almost any surgeon of experience would have advised immediate amputation at the knee joint as the only probable means of saving the patient's life. Influ-

* Presented, by permission, by Dr. J. Williston Wright with his paper read before the New York Clinical Society, April 24, 1885.

enced, however, by the excellent results previously obtained by wiring severe compound fractures in several other cases occurring on the division, it was determined to try what conservative surgery under strict antiseptic methods would accomplish. The seat of the fracture was exposed; the clots of blood surrounding it were removed; the lacerated connective tissue, sheaths of muscles, etc., trimmed; and the fragments brought into apposition as nearly as possible and held together by a suture of silver wire passed through holes drilled in the bone near the margins of the fracture. A free incision was then made on each side of the leg down to the muscles, extending from the seat of fracture to just below the knee. All of the clots of blood were removed by scraping and irrigation. The incision on the inner side was then closed partly with deep silver wire and partly with superficial catgut sutures, drainage-tubes being placed at various points. The incision on the outside was left open on account of tension. During the whole of the operation continuous irrigation with a solution of hydrarg. bichlor., 1 to 2,000, was employed. The wounds were dusted thickly with iodoform, and the limb was dressed with pads of carbolized gauze and borated cotton, and supported with side-splints held by turns of a carbolized bandage.

The patient rallied well from the operation, and had no more delirium from that time. The temperature rose the next day to 102·5°, but after that was never above 101·75°, and by the fourth day was normal.

19th.—The limb was placed in a posterior wire cuirass and suspended.

June 5th—Nineteen days after the operation.—Dressing changed for the first time. The incision on the inner side was nearly healed throughout; the granulations on the other side were healthy and secreting laudable pus.

The fragments were in very good apposition, and granulations had begun to cover the surface of the bone. The leg was subsequently dressed every seventh or eighth day, and each time was found much improved.

July 19th.—A plaster splint applied, and patient allowed to sit up.

October 1st.—Walking about the ward supporting himself with a crutch.

December 17th.—Discharged from the hospital with wounds healed, good union of fracture, able to walk well, and with only a slight amount of shortening.

130 West Twenty-first Street.

CONTAGIOUS CONJUNCTIVITIS; ITS CAUSES, PREVENTION, AND TREATMENT.*

By JOSEPH A. ANDREWS, M. D.,

MEMBER OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY; OPHTHALMIC SURGEON TO CHARITY HOSPITAL, NEW YORK, ETC.

(*Concluded from page 452.*)

Prophylaxis of Ophthalmia Neonati.—Starting from the proposition that the infection of this disease is derived, in the first instance, from a pathological vaginal secretion from the mother, thorough and judicious cleansing of the diseased vagina should be practiced before the birth of the child, and, when the child of such an infected mother is born, its eyes should be washed with a saturated solution of boric acid, and a two-per-cent. solution of nitrate of silver be dropped into the conjunctival sac; and the child and mother should not alone be kept from other children, but the mother should be told of the contagious character of her disease and warned against using towels, sponges, or cloths that have been used on her own person, for wiping her child.

The eye-trouble begins about the second or third day after birth, also sooner or later; the sooner, the more intense it will be, generally.

Credé first tried thorough cleansing of the diseased vagina of the mother before the birth of her child. The number of cases of eye-trouble was diminished thereby, but it did not disappear. Then he began to disinfect the eyes of the children, and the results were more favorable. This is quite natural, because, if the child is infected at the time of its birth, no amount of attention bestowed upon the mother would affect the child so long as it was neglected. At first Credé proceeded as follows: In all cases of gonorrhœa or chronic vaginal catarrh in the hospital, the vagina was frequently washed with lukewarm water, or a solution of carbolic acid, or salicylic acid, two per cent.; near term this was done every half-hour. The eye-trouble was less frequent, but it was not stamped out. In 1879 he made the first trial of prophylactic instillations into the eyes of the new-born immediately after birth, and used a solution of borax (1 to 60) without satisfactory results.* Then he tried a solution of nitrate of silver (1 to 40), which was dropped into the eyes soon after birth. These instillations were preceded by careful washing of the eyes with a solution of salicylic acid (two per cent.). Children thus treated remained free from eye-trouble. From June 1, 1880, all eyes, without exception, were, immediately after birth, first washed with plain water and disinfected with a solution of silver nitrate (two per cent.), a single drop being placed in each eye; then the eyes were cooled with pledgets of linen wet in a solution of salicylic acid (two per cent.). The vaginal douching was, on the contrary, discontinued. Only one child, on the sixth day, had a mild conjunctivitis of the left eye, without swelling of the eyelids, and was cured in three days. It was shown in this case that in the hurry the prophylactic instillations had not been made. Sometimes a slight hyperæmia followed these instillations, and now and then there was a slightly increased secretion in first twenty-four hours; these appearances do not persist after the first day. Previous to the introduction of this treatment in Credé's clinic at Leipsic ten per cent. of the children born there had eye-trouble; since its employment, from June 1, 1880, till March, 1883, the percentage was reduced at once:

1880 (7 months),	211	children,	1 case;
1881	400	"	1 "
1882	418	"	2 cases;
1883	131	"	No case.
	1,160		

The patient in 1880 was not disinfected. The mother, in one of the two cases which occurred in 1882, had syphilis and gonorrhœa, and what is of interest to us to remember in this connection is that, in spite of the instillation of silver nitrate (two per cent.) immediately after birth, it was too late. Credé says that the other case (1882) resembled one of catarrhal conjunctivitis.

* "Archiv f. Gynäkol.," 1881, Bd. xvii, p. 52.

Abegg* washed the eyes with pure water immediately after birth. The result was that among 2,266 births there were 66 cases of ophthalmia neonatorum, or about three per cent.

At the suggestion of Alfred Graefe, Olshausen† used a one-per-cent. solution of silver nitrate, without previously washing the eyes, and reduced the percentage of ophthalmia neonati from 12·5 to 6 per cent.; but he observes that *the percentage would have been even smaller had the measures been more exactly practiced from the beginning.*

Hecker (München) used a one-per-cent. solution of silver nitrate as a prophylactic, but he had about as many cases as before, and Credé's criticism upon these results is that one per cent. is not sufficiently strong.

In Maternity Hospital, Blackwell's Island, New York, Dr. Garrigues applied a two-per-cent. solution of silver nitrate to the eyes of all the children born during his service at that institution from October 1, 1882, to March, 1883, and from October 1, 1883, till March 31, 1884, during which time 351 children were born, but not a single case of eye-trouble occurred among those children. Dr. Garrigues does not state whether any of the mothers were infected or not. At the same hospital, in Dr. Mundé's service, the house surgeon, Dr. B. Hughes Wells, informs me that between April 1 and May 15, 1885, 83 children were born, all of whom were treated with silver nitrate (two-per-cent. solution), there being not a single case of eye-trouble. In the six weeks preceding Dr. Mundé's service (Dr. Murray's service) 58 children were born. In this instance a one-per-cent. solution of silver nitrate was used, and there were more than 10 or 12 cases of ophthalmia neonati, but none of these cases led to loss of sight; only in one case was there ulceration of the cornea, and in this the latter was not perforated.

Horner‡ indorses Credé's treatment with silver as the most effective. In the discussion on Dr. Horner's paper, the expediency of employing this treatment in private practice was questioned. It was said that the eversion of the lids should not be intrusted to a midwife, because she might drop the solution on the cornea and damage it. Credé replied that he never everted the lids, because he deemed this superfluous; he dropped the silver solution (two per cent.) on the cornea without having seen a single case in which this cauterized the cornea.

Königstein# observed, among 1,092 children in Späth's clinic for whom no prophylactic measures had been adopted, blennorrhœa in 4·76 per cent.; catarrh in 14·5 per cent. He adopted Olshausen's plan of washing the eyes frequently with a solution of carbolic acid, one per cent. Of those thus treated, two per cent. had blennorrhœa and six per cent. catarrh. Finally, of 1,300 children treated according to Credé's method, one half per cent. had blennorrhœa and six per cent. catarrh.

Felsenreich, in the clinics of Carl and Gustav Braun, reduced the percentage of blennorrhœa by Credé's treatment from 3·34 to 1·93 per cent.

In 1881, Bayer* treated 361 children at the Stuttgart Lying-in Hospital according to Credé's plan, and there was not a single instance of eye-trouble; while in 1880, among 354 children born at the same institution, there were 34 cases, and in 1879, among 351 children, there were 51 cases of ophthalmia neonati, no prophylactic treatment having been then employed.

At the Royal Lying-in Institute in Dresden, Credé's treatment was introduced on October 1, 1883.† The instillations were made about a quarter of an hour after birth, after the child had been washed and its eyes cleansed with a piece of linen dipped in fresh water. In a few cases, in the confusion occasioned by many births occurring in quick succession, the instillations were made somewhat later. From October 1, 1883, to July 10, 1884, 1,002 live children were born. Uncleanliness, intense elytritis, and granular elytritis were present in numerous instances, and other influences were also noted which might have contributed to favor a blennorrhœal infection in the children, but not a single case of blennorrhœal conjunctivitis occurred.

Credé's treatment, with its instillations of a two-per-cent. solution of silver nitrate, and especially the additional applications for twenty-four hours of a solution of salicylic acid (two per cent.) on pledgets of linen, involves a strict personal supervision which must be counted. But the evidence, taken all in all, certainly proves the value of a two-per-cent. solution of silver nitrate as a prophylactic in ophthalmia neonatorum; yet it should not be used to the exclusion of scrupulous cleanliness.

In order to guard against post-natal infection—which, as I have said, I believe to be more common than that at the time of birth—children should be kept in their cots and not given to the mother (if she is infected) except at the time of nursing, and then all the precautions respecting the use of sponges, towels, etc., should be kept in mind.

If it is possible, by the means indicated, to cut down the percentage of cases of ophthalmia neonati so impressively as the statistics cited above would seem to prove that we can, it is quite impossible to exaggerate in words the importance of the gain.

Horner has shown that, among 100 blind asylums of Germany and Austria, between 33 per cent., or, to be more exact, between 20 per cent. and 79 per cent. of the blind children had lost their sight from ophthalmia neonati.

In a statistical report submitted to the Blind Congress in Paris, in 1879, F. Daumas declared that, of 56,391 eye-patients treated by himself, 1,178 had become incurably blind, 108 cases of blindness being due to incurable disease and 1,070 to curable disease.

In the United States, ophthalmia neonati causes blindness in numbers exceeding 32 per cent. of the cases of preventable diseases of the eye.

Now, inasmuch as blindness from the disease under consideration occurs mainly among the poor, and is due chiefly to ignorance regarding its dangerous character and the consequent neglect to apply prompt and effective medical aid, it behooves the profession to draw general attention, and

* H. Abegg, "Archiv f. Gynäkol.," 1881, Bd. xvii, p. 503.

† R. Olshausen, "Centralblatt f. Gynäkologie," 1881," No. 2, p. 33.

‡ "Correspondenzblatt der schweizer Aerzte," 1882, No. 7.

"Wiener med. Presse," 1882, No. 24.

* "Centralblatt f. Gynäkol.," 1882, p. 515.

† Leopold and Wessel, "Archiv f. Gynäkol.," 1884, Bd. xxiv, p. 89.

especially that of midwives, to this very important subject. Our general dispensaries might substantially aid the dissemination of this desired intelligence by having conspicuously printed on the card presented to every female patient who applies for medical aid the following Instructions regarding New-born Infants:

"*If the child's eyes become* red *and* matter *begins to* run *from them, at any time after birth, take the child at once to a doctor.* The disease is very dangerous, and, if not treated at once, it may destroy the sight of both eyes."

Let me now give you an outline picture of purulent conjunctivitis as it is but too frequently seen at our eye-infirmaries. The mother takes her child to the infirmary with the statement that the child's eyes had "run matter" for some days; but the eyelids had become so red and swollen, and the child so restless, that she thought she had better take it to the hospital. We examine the eyes and find a large slough of one or both corneæ, and the sight of one or both eyes destroyed. Every eye-surgeon has seen many such cases. Could a stronger reason be given for the urgency of sending out words of warning to these unfortunate people? A mother would not neglect early attention to her child with this disease if she knew how terrible the consequences would be of so doing. The next question is, How shall we treat such cases? To return such a child to its own home would be to expose the rest of the family to the disease; and, again, such patients are brought to us at the infirmaries three times weekly; they then return daily to their homes, where the ignorance of the simplest rudiments of personal and domestic hygiene which invariably prevails there must necessarily neutralize whatever good they may have received at the hospital; indeed, patients with this disease require to be under skilled and constant surveillance; and, if our eye infirmaries will not receive these cases because of the danger of infecting their other patients, the exigencies of the case are best met by the establishing of a separate hospital for the treatment of contagious ophthalmia.

In Great Britain steps were taken last year in the direction of making efforts to prevent the terrible consequences of ophthalmia in the new-born, and it is hoped that the committee appointed for the same purpose at the last meeting of this Academy will succeed better than our colleagues across the Atlantic in carrying out the plans they may agree upon to meet the end in view.

Treatment.—The attendant's hands and nails must be thoroughly cleansed and his or her eyes protected with *protective spectacles.* If one eye only is affected, its fellow should be sealed with cotton-wool, covered with adhesive plaster, and over this a solution of rubber should be painted, so as to exclude any discharge which may run over the bridge of the nose from the affected eye, and, in the case of infants, the hands should be secured, in order to keep them from the eyes. In the case of adults, a far better protective covering for the healthy eye is one recommended by Dr. Buller, of Montreal, which consists of a piece of macintosh, about four inches and a half square, with a watch-glass (old-fashioned, deep glass) fastened to a hole in the center through which the patient can see; the whole is then fixed by broad pieces of strapping to the nose, forehead, and cheek, its lower and outer angle being left open for ventilation. In case of redness or swelling of the conjunctiva, this covering must be discontinued and the conjunctiva painted, as a preventive, with a two-per-cent. solution of silver nitrate, followed by cold applications.

So long as there are increasing redness and swelling of the eyelids, together with rising temperature of these parts, and a watery or sticky, transparent secretion, which shows that we have to do with a pure inflammation, the treatment must be anti-inflammatory, directed to the contraction of the paralytic vessels, and thereby diminish the filtration and diapedesis; and the remedy is the same in the case of the eye as in other parts of the body. The ice-cloths should be applied, and, according to the height of the local temperature, their use should be more or less vigorous; but, *under all circumstances, the cold applications must be diligently changed,* in order that the action of the cold may be as nearly as possible equable. When the local heat is very great, the cold must be maintained day and night.

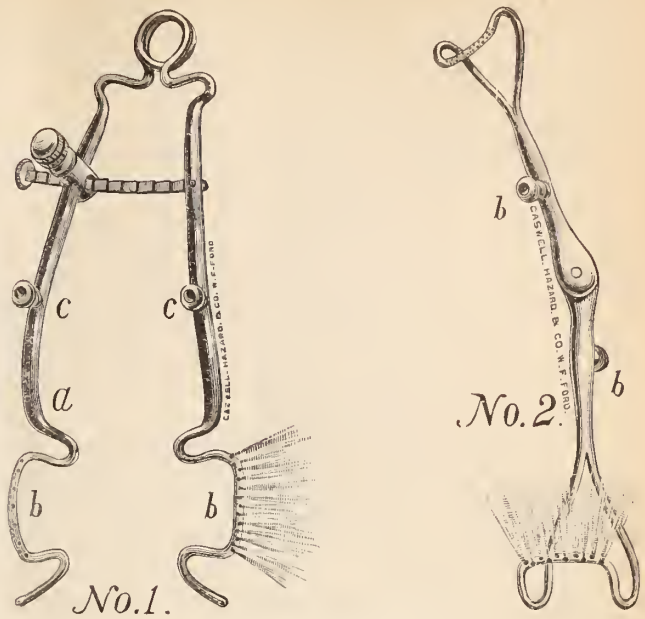
When purulent conjunctivitis is fairly established, the indications for treatment are: 1, to wash away the infective material as thoroughly and as early as possible; 2, to render the conjunctival surface as nearly as possible aseptic. It is impossible to exaggerate the importance of securing a perfect fulfillment of the first of these conditions. If the disease is seen at the very onset, and the eye cleansed at once, its course will be less violent than where this is not done. This washing may be done with a saturated solution of boric acid, or a two-per-cent. solution of carbolic acid, the latter to be weaker as the discharge grows less. The eye must, of course, be carefully examined for any change in the cornea. It is not necessary that we should employ our solution in sufficient strength to be germicidal. The ordinary method adopted in purulent conjunctivitis of washing the eye with a so-called antiseptic fluid does not kill the bacteria in the secretion, but removes the contagious principle as completely as may be, or so dilutes it that it can do harm only in a less degree; and it will be found that the secretion actually decreases in proportion to the disappearance of the cocci from it. I think that for this reason the irrigation should be maintained for several minutes at a time—ten to fifteen minutes. I would then paint the conjunctival surfaces of the upper and lower lid with a two-per-cent. solution of silver nitrate, or even twelve per cent. if the conjunctiva is much swelled; and, in case the latter strength is used, wash afterward with a solution of sodium chloride. The strength of the silver solution is to be regulated by the succulence and vascularity of the conjunctiva—the more pronounced these conditions, the stronger should the solution be. This having been done, *cover the conjunctiva with an antiseptic dressing consisting of boric acid (six per cent.) or carbolic acid (two per cent.) and vaseline.* The vaseline will be retained much longer than a watery solution would be. This dressing will, in a great measure, have the power (without injury to the cornea) of arresting the vital activity of the bacteria, of starving them out, as it were, by so changing the nutritive pabulum required for their development that they can not appropriate

it to their use. The irrigation will have to be repeated as often as may be indicated by the quantity and quality of the discharge. If there is much swelling of the eyelids, the outer canthus should be cut. The application of cold should not be made with ice-bags. Pledgets of linen—to be burned after use—should be laid on a piece of ice at the bedside, and this application of cold requires care and a constant attendant.

In the severe forms of gonorrhœal conjunctivitis—and this disease is nearly always very severe—when not seen very early and treated at once, the cornea runs great risk. The eyelids are intensely swollen, and when the ocular conjunctiva is much infiltrated the cornea is in great danger of suppuration, and the treatment should be directed to the reduction of the pressure on the eyeball and diminution of the secretion already formed. The pressure caused by the chemosis and swollen lids compresses the vessels which supply the margin of the cornea, causing an insufficient circulation. In order to remove this factor, the outer commissure should be divided to its fullest extent, together with the canthal ligament. The late Mr. Critchett, of London, proposed to divide the upper lid vertically to the orbital margin in severe cases, evert the flap and fix it to the skin above, and he says the cornea does not suppurate when this is done. Fuchs* has modified this operation. He divides the outer commissure to such an extent as to relieve also the symptoms of pressure. He then puts a suture through the lower lid and attaches it on the cheek, ectropionizing it entirely. He detached the suture, in the case he reports, at the end of the fifth day, and the healing was good. If the cornea is involved, it requires special attention in addition to the use of atropine. A thorough removal of the secretion from the upper *cul-de-sac* is not possible by the ordinary means; this may, however, be done by means of a simple instrument which I have devised for the purpose. The instrument is an eye-speculum, the arms of which are hollow and the claw deeper than in the ordinary eye-speculum; it has a number of perforations for the passage of the fluid, which is supplied by a fountain syringe. It is inserted between the lids with great gentleness, and care should be taken not to injure the cornea with it. The lids should be gently lifted from the eyeball by means of the speculum, and the spray of fluid allowed to play upon the upper *cul-de-sac*. Even when the lids are extremely painful, it is a relief to have them gently lifted from the eyeball and the stream of fluid allowed to play upon the upper conjunctival *cul-de-sac*.

Of course the use of this instrument should not be intrusted to an ordinary nurse, but the physician can at least perform the operation twice daily, and keep up the irrigation for from ten to fifteen minutes. The solution of carbolic acid in the case of adults, when the inflammation is intense, may be as strong as three per cent.—to be diluted as the disease improves; this is astringent as well as antiseptic. And the silver I would apply, according to the exigency of the case, in four-per-cent. or twelve-per-cent. solutions, and neutralize with salt and water, and then apply the medicated vaseline to the conjunctiva, and over the lids the iced cloths. Iodoform has not met with much favor in this disease. Quinine in solution has also been used, but it has no advantage over the carbolic acid. Dr. H. Linds Ferguson (Dublin) reports cases of gonorrhœal conjunctivitis in which he has had good results from the use of finely powdered boric acid. The bichloride of mercury has no claim to advantage over the boric acid.

* "Centralblatt f. prakt. Augenheilkunde," 1881, p. 198.



The instrument shown in Fig. 1 may be used for either eye, the tube with the water-supply being attached at *c*, and to the upper branch only in case it is desired to irrigate the upper *cul-de-sac* alone. Fig. 2 represents a folding lid-elevator (of large and small size) designed for the same purpose as the spring-speculum. The tube of the fountain syringe is attached at *b*.*

Diphtheritic Conjunctivitis.—Measures of prophylaxis based upon bacteriology must lie in the future. We must be content with the enforcement of general hygienic laws. Mr. Tweedy† used one-per-cent. solutions of quinine in this disease, and did not see any serious damage to the cornea when it was used. Iodoform does not seem to be of much use in diphtheritic conjunctivitis. Vossius‡ recommends a four-per-cent. solution of salicylic acid in glycerin.

40 West Twenty-fourth Street, New York.

SPINAL ANÆSTHESIA AND LOCAL MEDICATION OF THE CORD.

By J. LEONARD CORNING, M. D.

It is my desire on this occasion to draw attention to a procedure in therapy which, so far as I am aware, possesses the merit of novelty. The arguments which I shall advance in its favor are twofold in kind: First, I shall cite certain physiological facts with which the procedure in question stands in immediate relationship; and, secondly, I shall endeavor to record conscientiously the actual phenomena evoked by the use of the method itself.

To take up the argument in this order, I would remark, then, that, when a certain quantity of a remedy, say strych-

* These instruments are made by Mr. W. F. Ford, of Messrs. Caswell, Hazard & Co.

† London "Lancet," 1882, No. 1.

‡ "Klin. Monatsbl. f. Augenheilk.," Bd. xix, p. 423.

nine, is thrown under the skin of a frog, certain phenomena make their appearance which show indubitably that the functions of the spinal cord are profoundly affected. The animal is thrown into violent convulsions, and assumes a rigid attitude, and we have presented the picture of an artificial tetanus. This is a spectacle of the physiological laboratory, and one with which we are all familiar.

If, now, we remove the posterior arches of three or four of the vertebræ of the animal, and, seizing the membranous coverings of the cord, insert the end of a hypodermic needle so that we are able to inject a small quantity of a solution of strychnine, we shall find, first, that not only are the convulsive phenomena immediately produced, but, secondly, that a smaller quantity of the fluid is required to evoke them than when the drug is placed under the skin at a point remote from the spinal cord.

It was formerly supposed that this phenomenon was due to the direct contact of the strychnine with the nervous elements of the cord, but Harley * has shown that the poison can act only through the intermediation of the blood-vessels, since, when the latter are separated from the cord, the solution remains entirely inert, the convulsions failing to appear.

From the foregoing considerations, it is clear that, in order to obtain the most immediate, direct, and powerful effects upon the cord with a minimum quantity of a medicinal substance, it is by no means necessary to bring the substance into direct contact with the cord; it is not necessary to inject the same beneath the membranes, as in the case of the frog, since the effects are entirely due to the absorption of the fluid by the minute vessels. On the other hand, in order to obtain these local effects, it is first necessary to inject the solution in the vicinity of the cord, and, secondly, to select such a spot as will insure the most direct possible entry of the fluid into the circulation about the cord. Is there in man a locality which fulfills these conditions? Instead of answering this question at once, I will rather detail some recent experiments performed by myself, by means of which, I trust, all doubts on the subject will be effectually set at rest.

Protocol of Experiments.—Some time since I began a series of experiments with a view to determining whether the local medication (anæsthetization) of the spinal cord was within the range of practical achievement. The drug made use of was the hydrochlorate of cocaine. As the introduction of a hypodermic needle beneath the membranes of the medulla spinalis is not practicable without removal of the arches of the vertebræ (on account of the danger of wounding the cord), I decided to inject the anæsthetic between the spinous processes of the lower dorsal vertebræ. I was led to resort to this expedient from a knowledge of the fact that in the human subject numerous small veins (venæ spinosæ) run down between the spinous processes of the vertebræ, and, entering the spinal canal, join the more considerable vessels of the plexus spinalis interna. From these theoretical considerations I reasoned that it was highly probable that, if the anæsthetic was placed between the spinous processes of the vertebræ, it (the anæsthetic) would be rapidly absorbed by the minute ramifications of the veins referred to, and, being transported by the blood to the substance of the cord, would give rise to anæsthesia of the sensory and perhaps also of the motor tracts of the same. To be more explicit, I hoped to produce artificially a temporary condition of things analogous in its physiological consequences to the effects observed in transverse myelitis or after total section of the cord. I therefore anticipated a more or less local action of the drug upon the cord. My hopes in this regard were based somewhat upon the well-known lethargy of the circulation in the cord, particularly at its lower portion—a condition of things highly promotive of the local action of the drug.

Experiment I.—This was performed on a young dog. At ten o'clock, A. M., I injected twenty minims of a two-per-cent. solution of the hydrochlorate of cocaine into the space situated between the spinous processes of two of the inferior dorsal vertebræ. Five minutes after the injection there were evidences of marked inco-ordination in the posterior extremities; the dog threw his hind-legs about aimlessly, holding them far apart, much after the manner of some ataxic patients. A few minutes later there was marked evidence of weakness in the hind-legs, but there were no signs whatever of feebleness in the anterior extremities. I now tested the condition of sensibility by means of a powerful faradaic battery, one of the conducting cords of which was attached to a fine wire brush. When the wire brush was applied to the hind-legs, there was no reflex action whatever on the part of the latter, at least such was the case except when the most powerful currents were employed. But, on the other hand, when I applied the wire brush to either of the anterior extremities, the limb was drawn away violently, and the animal set up the most dismal howls. Similar effects were observed on pinching and pricking the limbs.

These phenomena persisted for a considerable length of time, and traces of inco-ordination were observed two hours after the injection had been made. After the lapse of about four hours, however, the dog seemed to have recovered his usual health, and walked about without difficulty.

During the duration of the experiment nothing of an abnormal nature was observed in the fore-legs. I infer from this fact that the action of the anæsthetic was practically local, being confined, for the most part, to that portion of the cord situated immediately beneath the point of injection. It is conceivable, however, that, had the quantity of anæsthetic fluid injected been greater, the anterior limbs might also have been affected. An *absolute* localization of of the anæsthesia is indeed hardly within the range of possibilities, on account of the numerous blood-vessels. It is true, nevertheless, as we have seen, that the local action of the drug is greatly favored, at least so far as the inferior segment of the cord is concerned, by reason of the lethargy of the circulation at this point.

Experiment II.—This was performed on a man who had long been a sufferer from spinal weakness and seminal incontinence, and who for many years had been addicted to masturbation and other forms of sexual abuse. Without entering into the details of the case, which are devoid of any special interest, I will proceed at once to give an account of the experimental observation which constitutes its only claim to attention.

As in the case of the dog previously referred to, I was bent upon abolishing reflex action and annulling sensory conduction

* "A Hand-book of Therapeutics," by Sydney Ringer, M. D., New York, 1870, p. 387.

in the cord. To this end I injected thirty minims of a three-per-cent. solution of the hydrochlorate of cocaine into the space situated between the spinous processes of the eleventh and twelfth dorsal vertebræ. As there was no numbness, tingling, or other evidence of modified sensibility after the lapse of six or eight minutes, I again injected thirty minims of the solution at the same spot and in the same manner. About ten minutes later the patient complained that his legs "felt sleepy"; and, on making a careful examination with the wire brush, I found that sensibility was greatly impaired. Currents which caused lively sensations of pain and reflex contractions in the upper extremities were disregarded and barely perceived in the lower limbs. The same was true of the prick of a needle. Fifteen or twenty minutes later the anæsthesia had increased in intensity, and, although there were some evidences of diffusion on the part of the anæsthetic, the impairment of sensibility was principally limited to the lower extremities, the lumbar regions, the penis, and the scrotum. About this time I applied the wire brush to the soles of the feet and to the toes, using about the maximum strength of a powerful faradaic battery, without causing either pain or reflex contractions, while a current of half the strength evoked intense pain and reflex contractions in the upper limbs. Some time later I fancied that I could discern some obtuseness of sensibility in the upper limbs; but on this point I feel compelled to speak with reserve. When the patient closed his eyes he experienced some dizziness while standing, but there was no inco-ordination or motor impairment discernible in the gait. The power of distinguishing differences in pressure seemed also to be preserved; but I regret to say that I did not test the sensibility to variations of temperature. The passage of a sound, though usually accompanied by considerable pain, remained almost unperceived, and an urethral electrode caused no inconvenience, even when strong currents were used. The sensibility of the scrotum and glans penis was also impaired to a marked degree, as proved by repeated tests with the electric brush. The pupils were but slightly dilated.

When the patient left my office, an hour or more after the injections, sensibility was still impaired to a marked degree, but otherwise he seemed none the worse for his experience. The patellar tendon reflexes were, however, abolished.

The therapeutic advantages afforded by such local medication would seem to be great in a large number of morbid conditions of the cord. There is, indeed, no reason why strychnine and other remedies should not be employed in this local manner as well as cocaine. In strychnine poisoning, tetanus, and hydrophobia, it should also render good service. I will merely add that on the morning succeeding the injections the patient informed me that he had experienced tingling sensations and numbness in the lower limbs until nightfall. There was also dryness of the throat and mouth, accompanied by mental exhilaration. I could hear nothing of any cardiac disturbances.

On making an examination with the electric brush, sensibility was found to be normal in the lower limbs, scrotum, and glans penis. The passage of the sound was, as formerly, accompanied by some pain, and the urethral electrode provoked unpleasant sensations, even when mild currents were employed.

The only constitutional symptoms complained of were headache and slight vertigo, already referred to. At no time was there nausea.

Whether the method will ever find an application as a substitute for etherization in genito-urinary or other branches of surgery, further experience alone can show. Be the destiny of the observation what it may, it has seemed to me, on the whole, worth recording.

26 West Forty-seventh Street, *October 27, 1885.*

SEASICKNESS AND ITS TREATMENT.

By ADOLPH KESSLER, M. D.,
NEW YORK.

In the "New York Medical Journal" of September 20th I find a therapeutical note, taken from the "Berlin. klin. Wochenschrift" and "Lancet," in which Manassein recommends the use of cocaine in seasickness, and speaks of the gratifying results obtained in several cases. Unaware of the fact that it had been recommended and used in seasickness, I gave it a pretty extensive trial this summer, merely prompted by its general physiological and anæsthetic effects, but with results far from gratifying. It does not act as a palliative, much less as a curative; on the contrary, its use does actual harm. The effect of cocaine upon seasickness, as a combination of the most varied bodily and mental sensations, is purely negative, except for a decided increase and aggravation of certain symptoms. The most striking effect of the medicine is an intense and persistent nausea, which becomes the more distressing as all efforts, mechanical or otherwise, of obtaining relief by vomiting prove unavailing. Now, any one that has ever suffered the pangs of seasickness will agree with me that this very nausea, *unrelieved by vomiting*, forms the most distressing and depressing feature of the mysterious disorder, and that the act of vomiting is the only efficacious means by which temporary relief is afforded and comparative physical and mental comfort restored to the sufferer.

The cocaine seems to exercise a paralyzing influence upon the motor-nerve apparatus of the stomach, thereby hindering vomition and preventing the display of the only function which is apt to give any relief, and which nature itself has beneficently instituted as a *vis medicatrix*. This characteristic and uncomfortable condition is further aggravated by a total loss of appetite and an invincible repugnance to food in every form and shape—an inertia of the digestive organs, in fact, that is very rarely experienced in ordinary and even severe yet uncomplicated cases of seasickness. But the influence of the drug does not stop here; it reaches further yet and extends to the whole length of the alimentary tract, giving rise to great torpidity of the intestines; defecation becomes almost impossible without artificial measures, and is even then slow, difficult, and painful, and reacting unfavorably upon the entire system.

However favorably cocaine might affect the nervous system, intellect, and mind, under ordinary circumstances when taken on land, I have certainly failed to notice its brightening and inspiriting effects during the reign of seasickness, except that it sharpened the pangs of the latter by keeping the suffering victims wide awake and unable to find rest and oblivion in sleep.

The bromides have enjoyed a certain reputation in the treatment of seasickness since the late and lamented

Dr. Beard first recommended their use, and there can be no reasonable doubt of their partial efficacy in a large number of cases.

Of course, it would be an exaggeration to allege for them the potency of specifics or even uniform efficacy, but they exercise a palliative and sedative influence, and mitigate considerably the grave symptoms of the disorder. And yet, in the face of this admission, I should feel unwilling to recommend their use, as the unpleasant after-effects of the bromide treatment outweigh by far the benefits which it apparently confers. A great many persons who resort to the use of the bromides for the purpose of checking seasickness, and who saturate their systems with the salts almost to the extent of bromism, enjoy a certain kind of immunity while on the sea, only to discover afterward that they purchased comparative comfort at a very high cost. For, contrary to the usual rule of the disorder ceasing immediately after landing, they do not at once recover that bodily and mental equipoise that constitutes normal health, but suffer for some time with varied morbid sensations bearing a close resemblance to seasickness, and affecting alike body, mind, and temperament. This singular condition, which I experienced myself twice after using the bromides, and not otherwise, seems to be a direct and positive result of the medicinal agency employed, and of its physiological effort to overcome the affection. It appeared almost as if Nature had resented the check imposed upon her, and, in throwing it off, had reasserted her power and avenged the interference with her laws.

If I can thus adduce nothing in favor of cocaine and the bromides, it might not be amiss to say a good word in behalf of the hydrate of chloral, which renders excellent service in seasickness, without causing or leaving any ill effects. It does not directly interfere with and check the disorder, as the two other remedies seem to do, but merely mitigates and relieves the most distressing symptoms, and prepares the system gradually in overcoming the further inroads of the affection without much discomfort. It does not restrain the act of vomiting whenever this latter promises to afford relief, but it relieves the painful and convulsive heavings of the stomach, and, after being taken for some time, it finally stops the vomiting by removing altogether the nauseous feeling which gives rise to this gastric disturbance. The sensation of nausea being removed, vomiting ceases of its own accord. In doses of twenty grains, administered twice or three times in twenty-four hours, chloral relieves all the more prominent symptoms of the disorder, especially nausea, headache, nervous prostration, and mental wretchedness; imparts a sound and undisturbed sleep, which contributes as much, and perhaps more, to the general improvement than anything else; and keeps appetite, digestion, and action of the bowels in a pretty normal condition. Having crossed the Atlantic more than a dozen times, and experienced the horrors of seasickness in all degrees of intensity; having, furthermore, tried all modes of treatment, I can recommend but two measures—moderate doses of chloral whenever the remedy is not contra-indicated, and total abstinence from the use of excitants and stimulants in the shape of food and drink.

A bland, wholly unirritating diet is best tolerated by the stomach, and the effect of artificial appetizers is not only illusory but actually injurious, while the use of spirituous liquors considerably aggravates the gastric and cerebral symptoms. The reputation of champagne is exaggerated, and its good effects are solely due to the carbonic acid which it contains, and which proves far more beneficial in the simpler vehicle of certain mineral waters.

644 Lexington Avenue.

Book Notices.

Micro-organisms and Disease. An Introduction into the Study of Specific Micro-organisms. By E. Klein, M. D., F. R. S. Joint Lecturer on General Anatomy and Physiology in the Medical School of St. Bartholomew's Hospital, London. With 108 Engravings. London: Macmillan & Co., 1884. Pp. xii–195. [Price, $1.]

The reader will recognize in this book the series of articles which were published in the "Practitioner" for 1884. It is a modest little volume, but is none the less a thorough and scholarly exposition of the subject of which it treats. Dr. Klein's reputation as a bacteriologist, which has been increased by his prominent connection with the Cholera Commission, will render his book, small as it is, an authority upon the question of micro-organisms. He states briefly and clearly those facts which will be most useful to the general reader, avoiding scientific discussions so far as possible, and confining himself to concise statements of the latest theories. Of the twenty-one chapters, the first five treat of the methods of bacteria-cultivation and microscopical examination, the next three of bacteria and micrococci, while the ninth, tenth, and eleventh chapters deal with bacilli. Vibriones, spirobacteria, yeast and mold, fungi, and actinomyces, have each a separate chapter. Chapters XVII, XVIII, and XIX treat of the vital phenomena of micro-organisms. The concluding chapter contains a brief statement of our present knowledge with regard to germicides. The illustrations are well executed and assist materially in the understanding of the text. There are copious references to the literature of the subject, and a complete index. It is easy to believe from the amount of research displayed in the little work that it is the outcome of ten years of careful experiments and investigations, as is stated in the preface.

A Compend of Organic and Medical Chemistry, including Urinary Analysis and the Examination of Water and Food. By Henry Leffmann, M. D., D. D. S., Professor of Chemistry and Metallurgy in the Pennsylvania College of Dental Surgery, etc. Philadelphia: P. Blakiston, Son, & Co., 1884. Pp. viii–124. [Price, $1.]

As a quiz compend this handy little volume will be found to contain most of the information necessary to the medical student. The first half of the book treats briefly of organic chemistry. There are rather more ponderous formulæ than we should look for in such an elementary work. Animal chemistry receives a short notice. The section upon urine is the best in the book, being concise and practical. We are glad to meet with a full description of Dr. Squibb's simple quantitative test for urea. The picric-acid test for sugar is also not forgotten. A short chapter on water-analysis and one on foods conclude the compend. The book is neatly bound, and there is an exhaustive index.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, OCTOBER 31, 1885.

DIELECTROLYSIS.

Among the "Therapeutical Notes" which we present this week, there is one that will undoubtedly awaken the interest, not to say the curiosity, of many of our readers. We refer to the brief paragraph which summarizes a communication lately made to the Paris *Académie de médecine* by M. Brondel, on the direct medication of the internal organs by what he terms "dielectrolysis," meaning thereby the electrolytic decomposition of a chemical compound and the forcing of its active medicinal constituent through the tissues of the body by virtue of its affinity for one of the poles of a galvanic battery.

Perhaps this is the most notable therapeutical novelty that has come up since the anæsthetic power of cocaine was announced. We think it proper to call it a novelty—just as we felt justified, some months ago, in speaking of rectal anæsthetization as a novelty, although something in the same direction had been done before by Pirogoff and others—although, within but a very few days of the date of M. Brondel's communication, a well-known French author, M. Spillmann, showed that, so long ago as in 1871, he had published something to the same purpose, and had referred to the idea as having been entertained by some others even at an earlier period. M. Spillmann's experiments were performed in 1870, and he published a note in the "Archives générales de médecine" (1871, vol. ii, p. 490), in which he said: "It is known that, by causing a galvanic current to pass through a solution of iodide of potassium, we cause the metal to be deposited at the negative pole, and the iodine at the positive pole. The same thing will take place if a tissue which is a good conductor is interposed between the two electrodes. It is easy to convince one's self of the truth of these statements. Beer ('Berl. med. Presse,' x, 1869, 37) and Eulenburg ('Berl. klin. Wochenschr.,' vii, 1870, 16) were the first to dream of the application of these phenomena. In my experiments I made use of glass cylinders, traversed at one end by a platinum wire, and closed at the other with an organic membrane. To avoid every source of error, the cylinders were scrupulously cleansed after every experiment, the membrane was changed, and the platinum wire was heated. Experiments were made by interposing a disc of potato, the thigh of a frog, a bit of veal two centimetres in thickness, then the forearm, the thigh, the hand, and the cheek."

M. Spillmann added, in substance: "It seems evident that iodine may be transported through living tissues from the negative to the positive pole. This transfer may take place even in cases where no reaction is found at the positive pole; in its transit through the tissues the iodine may encounter alkaline solutions by which it is arrested, and it may also be swept away in the circulation. If its therapeutical application is really efficacious, the method of which we have been speaking would have the advantage of acting directly and most intensely upon a given diseased part. I believe, nevertheless, that the application of electrolysis to the passage of medicinal substances is subject to many a drawback; the intensity of the current necessary to the purpose is generally such that often the patient can scarcely endure it. Moreover, can not the same results be arrived at, more slowly perhaps, by the internal administration of the drug?"

In something like the foregoing words, M. Spillmann calls up his former expressions in a recent letter to the "Gazette hebdomadaire de médecine et de chirurgie," and he adds: "These conclusions, which I formulated in 1871, I would to-day reproduce. Less fortunate than Dr. Brondel, I employed electrolysis for ganglionic tumors, goîtres, articular affections, etc., but, I must say, without much success. I also tried experiments with the aid of arsenical salts and salts of mercury. I did not think that I ought to persist in a course which seemed to me quite inferior to other well-known methods of introducing medicaments into the economy."

Certainly, we have here a valid claim of priority, but, alas, at the same time, a wet blanket thrown over the method. Another check to our enthusiasm is encountered in M. Dujardin-Beaumetz's report to the *Académie*, to the effect that M. Bardet, the well-known electrician, had repeated some of M. Brondel's experiments, and always with negative results. But it may be well to bear in mind M. Spillmann's suggestion as to the medicinal substance being arrested in its course through the tissues. At all events, it seems to us that M. Brondel's plan should not be hastily declared unworthy of further trial.

THE PROPOSED NATIONAL ACADEMY OF MEDICINE.

In this issue we publish a letter from the gentleman whose plan for a new national medical society we outlined some weeks since. Our correspondent now gives more definite details, and corrects some misapprehensions as to the precise scope of his idea.

There is only one point in regard to which we must utterly disagree with him, and that is his modest assumption that he himself is not likely ever to be made a member of such an august body as he proposes. He still wishes his name not to be mentioned in connection with the matter, and is even so careful as to ask not to have any hint given as to the locality from which he writes. While we accede to his preference in these particulars, we must express our regret that the weight of his name is withheld from the support of the undertaking.

We are quite convinced that some such plan as that which he has worked out will sooner or later be taken up by the profession. It is evident that such an organization would soon have weighty matters of business to act upon at its semi-annual meetings, but, yet, that it would be free from any temptation to such snap action as the American Medical Association took at its New Orleans meeting. It seems likely, therefore, that, not only as a scientific body, but also as the body most competent

to enact what little legislation the profession might be in need of from time to time, it would at once take the leading position before the world, regardless of what might or might not be done by the national medical associations now in existence.

MINOR PARAGRAPHS.

DIRECT MEDICATION OF THE SPINAL CORD.

The phenomena which Dr. Corning describes in this number of the "Journal," as the result of injecting a solution of cocaine into the tissue between two vertebral spinous processes, seem to point the way to a new development of the practice of local medication. The part which, as he suggests, may be taken by certain veins of considerable size situated in the interspinous spaces is a matter that is doubtless still to be worked out, but it will be seen that he lays little stress upon this matter of theory. The main point is that, should it be shown to be safe, the practice to which his observations may lead appears likely to offer a very prompt way of bringing a portion of the organism under the influence of a drug—one that may prove a precious resource in certain desperate conditions.

THE SUPPLY BILL AND THE STATE BOARD OF HEALTH.

While, as we pointed out last week, we can not admit that the Ways and Means Committee's interpolation of the word "deficiency" in the clause appropriating a sum of money to the board's use, to enable it to carry out a system of sanitary inspection, justified the Governor's veto—both because the context makes it apparent that the word was not intended to convey the idea that the board had asked for the means of making good a deficiency in the accounts, and because two other items for the board's benefit were likewise vetoed (one of them appropriating the small sum of five hundred dollars to cover various minor disbursements—among other things, for laboratory appliances)—we must, nevertheless, give it as our judgment that the committee was not at all warranted in submitting to the Governor a bill so loosely drawn. Surely, a "committee on style" would be in order at Albany.

AN ANTI-VACCINATION AGITATION.

Those unhappy individuals who from time to time make a public display of their horror at the practice of vaccination lately held a meeting in New York, at which they demonstrated anew their utter lack of appreciation of facts. There is little danger of their making any impression on the community; but why were they so cruel as to time their meeting so as to preclude the attendance of those of their brother "cranks" who may have felt more urgently impelled to take part in the meeting of believers in "faith cures" held in Buffalo?

INSANITY AMONG FEMALE PHYSICIANS.

"Lyon médical" makes the remarkable statement that statistics show the disastrous effects of medical study on the intellectual faculties of woman. In the year 1881, it appears from the census, there were twenty-five women practicing medicine in England, and our contemporary thinks that the number has undoubtedly increased since that time. From 1880 to 1884, eight had been placed in lunatic asylums, and at the close of last year three were under treatment.

NEWS ITEMS, ETC.

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, October 7th: *Montreal, Canada.*—For the week ending October 21st: The epidemic of small-pox has spread rapidly during the week. The deaths reported in the city were 394 and in the adjacent municipalities 96, as compared with 262 and 70, respectively, in the week ending October 13th; 2,454 deaths from the disease have been reported in Montreal and vicinity from the beginning of the epidemic to October 21st, inclusive. *Toronto, Ontario.*—For the week ending October 17th: No further reports of small-pox. *Havana, Cuba.*—For the week ending October 15th: 14 cases of yellow fever and 6 deaths. *Cardenas, Cuba.*—For the week ending October 17th: Free from epidemic diseases. *Matanzas, Cuba.*—For the week ending October 14th: The same. *Nassau, N. P.*—For the week ending October 3d: The same. *San Domingo.*—For the week ending September 16th: The same. *La Guayra, Venezuela.*—For the week ending October 3d: Yellow fever still prevalent and fatal in Caracas; a few cases of suspicious character have occurred in La Guayra. *Paris, France.*—For the week ending October 10th: 3 deaths from small-pox. *Rheims, France.*—For the week ending October 3d: 4 cases of small-pox and 1 death. *Antwerp, Belgium.*—For the week ending October 10th: 3 cases of small-pox. *Copenhagen, Denmark.*—For the month of August: 11 deaths from small-pox. *Barcelona, Spain.*—September 21st to 30th: 392 cases of cholera and 137 deaths. During the month of September 1,440 cases and 609 deaths were reported. The epidemic is abating generally, although an increase in the number of cases and deaths is observed at times, the victims being chiefly those who left the city on the appearance of the disease and have recently returned. *Cadiz, Spain.*—For the week ending October 3d: 73 deaths from cholera. *Valencia, Spain.*—For the week ending October 3d: 2 cases of cholera and 1 death. *Venice, Italy.*—For the week ending September 26th: 5 deaths from small-pox. *Trieste, Austria.*—For the week ending October 3d: 8 cases of small-pox and 4 deaths. *Prague, Bohemia.*—For the week ending October 8th: 2 deaths from small-pox. *Calcutta, India.*—For the week ending September 12th: 4 deaths from cholera. *Shanghai, China.*—August 21st to September 4th: 8 cases of cholera and 5 deaths. The disease is said to be more prevalent among the Chinese than for many years. *Toulon, France.*—September 5th to 10th: 57 cases of cholera and 23 deaths. The following is the number of cases and deaths from cholera in Italy from September 17th to 23d, inclusive: 1,323 cases and 820 deaths. In Spain, from March 4th to September 23d, there were 264,629 cases of cholera and 97,865 deaths.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending October 27, 1885:

DISEASES.	Week ending Oct. 20.		Week ending Oct. 27.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	3	1	0	0
Typhoid fever	33	12	37	8
Scarlet fever	21	3	24	3
Cerebro-spinal meningitis	4	4	0	1
Measles	6	0	7	1
Diphtheria	53	22	46	25
Small-pox	1	1	1	0

The Cholera in Spain.—The United States consul at Santander reports to the Secretary of State, Washington, under date September 19th, that the epidemic is decreasing, and hopes are entertained that the disease will soon entirely disappear. The consul at Algiers telegraphs, October 24th, "public health is doubtful; ships will leave with foul bills of health."

Yellow Fever at Ship Island.—Three cases of yellow fever have been reported, at the office of the supervising Surgeon-General of the United States Marine-Hospital Service, as having arrived on a vessel recently from Havana.

The Medical Society of the County of New York.—At the meeting of October 26th officers were elected as follows: President, Dr. Daniel Lewis; Vice-President, Dr. Laurence Johnson; Secretary, Dr. Wesley M. Carpenter; Assistant Secretary, Dr. Charles H. Avery; Treasurer, Dr. Orlando B. Douglas; Censors, Dr. F. R. S. Drake, Dr. H. T. Peirce, Dr. W. E. Bullard, Dr. W. O. Moore, and Dr. F. M. Weld.

At the same meeting the following amendments to the by-laws were passed: The first one, offered by Dr. Jacobi and passed unanimously, reads "That the Comitia Minora be directed to recommend no applicant for admission to membership unless he be a graduate from a medical college in good standing, or a licentiate of a regular unsectarian State or county medical society of this or any other State; or, if his diploma or license be of sectarian character, unless the applicant declare in writing his or her abnegation of sectarian principles and practice." The second provided that the annual dues should be the sum voted at each annual meeting, but not exceeding five dollars. The third provided that the annual dues should be payable in advance after the annual meeting, and that they should be remitted, for the year in which they joined, to those who joined the society in the months of September and October. The first of the two following paragraphs was passed, by a small majority, after much discussion; the second was lost:

1. "If any member shall fail to pay the yearly dues within thirty days after the fourth Monday in November, when the same shall become payable, it shall be the duty of the treasurer to serve, in the manner in which notices in suits are required to be served on attorneys, upon each member so in default, a copy of this by-law and a notice to the effect that unless such dues are paid within fourteen days thereafter his name and the amount due by him will be reported to the society at its next succeeding stated meeting, and entered upon the minutes; and, if they are not so paid, the treasurer shall report the same accordingly. At the next stated meeting of the Comitia Minora after the date of such report, the Comitia may, by order, without further notice, strike from the roll the name of any member continuing in default, and he shall thereupon cease to be a member of the society, provided that, upon his written application explaining such default, and the payment of all dues to the date thereof, or provided that the Comitia unanimously remits the arrears, the Comitia shall have power to remit the penalty of this by-law."

2. "It shall be the duty of the treasurer to take a similar proceeding in the case of any member who shall have had credit for a part of his initiation fee, and also any candidate who has no credit for initiation fee, and who shall fail to pay the same after demand thereof made within fourteen days after the expiration of the three months allowed by the by-laws (Chapter XII, Article 4), for completion of membership; and the terms of the foregoing by-law shall apply to the last-mentioned cases in all respects."

The proposed amendment to Chapter IV, Article 4—which read, "It shall be the duty of the secretary to prepare annually, and send to each member of the society, a register containing the names, addresses, and office hours of the active members of the society, the register to be prepared at such time and in such manner as the Comitia Minora shall direct"—called forth remarks by Dr. Jacobi, who thought it would be better to provide for such a register by special action from year to year than in a by-law. It would be desirable, he added, if the society could prepare an official register for the entire State and adjoining counties, to take the place of the faulty register issued by the Medico-Historical Society. Dr. Loomis indorsed the remarks made by Dr. Jacobi regarding the desirability of having an impartial official register of the State and adjoining counties, and moved an amendment providing for the same to be issued by the county society. On motion, the whole matter was referred to the Comitia Minora with power. The annual dues for the coming year were fixed at three dollars.

The Discontinuance of the Michigan State Inspection of Travelers is announced in a circular, dated October 21st, addressed to the inspectors, and signed by the secretary of the State Board of Health, Dr. Henry B. Baker. The circular reads as follows:

"GENTLEMEN: The State Health-Inspection Service, established by this board under Act No. 230, Laws of Michigan, 1885, will cease immediately, in accordance with a letter this day received from Governor Alger, in which he says: 'Of course, however, the State Board will not discharge these officials until the [United States] Government takes the matter up.' By request of the Governor, I have informed Dr. H. W. Sawtelle, U. S. Marine-Hospital Service, Detroit, Mich., that 'this State will take no further action in the matter.' I understand that the reason for this is that the Governor considers that the 'Regulations for the Maintenance of Quarantine Inspections on the Northern Frontier of the United States,' issued by the Treasury Department of the United States (Department No. 153), and approved by the President of the United States, is applicable in Michigan as well as in other States, and that the United States Government should maintain the inspection in Michigan as well as in other States. In closing, permit me to thank you for your efficiency. During your service no small-pox has entered Michigan, so far as known; but it has been reported to have been conveyed from Montreal, by person or otherwise, to Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, New York, Pennsylvania, Illinois, and Wisconsin. The most exposed of any State, Michigan has so far escaped."

The rules under which the inspectors acted were as follows:

"1. All travelers and immigrants coming into Michigan from Ontario shall be subject to inspection by an officer appointed by the Michigan State Board of Health. 2. All baggage, household goods, and other effects, belonging to people moving into the United States or to suspected travelers, must be disinfected before entering the country. 3. All immigrants and suspected travelers who do not present proper evidence of recent vaccination or other immunity from small-pox must be vaccinated before entering the State. 4. After October 15, 1885, no passenger-car coming from Montreal or other infected district shall be allowed to enter the State without being properly disinfected. 5. Freight and cars from Montreal or other place liable to be infected, consigned to any place in Michigan, must be thoroughly disinfected before being allowed to proceed. (See Rules 19, 22, and 31, Rules of this Board, under Act No. 230, Laws of 1885.) Inspectors are expected to notify health officers of places outside of Michigan to which are consigned freight-cars from suspected places, if they are not disinfected because not consigned to this State."

The inspectors at Port Huron were Hiram R. Mills, M. D., M. Northup, M. D., and Mortimer Willson, M. D. Those at Detroit were J. J. Mulheron, M. D., Wm. Fitz-Hugh Edwards, M. D., F. W. Owen, M. D., A. B. Chapin, M. D., and F. D. Heisordt, M. D.

The Army Medical Corps.—We learn that a board is now sitting in New York for the examination of candidates for appointment on the medical staff. We have before published the circular usually issued to applicants, and we would now call the attention of candidates to the following paragraphs contained in the circular:

"III. Oral examinations on subjects of preliminary education, general literature, and general science. The board will satisfy itself by an actual examination that the candidate possesses a thorough knowledge of the branches taught in the common schools, especially of *English grammar, arithmetic, and history and geography of the United States.*

Any candidate *found deficient in these branches will not be examined further.*"

"IV. Written examination on anatomy, physiology, surgery, practice of medicine and general pathology, obstetrics, and diseases of women and children. Oral examination on these subjects, and also on medical jurisprudence, materia medica, therapeutics, pharmacy, toxicology, and hygiene. Few candidates pay the attention to hygiene which it deserves; it is always made a subject of this examination and will be considered *a vital one in the examination for promotion after the expiration of five years' service.*"

The Medical Society of the District of Columbia.—At a meeting held on Wednesday, the 28th inst., Dr. Joseph Taber Johnson reported a successful case of hysterectomy for tumor, the character of which will be determined by the microscopical committee of the society.

A New Medical College in Washington Territory.—The medical department of the Territorial University, at Seattle, was lately organized. The faculty consists of Dr. T. T. Minor (medicine), Dr. R. Willard (obstetrics and diseases of women and children), Dr. E. L. Smith (surgery), Mr. J. Baker (chemistry), Dr. G. A. Weed (physiology and hygiene), Dr. C. H. Merrick (materia medica and therapeutics), Dr. L. R. Dawson (anatomy and histology), Dr. J. W. Waughop (psychological medicine), Dr. J. C. Sundberg (ophthalmology, otology, and laryngology), and Dr. J. S. M. Smart (adjunct in clinical surgery and genito-urinary diseases).

The German Faculties.—According to the "Progrès médical," Dr. Werth succeeds Professor Litzmann in the chair of obstetrics at Kiel, and Dr. Ebner has been made a Privat-Docent at Prague.

Obituary Notes.—The death of Dr. Hewitt C. Fessenden, of Eastport, Me., took place on Thursday, October 22d, at the age of sixty-six. He was graduated from the Medical School of Maine, and had resided in Eastport for about thirty years.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 18 to October 24, 1885:*

McParlin, T. A., Colonel and Surgeon. Directed to await further orders in New York city. Letter from A. G. O., October 19, 1885.

Vollum, E. P., Lieutenant-Colonel and Surgeon. Assigned to duty as attending surgeon, Headquarters Department of the Platte, Omaha, Neb., relieving Assistant Surgeon William C. Shannon. S. O. 103, Department of the Platte, October 15, 1885.

Heger, Anthony, Major and Surgeon. Directed, in addition to his present duties as member of Army Medical Examining Board, now in session in New York city, to perform the duties of attending surgeon in that city. S. O. 240, A. G. O., October 19, 1885.

Baily, Joseph C., Major and Surgeon. Granted leave of absence for twenty days. S. O. 225, Department of the East, October 19, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the two weeks ended October 24, 1885.*

Long, W. H., Surgeon. To proceed to Detroit, Mich., and assume charge of the service. October 23, 1885.

Austin, H. W., Surgeon. To proceed to Albany, N. Y., on special duty. October 14, 1885.

Williams, L. L., Assistant Surgeon. Relieved from duty at Norfolk, Va.; to proceed to Washington, D. C., for temporary duty. October 20, 1885.

Society Meetings for the Coming Week:

Monday, *November 2d:* New York Academy of Sciences (Section in Biology); Medico-Chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *November 3d:* New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Hudson County, N. J., Medical Society; Androscoggin County, Me., Medical Association (Lewiston); Hampden, Mass., District Medical Society (Springfield).

Wednesday, *November 4th:* Medical Society of the County of Richmond, N. Y. (Stapleton); Penobscot County, Me., Medical Society (Bangor).

Thursday, *November 5th:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Medical Society of the County of Orleans, N. Y. (annual—Albion); Boston Medico-Psychological Association; Obstetrical Society of Philadelphia.

Friday, *November 6th:* Practitioners' Society of New York (private).

Saturday, *November 7th:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

OBITUARY NOTES.

Professor Samuel G. Armor, of Brooklyn.—We regret exceedingly to be called upon to record the death of Dr. Armor, which took place on Tuesday, the 27th inst., in consequence, it is understood, of an attack of pneumonia.

Dr. Armor was born in Washington County, Pennsylvania, January 29, 1818. His parents, who were of Scotch-Irish stock, removed to Ohio when he was a mere child, and his training was therefore almost wholly in the West, Ohio being considered in those days a part of the far West. He took his medical degree in 1844, at the Missouri Medical College, in St. Louis. His attainments and his capability as a teacher were speedily and widely recognized, and for varying periods he was a member of the faculties of Iowa University, Cleveland University, the Medical College of Ohio, the Missouri Medical College, and the University of Michigan. Finally, in 1866, he was made professor of therapeutics, materia medica, and general pathology in the Long Island College Hospital, and the following year he became professor of the practice of medicine and of clinical medicine in the same institution, a position which he held up to the time of his death. He was also one of the visiting physicians to the hospital, a consulting physician to St. John's Hospital, and a member of the Medical Society of the County of Kings.

Dr. Armor was a painstaking and successful practitioner and an excellent lecturer. He often took part in the discussions at meetings of medical societies, and he usually preferred to write out his remarks for publication, rather than to trust to the reporters. The esteem in which he was held was not confined to the city in which he lived; far beyond the limits of Brooklyn he was recognized as one of the foremost of American physicians. He was possessed of a cordial, hearty manner which

won for him friends among all with whom he came in contact. His wiry physique gave promise of a long life, and the news of his death will therefore be all the more shocking to those who knew him.

Letters to the Editor.

THE PROPOSED NEW NATIONAL MEDICAL SOCIETY.

October 24, 1885.

To the Editor of the New York Medical Journal:

SIR: I am well satisfied to see by the Journal received today that my suggestion of last summer, relative to a National Academy of Medicine, has justified itself in the amount of attention it has attracted. It is particularly encouraging to be able to infer, from the variety of the views expressed by other journals and by your correspondents, that the main proposition—the present need of an authoritatively representative medical body in this country—is generally accepted and seriously considered by writers of widely differing opinions as to how the need is to be met. The project, if finally successful, must needs be such as is satisfactory to the profession at large, and can not be wisely formulated until every important criticism likely to be offered has been expressed and freely discussed.

When I offered you my suggestion I had in mind as an example the American Academy of Sciences. This body is, as you are aware, a close corporation, limited in number, whose membership is for life. Admission to its ranks is looked forward to by aspiring students of science as the crowning reward of their lives, and the visible and public evidence of their success. It is recognized by the national Government, to which it is the official and legal adviser as to all questions of scientific interest. It is not intended to, and does not in fact, occupy any part of the field of local or general scientific associations. And, although its annual elections rarely occur without causing bitterness and heart-burnings, often more or less just, because of its failure to choose men who have deserved the honor, this very fact is an evidence that its plan is successful in practice, since, if the honor were not earnestly desired, there would be little disappointment. And although, as has always been true likewise of the French Academy, any one can point to great names outside of the Academy with surprise that they are not upon its rolls, it is equally true that very few get in who ought to be out.

Very much such a body seems to me to be what is needed by the medical profession of the United States—not to take the place of the American Medical Association, or of any other geographically representative body which may hereafter be created, but to occupy a place of its own, the vacancy of which is just at this time sadly apparent to us all.

There is no scientific virtue in localities, nor can maturity of judgment or perfection of culture be mapped out by State lines. A true representation of the medical science of a country can only be expressed by the association of *representative men*—that is, of men who represent the high calling they have chosen, and not the particular section of the country in which they happen to reside. Who, for instance, would dare to maintain that such men as Austin Flint, Sr., or John C. Dalton, were representatives of New York city in any such broad and true sense as their names were household words in the mouth of every student of medicine in the whole extent of the country?

To limit the discussion, should it continue, to the proposition which I have in view, I will briefly restate it. I propose:

1. That there be organized a body of one hundred eminent medical practitioners, to be called the National Academy of Medicine.

2. That the Academy seek a charter from Congress, recognizing it as the official adviser of the Government, to which may be referred any question relating to preventive or practical medicine or the public health which may arise.

3. That membership in the Academy be for life, and that vacancies occurring therein be filled by the vote of its own members.

4. That its purposes be, *a*, the consideration of questions and prosecution of inquiries referred to it by the national Government; *b*, the discussion and investigation of questions and inquiries of general importance to medical science; *c*, the consideration of questions referred to it by local or general medical societies.

5. That its meetings be two in each year: the annual (business) meeting, to be held at Washington, D. C.; the semi-annual (scientific) meeting, to be held in such place, variable from year to year, as may be determined by vote of its members.

As to the best way of starting such an academy my inexperience is somewhat at fault, and you will need the counsel of wiser and more practiced heads. I will, however, suggest the following as preliminary steps:

Let an informal meeting be called of a very few of those best and most widely known as teachers in medical science and practice. You will not have to look far to find half a dozen names which are on the backs of well-thumbed text-books in every medical library in the United States. Let these gentlemen draw up a circular, stating the general purpose of their action, and send the same to a few of the most widely known medical men in every part of the country where truly representative men are to be found. Let the circular request the gentlemen to whom it is addressed to call meetings in their several localities to discuss the subject and to suggest modes of preliminary action—whether, for instance, delegates should be chosen (who should in no case be themselves candidates for membership) to a general meeting for the election of the first fifty of the Academy; or a plan for original representation should be drafted, apportioning membership in proportion to the number and standing of the medical schools in a district, according to which local elections should be held for the selection of the first fifty members. When fifty members shall have been chosen, let the Academy organize, and take its own deliberate time (the longer the better) for filling its number to the limit of one hundred.

The conditions for membership should not, in my opinion, be established until after the organization of the Academy; but I earnestly hope that the doors will be thrown open as widely as possible, exacting allegiance to no code or system, and excluding no class of so-called "specialists," in which material fit for the purposes of the Academy may be reasonably looked for.

Thus, although perhaps collecting its nucleus, for simplicity's sake, from districts bounded geographically, the Academy will be freed from local influences as soon as it is organized, and may fill up its ranks with due deliberation with those whom it regards as most worthy wherever it may find them.

The greatest difficulties seem to me to lie in the first formation of the Academy, and I am inclined to think that, considering the inborn bent of our countrymen toward political methods even in scientific matters, it will be well that as much as possible of the preliminary work be undertaken as a labor of love by those who, like your correspondent, have no hope of becoming members of the Academy themselves.

I am, sir,

THE CORRESPONDENT MENTIONED IN YOUR ISSUE OF SEPTEMBER 12TH.

THE CANADIAN EPIDEMIC AND THE STATE BOARD OF HEALTH.

Albany, October 14, 1885.

To the Editor of the New York Medical Journal:

Sir: I believe that few of the public or of the profession know either the limitations of the active powers of the State Board of Health, or the measures which it has been able to adopt to prevent the invasion of small-pox from Canada.

Although the board has nominally "cognizance of the interests of life and health throughout the State," and is verbally empowered to "from time to time engage suitable persons to render sanitary service," the very Act conferring these powers and duties stipulates that "no more than five thousand dollars in any one year shall be expended for such special sanitary service." Forasmuch as several acts were passed by the last Legislature calling on the State Board to supervise or prepare plans for public works involving special skill in sanitary engineering, the larger part of this limited sum is necessarily devoted to such purposes, and it has been beyond the power, though within the wish, of the board to engage competent inspectors at all the points of entry from Canada.

But, in partial compensation for this involuntary inefficiency of the central board, the new Public Health Act, passed last winter, makes it the duty of every local board of health

"To guard against the introduction of contagious and infectious disease by the exercise of proper and vigilant medical inspection and control of all persons and things arriving in such city, village, or town from infected places, or which, for any cause, are liable to communicate contagion; to require the isolation of all persons and things infected with or exposed to contagious or infectious diseases, and to provide suitable places for the reception of the same; to prohibit and prevent all intercourse and communication with or use of infected premises, places, and things; and to require and, if necessary, to provide the means for the thorough purification and cleansing of the same before general intercourse therewith, or use thereof, shall be allowed. And it shall be the duty of every such board of health to report to the State Board of Health promptly facts which relate to infectious and epidemic diseases, and every case of small-pox or varioloid occurring within its jurisdiction; and to provide at stated intervals a suitable supply of vaccine virus of a quality or from a source approved by the State Board of Health; and, during the existence of an actual epidemic of small-pox, said local board of health shall obtain fresh supplies of said virus at intervals not exceeding one week, and shall at all times provide thorough and safe vaccination for all persons within its jurisdiction who may need the same."

These measures are to be taken at the expense of the several localities, and, consequently, in a community of frugal-minded taxpayers, are not likely to be as thoroughly carried out as might be desired. To maintain a constant guard at places where trains are frequently arriving; to examine luggage and freight; to provide vaccine enough for all unprotected persons; to disinfect suspected articles; to provide a "quarantine of observation"—all these require an outlay of money, which, in a rural district, is reluctantly given. Nevertheless, to compel the execution of the act, it is decreed to be a misdemeanor on the part of any local board to violate "any lawful instruction of the State Board of Health."

Acting upon the authority thus given, as soon as small-pox was known to have assumed epidemic proportions in Montreal, early in June, a circular was sent to every local board of health on the frontier and along the main lines of travel, directing them to exercise watchfulness for the exclusion of infected persons or things, and to secure thorough vaccination, especially of school-children and persons employed about railway stations, boat landings, and other points of travel or traffic. Thanks to the energy of most of the local health officers, these precautions were promptly adopted, and in nearly all the exposed localities along our extensive border vaccination has been actively in progress, and the few cases which have been imported into the State have been effectively isolated without any spread of the disease. Continual correspondence, by circulars and letters, has been maintained with several hundred local boards, and every means short of pecuniary assistance that human effort could compass has been used to insure the protection of the State; with what success thus far is shown by the fact that, while small-pox was raging uncontrolled for months almost at our doors, not half a dozen cases crossed our line, and these had no extension. Now that the Canadian authorities are awakened to more decisive action, I feel even less anxiety than before popular apprehension was aroused, and greater confidence in the efficiency of the local boards which have already served their apprenticeship under the most disadvantageous circumstances.

The "epidemic fund" appropriated by Congress last year is under the control of the Treasury Department, and its financial aid is given, through the Marine-Hospital Service, only at the request of the Governors of States, addressed to the Secretary of the Treasury, boards of health having no direct voice in the matter. The Governor of New York has made official application for aid from this source, and means will ere long be provided for the inspection of trains before they reach the frontier; though even then the number of high-roads crossing our land boundary-line and the multitude of smaller places of debarkation along our lake and river shores will still be avenues of possible invasion which it would require almost an army to guard, and our chief reliance must be in the preventive efficacy of vaccination.

I am, sir, yours faithfully,

Alfred Ludlow Carroll, M. D.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of October 13, 1885.

The President, Dr. R. F. Weir, in the Chair.

Hæmatoma of the Thigh.—Dr. H. B. Sands presented a specimen obtained from the body of a man who died in June last in St. Luke's Hospital. The interest of the case lay in discovering, if possible, the seat of the lesion for which an operation was performed in the month of June, 1883. The case had been fully reported in the "Archives of Medicine" for December, 1884.

A man, fifty-one years of age, had suddenly developed in the left thigh a swelling of very large size. At first this was thought to be an aneurysm, but it lacked many of the features of an aneurysm, and Dr. Sands diagnosticated a hæmatoma communicating with a vein. At the time of the operation seven pints of blood, by measurement, were evacuated from the tumor, and it was estimated that a pint of blood was lost; in other words, the tumor contained a gallon of blood. He found a large opening leading from the sac into what seemed to be one of the profunda veins, and tied the vessel in question above and below the bleeding point. The man recovered and regained the use of his limb. Two years later he died in St. Luke's Hospital of visceral diseases implicating chiefly the liver and kidneys. At the autopsy a segment of the affected limb was removed and submitted for examination to Dr. Hall, who had made the following report:

About the middle third or fourth of the left femur, with an abnormally developed linea aspera, forming a sharp ridge where the perforating arteries pass through. Attached to the femur are a part of the vastus internus, and the adductores longus, brevis, and magnus. Left in position are part of the rectus femoris and sartorius, the superficial and deep femoral arteries and veins, the anterior crural nerve, and posteriorly the great sciatic nerve. Anteriorly the skin and superficial fascia have been stripped off in great part. At the inner side of the anterior surface of the specimen, above the vastus internus, a portion of integument has been left, containing a longitudinal cicatrix about three inches in length. The long saphenous vein has been dissected out and cut off above, but remains attached below. It contains a thrombus throughout its course. The fascia lata has been divided, and the muscles have been separated so as to expose the superficial femoral artery and vein throughout. They are pervious and apparently rather larger than usual, but not atheromatous. The profunda femoris is large and pervious down to the last perforating artery. Here the last perforating artery penetrates the adductor magnus and is continued pervious on the posterior surface of the specimen. The artery itself terminates close to the ridge of bone from the linea aspera in a mass of dense cicatricial tissue. An artery, apparently the continuation of this, emerges from the posterior surface of the specimen, from the cicatricial tissue, contains a thrombus, and is lost on the posterior surface of the adductor magnus. A single large vein accompanies the profunda artery, passes beneath the last perforating artery, and terminates abruptly in the cicatricial tissue. The cicatricial mass is about two inches in length, involves the attachment of the adductor magnus to the bone, and is connected with the cicatrix mentioned above. A large vein, not accompanying any artery, passes from below upward into the cicatricial tissue, and terminates in a small, irregular, almost obliterated cavity, partly filled with decolorized fibrin. It seems probable that a varicose vein accompanying a terminal branch of the profunda artery ruptured in or close to the attachment of the adductor magnus and gave rise to the hæmatoma, and that the terminal branch of the artery was ligatured during the operation.

Dr. Sands said that the specimen confirmed the opinion that the tumor was not aneurysmal, but was a venous tumor caused by rupture of a profunda vein, and it was possible that the determining cause of the rupture was the presence of a sharp ridge of bone springing from the femur. When the sac was emptied of clots, and before the tourniquet was applied, some fresh blood escaped, but, judging only from its color, he was unable to say positively whether it was venous or arterial; but the vessel in which the opening existed was of such large size that he had no doubt of its being a vein. The aneurysm-needle used was a rather sharp one, and in using it he punctured an artery, which, when the tourniquet was loosened, permitted hæmorrhage; but that point was at a considerable distance from the opening in the large vessel ligated. As the bleeding vein, owing to its deep situation and the condensation of the surrounding tissues, could not be isolated, the ligatures must have embraced the profunda artery as well as the vein. The blood also which flowed from the vein was very dark-colored.

A Contribution to the Ætiology of Malignant Tumors.—Dr. R. J. Hall read the following paper:

So much of an almost purely speculative character has been written during the last few years on the ætiology of malignant tumors that, did this paper contain merely a new hypothesis, I should scarcely venture to present it to the society. It consists, however, chiefly of a series of cases, most of which have come under my own observation, which, in my judgment, strongly support that hypothesis which is slowly but surely working its way into the minds of most thinking pathologists and surgeons. I refer to the hypothesis which attributes these mysterious neoplasms to a specific virus, in all probability a micro-organism.

Without stopping to give an accurate definition of the term tumor in general, it may be sufficient to say that by malignant tumors we mean such as invade the neighboring tissues and produce metastases (Ziegler, "Lehrb. d. allg. u. spec. path. Anat.," 2te Aufl., 1er Th., S. 214; Nidopel, Carc. u. Infl., "Med. Jahrb.," 1883, S. 123), and that all such tumors are included in two great classes, carcinoma and sarcoma. In regard to the first of these, almost all pathologists have accepted Waldeyer's view, that the cells which occupy the alveoli are epithelial, and the tumors therefore essentially of epithelial origin; while there is no doubt whatever that the sarcomata are built up of connective-tissue elements.

The theories hitherto formulated in regard to the origin of these tumors have been so well classified by Dr. H. F. Formad, in an exhaustive paper on the same subject (Ætiology of Tumors, "Trans. of the Path. Soc. of Phila.," Sept., 1879, to July, 1881), that I can not do better than reproduce his classification. Under each heading he has given a list of the pathologists who have supported the hypothesis. The list is as follows:

1. *Predisposition and Inflammation Theory.*—Virchow, S. D. Gross, Woodward, Samuel, Wagner, Birch-Hirschfeld, Cornil and Ranvier, Perls, Tyson, S. W. Fitz, Gross.

2. *Dyscrasia Theory.*—Rokitansky, Paget, Billroth, Simon.

3. *Embryonal Theory.*—Cohnheim, Thiersch, Waldeyer, Lücke, Masse, Hasse, Epstein.

4. *Idiopathic or Spontaneous Theory.*—Rindfleisch, Stricker, Nancrede, Payne.

5. *Nervous Theory.*—Van der Kolk, Lang, Snow.

The nervous theory is, I think I may safely say, too fanciful to merit discussion, except when considered as a possible predisposing cause. The idiopathic and dyscrasia theories mean nothing, the terms themselves being mere words which either confess our ignorance or serve as a cloak to hide it. Cohnheim's, or the embryonal theory, which has lately fallen into some discredit, undoubtedly offers a satisfactory explanation of the origin of some benign tumors, and may afford a beautiful explanation of one of the facts in regard to the structure of many malignant tumors apparently most difficult to reconcile with our hypothesis. For, if in certain regions, as the parotid, embryonic remains are of frequent or constant occurrence, and in others occur rarely or not at all, we can understand why in the one case the same irritant should give us a mixed, and in the other a simple tumor.

There remains, then, only the predisposition and inflammation theory. Under the great authority of Virchow, pathologists have been ready enough to accept this last as a sufficient explanation; that they have been, and are still, very slow to recognize that the inflammation is of a specific kind, is due, I think, chiefly to the following causes: When, following closely on his "Cellular Pathology," it was demonstrated by Virchow that tumors consisted of cells not differing genetically from those found in normal tissues, the discovery excited such enthusiasm that many were convinced that the life-history of the cell alone could sufficiently account for all the phenomena. Thus, according to the widely accepted view of Thiersch, in old age the resistance of the connective tissue is diminished, the interstitial spaces are widened; under some local irritation the deeper epithelial layers proliferate and penetrate the underlying tissues, enter the lymph-spaces, and are swept into the neighboring lymphatic glands, where, in accordance with their life-history, they develop indefinitely, and, not being on a surface where constant desquamation can occur, must do so at the expense of the surrounding tissues. Thiersch, while correctly recognizing the inflammatory character of at least one group of malignant tumors, the carcinomata, could not at that time make the distinction, now clearly recognized, between simple or non-infective inflammations and infective; and his followers, with less

excuse, refuse to do so even now. We have many instances of local infective inflammations giving rise to metastases—not one, so far as I know, of the non-infective. The view that malignant tumors are of inflammatory origin is one which has spread widely among pathologists, especially since it has been found necessary to place the so-called granulomata, tubercle, lepra, and syphilis among the inflammatory diseases. The points of analogy between these and the malignant tumors are too numerous and obvious to have escaped observation. They have been presented at length by Dr. Formad in an exhaustive paper, and by Dr. Nidopel. Time will only permit me to discuss them briefly to-night.

Tubercle, which may be taken as the representative of the granulomata, was long considered to be an ordinary inflammation in a tissue predisposed to disease; this is the standpoint which many pathologists occupy at present in regard to malignant disease. It is interesting to note Formad (The *Bacillus tuberculosis*, and some Anatomical Points which Suggest the Refutation of its Ætiological Relation with Tuberculosis, "Phila. Med. Times," Nov. 18, 1882), whose weakness for peculiarities in the lymphatic system as sufficient to account for the origin of tubercle led him to reject the tubercle bacillus, and brought down on him what can only be described as the annihilating criticisms of Professor Koch (Krit. Besprechung d. gegen d. Bedeutung der Tuberkelbacillen gerichteten Publicationen, "Dtsch. med. Wchnschr.," Nov. 10, 1883), and Dr. Shakespeare (A Criticism of Dr. Formad's Statements, etc., "N. Y. Med. Jour.," Aug. 16, 1884) finds, in the absence of the endothelium of the lymph-spaces, in carcinomata and sarcomata, a sufficient explanation of their peculiar growth.

Numerous attempts have been made to show that the anatomical peculiarities of tubercle tissue—epithelioid cells, giant cells, cheesy degeneration—are sufficient to account for all the peculiarities of the disease. The researches of Baumgarten ("Ztschr. f. klin. Med.," ix) and Weigert ("Dtsch. med. Wchnschr.," 1885, No. 35; quoted in "Med. News," Oct. 10, 1885) show that they represent only the reaction of the enfeebled cells under the irritation caused by the bacillus. A pathologist can hardly fail to be struck by the similarity of the enormously hypertrophied cells almost constantly found in sarcomata and carcinomata to the epithelioid and giant cells of tubercle, while the frequency with which they are found in a state of fatty degeneration and the readiness with which they undergo spontaneous necrosis remind us forcibly of cheesy degeneration. The discussion has not yet quite terminated among pathologists as to whether tubercle tissue always differs so much from other inflammatory products as to make the microscopic diagnosis possible in every case. In the same way the exact line between certain sarcomata and the products of chronic inflammation has never yet been drawn, while that form of tubercular skin disease known as lupus papillaris or verrucaseis, commonest on the dorsum of the hand, and of undoubted inflammatory origin, is, as I have myself had occasion to observe, indistinguishable under the microscope from epithelioma (Doutrelepont, "Ber. üb. d. Verhandl. d. dtsch. Ges. f. Chir.," 1885—Disk. üb. Tuberkulose, Volkmann). Into what absurdities we may be led by regarding carcinoma as merely a new specific inflammatory process is well shown by the statement of Formad (Ætiology of Tumors) that there are great numbers of chronic ulcers of the leg in the Philadelphia hospitals, and that a large proportion of them are carcinomata, because he has found epithelial nests and proliferation of the interpapillary epithelium. Both tuberculosis, as seen by the surgeon, and malignant tumors are distinctly associated with traumatisms. Thus, Volkmann states that the great majority of tubercular bone and joint diseases are referable to an injury (Erfahrungen üb. d. Tuberkulose, "Verh. d. dtsch. Gesellsch. f. Chir.," 1885), while Formad alleges that he finds an inflammatory origin in nearly one half of all tumors.

Dr. D. G. Zesas (Zur Kasuist. d. traumat. Tumoren, "Wien. med. Wchnschr.," 1883, No. 40; see also C. Mazzoni, Ueb. d. Sarkom., "Arch. di Med., Chir.," etc., vi, 40, f. 201, quoted in "Ctrlbl. f. Chir.," 1874, S. 169 [three cases of sarcoma after operation]; M. Landesberg, Zur Aetiol. u. Progn. intra- u. extraocularen Sarcoma, Virchow's "Arch.," lxiii, p. 1, 1875 [a case of sarcoma following an acute suppurative iridochoroiditis]; R. Barwell, On Acute Traumatic Malignancy, "Brit. Med. Jour.," Feb. 11, 1882 [gives several cases of sarcoma directly after injury]) quotes S. Wolff's statistics drawn from tumor cases observed in the surgical clinic at Berlin between 1864 and 1873, according to which, in 344 cases of carcinoma, a trauma was given as the cause 42 times, and in 100 of sarcoma 20 times.

It is well known that sarcomata usually follow a single injury, and carcinomata a long-continued irritation. The reverse is, however, by no means unknown. Thus, Weil (Sarcoma hæmorrhagicum, "Prag. Vierteljahresschr.," xxxiv, 4, 1877, p. 1, abstract in Schmidt's "Jahrb.," 185, S. 97) gives two cases of sarcoma attributed to repeated irritation.

Dr. R. F. Weir ("Am. Jour. of the Med. Sci.," April, 1876, p. 407) has reported a case of scirrhus of the penis following a contusion received four months previously, and refers to a similar case reported by Holmes Coote ("Med.-chir. Trans.," xlvii, 1863; see also Geber, Epithelialcarcinoma des Penis nach Coitus, "Wien. med. Presse," xii, 4, Jan., 1871, abstract in Schmidt's "Jahrb.," 160, p. 88). J. W. Hulke ("Med. Times and Gaz.," Feb. 8, 1873) reports a case, occurring in a man aged sixty-eight, in which a small wound of the palate, made by the stem of a pipe driven into the mouth, was followed in a month by a small "wart," which grew rapidly and, six months after extirpation, recurred, extended rapidly, and caused the death of the patient. Microscopic examination proved the tumor to be an epithelioma.

If we deny the existence of a specific virus in these cases, we are compelled to fall back upon the vague term predisposition, which was formerly used to explain the cases of tubercular disease having a similar origin. On the hypothesis of a non-specific inflammatory origin it would be difficult to account for the fact that in some countries malignant tumors are practically unknown (Formad, "Ætiology of Tumors"). For, surely, contusions and chronic inflammatoy processes, with diminished resisting power on the part of the connective tissue, can not be wholly wanting in these places. One of the strongest objections made to the assumption of a specific poison in the case of malignant diseases has been the absence of any evidence of contagion. Cohnheim ("Allg. Pathol.," 1877, quoted by Formad, *loc. cit.*) denied the existence of a specific poison, on the ground that the surgeon was never infected from the patient, *or the husband from the wife.* It is well to remember that precisely the same objection was made to the tubercular bacillus. Many physicians of large experience declared that they had never seen a case of even probable tubercular infection, yet now the journals are filled with them, and, while the surgeon seems still to be safe, the anatomist has not been spared (Cohnheim, *op. cit.*).

It is to meet this objection that I have ventured to present the following cases. Three of the series are from the practice of Dr. Sands, and one or both of the patients concerned in each case have come under my own observation; for the fourth I am indebted to Dr. Markoe, and the fifth was seen at the Outdoor Department of the Roosevelt Hospital by myself:

Case I.—Mr. Thomas E. C., aged forty, married, New York, clerk, admitted to Roosevelt Hospital December 3, 1878. Family history good. Patient has varicocele on the left side, and a tumor of the

left testicle, of twenty-two months' growth, of the size of a cocoanut, smooth, firm, and of fibrous consistence. Extirpation of the tumor, January 3, 1879, by Dr. Sands; death, January 26th, from suppression of urine due to pressure on the ureters by metastatic growths in the abdominal cavity. Microscopic examination by Dr. Delafield showed the tumor of the testicle and those in the abdominal cavity to be encephaloid carcinoma (Karg, Tuberkelbacilli in einem sog. Leichentuberkel, "Ctrlbl. f. Chir.," 1885, No. 32; G. Ricke, *ibid.*, 1885, No. 36).

Mr. C.'s widow, subsequently married, Margaret Anne, New York city, aged fifty years and three months, died, while under my care, April 12, 1885, with carcinoma "en cuirasse," originating in the mammæ. The tumors were stated to have been first noticed in 1882, and in both breasts at the same time. The growth was confined to the mammary glands and the skin; no enlargement of the axillary glands occurred, and only superficial ulceration of the carcinoma. Death was due to repeated hæmorrhages from the ulcerating surfaces and to exhaustion. No autopsy was obtained. Mrs. L.'s mother, Mary Anne D., died January 30, 1885, aged eighty-one years and six months, of acute bronchitis and broncho-pneumonia. One month before her death the patient consulted me with regard to a rapidly-growing tumor of the right breast which she had first noticed one month previously. My diagnosis was probable carcinoma. The tumor was seen also by Dr. Sands, who concurred with me. The family history of this patient was good. Especially there was no history of tumors. She had been a good deal with her daughter during the illness of the latter, but did not live in the same house. No autopsy was obtained.

Case II.—Mrs. D., aged forty-three, with a good family history, was subjected to operation by Dr. Sands, on May 3, 1882, for carcinoma of the right breast of one year's duration. Recurrence took place about six months later, and the patient died about April, 1883. Microscopic examination by Dr. Satterthwaite showed the tumor to be scirrhous carcinoma. Mr. George D., aged forty-seven, husband of the last patient, came under observation October 20, 1882, suffering from a tumor of the superior maxilla. A younger brother died five years ago of what was said to be recurrent sarcoma of the testicle. The family history was otherwise good. About three months ago the patient noticed a swelling in the left superior maxillary region, and thought he noticed a hard lump beneath the left angle of the lower jaw some time before this. Both tumors have grown rapidly since. A tumor of soft consistence occupies the situation of the left superior maxilla, and extends in the direction of the malar bone. There is a mass of enlarged glands beneath the left angle of the lower jaw. Extirpation of the tumor and enlarged glands was performed by Dr. Sands. Rapid recurrence took place, and death in May, 1883. Microscopic examination showed the tumor to be an epithelioma.

Case III.—Miss Isabella S. was admitted to Roosevelt Hospital, May 25, 1885, suffering from a rapidly growing tumor involving the right superior maxilla and said to be of three months' duration. Extirpation of the superior maxilla was done by Dr. Sands, May 27, 1885. Death occurred from shock and hæmorrhage following the operation. Microscopic examination showed the tumor to be a giant-celled sarcoma. Mr. F. J. G., aged twenty, single, was engaged to Miss S. for some months before her death. He was submitted to a surgical operation on September 9, 1885, by Dr. Post, for the removal of a small cystic tumor of the right superior maxilla, said to be of only three weeks' duration. The tumor lay in front of the antrum, and did not occupy its cavity. Microscopic examination showed it to be a giant-celled sarcoma.

Case IV (taken from Dr. Markoe's work on "Diseases of the Bones," New York, 1872).—Mrs. S. N. E., aged about twenty-three, consulted Dr. Markoe, March 26, 1866, for a small tumor occupying the right side of the neck, behind the sterno-mastoid, and of about the size of a hickory nut. An operation was performed May 1, 1866, when the tumor was found closely attached to the transverse process of the fourth cervical vertebra. Recurrence took place after a few months, followed by slow growth until April 10, 1869, when a second operation was performed. Recurrence took place in the autumn of 1869, with gradually increasing paralysis due to pressure on the spinal cord. A third operation was done January 25, 1871, followed by complete relief of all the symptoms, and there has been no recurrence up to the present time. Microscopic examination by Dr. Delafield showed the tumor to be a myxo-sarcoma. Mr. E., aged fifty-six, husband of the last patient, underwent, on January 19, 1885, an exploratory incision of the abdomen to determine the nature of an abdominal tumor, the symptoms of which dated from December, 1884. A soft, friable tumor was found matting the viscera together in such a way as to prevent the possibility of its removal. The tumor was considered by Dr. Markoe to be a sarcoma, probably originating in the great omentum. The patient died about three days after the operation. No autopsy was obtained.

Case V.—Thomas C., of New York, aged fifty-three, September 4, 1885. Family and personal history good. Especially there was no history of tumors or syphilis. Sixteen years ago he broke his left arm near the elbow, but recovered without stiffness or deformity. One month ago the left elbow and the right ankle became swollen, and the swelling has increased rapidly since, without pain, redness, or tenderness, except over the internal malleolus, where the pain is quite severe. Examination shows that the inferior extremities of the left humerus and the right tibia are expanded, so as to form distinct tumors of the lower ends of the bones, the tumors being smooth and of bony hardness. The neighboring bones and articulations are unaffected. A diagnosis was made of simultaneous sarcoma of the humerus and tibia. The patient was examined by a number of surgeons, who all concurred in the diagnosis. The tumors were especially unlike, in their growth and character, syphilitic or tubercular deposits, which almost alone might be supposed to come into consideration.

While taking the patient's history I incidentally elicited the fact that his wife had died last February, after a six-weeks' illness, with rapidly advancing hemiplegia of the left side, and that the diagnosis of the attending physician, Dr. A. R. Robinson, of this city, was tumor of the brain. Dr. Robinson, whose well-known skill as a pathologist lends weight to the diagnosis, informs me that the case was a well-marked one of rapidly growing tumor of the brain involving the motor areas about the fissure of Rolando, and, so far as the diagnosis could be made clinically, undoubtedly sarcoma. Syphilis especially was carefully excluded.

I am well aware that these cases are not beyond criticism, especially on the ground of the absence, in some of them, of a microscopic examination. This, however, was unavoidable, and in none of the cases, except possibly the last, could there be much real doubt as to the nature of the disease.

In Case IV the long interval which appeared to exist between the last appearance of the disease in the wife and its occurrence in the husband may seem to deprive the case of all significance. When we consider, however, the extremely slow growth of the original tumor, as seen in Mrs. E., and how long a similar one might exist in the abdominal cavity without giving rise to symptoms, the objection loses much of its weight. The length of time also that a tumor histologically malignant may remain latent, as contrasted with the frequently rapid growth of the same or similar tumors, is, I think, not sufficiently appreciated by pathologists, and offers another striking analogy to tubercular deposits. When a tumor which has remained quiescent for many years begins to grow and takes on the character of malignancy, surgeons are apt to assume that it has undergone a histological change from a benign to a malignant growth. The following cases tend to prove that at least sometimes the assumption is unwarrantable:

Case VI.—A small tumor, about half an inch in length by a quarter of an inch in width, adherent to the skin, but situated in the subcutaneous connective tissue, was removed by Dr. Markoe from the back of a healthy man, where it had existed for many years, with, I am informed, little or no change during that time. The tumor is a small-round-and-spindle-celled sarcoma, with little intercellular substance, and having histologically all the characters of malignancy.

Case VII.—Minnie M., aged eighteen, single, of good family history, noticed a tumor of the neck, below the lobe of the left ear, three years ago. The tumor is of about the size of a pigeon's egg, and resembles a conglomerate of enlarged lymphatics. She states that it has scarcely grown or altered since it was first noticed. Extirpation was done May

25, 1885. Microscopic examiñation shows it to be a myxo-sarcoma and histologically very malignant.

Case VIII.—Miss T. had a tumor in the same region, precisely similar to the former. She was a healthy woman, aged twenty-one. The tumor had existed for five or six years and grown almost imperceptibly. She desired operation only because a brother had died about one year previously of sarcoma of the pharynx. Extirpation was done by Dr. Sands January 23, 1884. Microscopic examination showed the tumor to be of almost exactly similar structure to the last.

The possibility of direct inoculation of the human subject or of animals with malignant disease has been much discussed, and many experiments have been made with generally negative or doubtful results. I have only been able to find in the literature of the subject two at all well authenticated cases of apparent inoculation. Meissner (Ueb. Krebs, Schmidt's "Jahrb.," 126, p. 121) states that, in 104 cases of melanotic sarcoma, one patient gave inoculation from a horse with the same disease as the cause. In the discussion on Dr. Formad's ("Ætiology of Tumors"; see also Kuhn, Note sur un cas de cancer médullaire transmis par inoculation d'un animal à l'homme, "Gaz. méd. de Paris," xvi, 1861, pp. 263, 391, 405) paper, Dr. S. W. Gross quoted from the "Mag. für die ges. Thierheilkunde," 1862, p. 328, the case of an ulcerating medullary sarcoma in an ox. A woman who cleaned the sore every day acquired a tumor of the outer side of the fourth finger of the left hand. Kuhn examined the tumor and found it to be a medullary sarcoma. Among cases of supposed contagion which can scarcely be accepted as evidence, Hynerth (De l'inoculation de cancer chez le lapin, "Gaz. des hôp.," 1873) refers to cases of contagion reported by Tulpius ("Nicolai Tulpii Amstelodamensis observationes medicæ," ed. nova, Amstelodami, CIↃIXLXXII: apud "Danielem Elsevirium observ. med.," Lib. iv, p. 292, 1672 [New York Hospital Library, No. 255]), and to those to which have been attributed the deaths of Smith and Bellinger. In a discussion by Dr. Mundé ("N. Y. Med. Jour.," Oct. 27, 1883) on cancer of the penis and contagion, the author states that Demarquay, in an analysis of 134 cases, found one where local contagion was alleged, and that Dr. Welch quotes Langenbeck as saying that he had seen three or four cases caused in the same way. Dr. T. Gaillard Thomas (abstract in "Med. Record," Nov. 7, 1883, p. 547) states that he has only met with one case of cancer of the penis in which contagion seemed to be probable.

There are a great number of unsuccessful or doubtful inoculations of animals, for an account of which I must refer to the general literature, and especially to Dr. Formad's article. The only experiments which seem beyond question are those of Professor Klincke (Häser's "Arch. f. d. ges. Med.," iv, 4, 1843, quoted in Schmidt's "Jahrb.," 126, S. 91), who inoculated a dog in the jugular vein and a horse in the conjunctiva with juice from a pigment carcinoma, taken from a mare. In the horse, in sixteen weeks the lachrymal gland was transformed into a melanotic tumor; the dog died in three months, and melanotic-tumor masses were found in the lungs.

Novinski (Zur Frage üb. d. Impfung d. krebsigen Geschwülste, "Ctrlbl. d. med. Wiss.," xiv, 1876, p. 790) made twenty-seven inoculations of carcinoma from the nose of a dog into inflamed tissue, and fifteen into normal skin. All of the first were negative; two of the last positive. In the successful experiment, a small piece of carcinoma (2 mm.) was introduced into a fresh wound of the skin of the back. The wound healed *per primam*. In fourteen days the fragment had reached the size of a pea, and in three months that of a walnut. Four months after the inoculation the dog was killed. The tumor measured 3·5 ctm. in diameter, and was soft and white in section. The lymphatic glands in the subclavicular region were much swollen. Microscopic examination of the tumor showed the peripheral part to be made up of closely lying polygonal cells, of epithelial character and varying in size, infiltrating the surrounding connective tissue. In the center there were alveoli of various sizes, with more or less fine tubercles and similar epithelial cells. The same structure occurred in the lymphatic glands. A young dog was then inoculated with a piece of this tumor, but died a fortnight later (of "*Pestkrankheit*"). Examination showed a small tumor at the point of inoculation: there were no metastases. The tumor showed a typical cancerous structure.

Dr. Gonjon ("Gaz. des hôp.," 1867, No. 85) gives two cases which do not appear quite so conclusive. He injected melanotic masses into the left thigh of a dog, and killed the animal after two weeks. At the point of injection there was found a melanotic tumor of the size of a Thaler; also pigment in the lymph-vessels and neighboring lymphatic glands. The lymphatic glands, including the bronchial, were enlarged and pigmented. The lungs were free. The same material was injected into the peritoneal cavity of a second dog, which was killed forty-three days later. At the point of injection and in the mesentery there were deposits of pigment. In one horn of the uterus there were two pigmented tumors. Few glands were affected; one inguinal gland was much enlarged. The bronchial glands were pigmented, but possibly this was from the lungs. All the pigment was in epithelial cells, but these were not similar to those of the tumor injected.

There is another way, however, of studying the subject. It will not be denied that there is not at present a pathologist of eminence who does not teach that malignant tumors are at first purely local. Could it be shown that sarcoma and carcinoma could be transmitted from man to man, or from man to animals, the idea that nothing but the cell was inoculated would not be able to hold its place in scientific opinion for six months. We have passed the stage when it was possible to believe that an infectious disease could be of spontaneous origin. Yet, if the disease is at first purely local, the inoculation of a distant portion of the body in the same patient, the so-called "contact-infection," is as valuable as the inoculation of another person would be. Cases of this kind are not rare in literature. The chief recorded instances are the following:

Dr. M. Nedopil (*loc. cit.*) quotes a case, narrated by Lücke, of ulcerated carcinoma of the edge of the tongue, with inoculation of the mucous membrane of the cheek on the same side; a case by Kaufmann, in which a woman had cancer of the dorsum of the right hand, and subsequently of the conjunctiva of the right eye; her relatives stated that she constantly wiped the right eye with the back of the right hand; cases by Ahlfeld (Beitrag zur Casuistik d. Uterussarkome, "Arch. f. Gynäk.," vii, 2, p. 301), Hegar (*ibid.*, ii), and Spiegelberg (*ibid.*, iv), of direct inoculation of the vagina from the uterus; and cases by Klebs of inoculation of cancer of the tongue, in the stomach. J. Reincke (Virchow's "Arch.," li, 3, p. 391) gives two cases in which carcinoma developed in the punctures made to relieve ascites due to carcinomatous peritonitis. Professor H. Quincke (Ueb. fetthaltige Transsudate, "Dtsch. Arch. f. klin. Med.," xvi, 2, p. 121) gives a similar case. C. Partsch ("Das Carcinoma," etc., Breslau), in giving statistics of carcinoma of the lips, penis, and vulva, relates one case of possible contact-infection. P. Kraske (Ueb. d. Entstehung secundären Krebsgeschwülste durch Impfung, "Ctrlbl. f. Chir.," 1884, No. 48) gives two cases of rectal carcinoma in which small secondary tumors were found at a lower point, separated by healthy mucous membrane from the primary growth, and refers to Virchow's well-known observation on the peculiar distribution of carcinoma of the peritonæum, secondary to carcinoma of the stomach (Virchow, "Die krankhaften Geschwülste," i, p. 54); to the cases of Lücke (Die Lehre von den Geschwülsten, etc., Billroth u. Pitha's

"Handbuch," ii, 1, S. 50), Kaufmann (Ueb. Multiplicität d. prim. Carcinoms, Virchow's "Arch.," lxxx, p. 347), and Klebs, mentioned above, and to a case by Erbse, in which a carcinoma of the œsophagus perforated the trachea and gave rise to secondary tumors in the lower lobes of the lungs.

Beck (Beiträge zur Geschwulstlehre, "Ztschr. f. Heilk.," v, 6, 1884, abstract in "Ctrlbl. f. Chir.," 1885, No. 34) records the following three cases from the Institute of Chiari, Prague. 1. Ulcerating cancer of the œsophagus. In the anterior part of the lower end of the œsophagus and in the stomach there was a tumor of the same character, flat-epithelial carcinoma. 2. Two carcinomata of the œsophagus separated by healthy tissue. The author admits the possibility of both being primary. 3. Multiple lymphadenoid round-celled sarcoma of most of the lymphatic glands, the lungs, spleen, and posterior surface of the stomach. In the ileum there were numerous similar nodules, not corresponding to Peyer's patches. In the cæcum there was an infiltration of almost the whole intestinal wall. The author excludes, on various grounds, all the other situations, and considers the growth in the cæcum as primary, and the other tumors in the intestinal tract as due to contact-infection, the tumor particles being carried back by antiperistalsis, the tumor of the cæcum being ulcerated and having caused much obstruction.

Beck quotes also a case, by Hjelt, of carcinoma of the ileum and colon, with primary cancer of the duodenum.

Two cases of the kind have come under my own observation, as follows:

Case IX.—Mr. A., an elderly gentleman, probably between fifty and sixty, suffered for several years from a slowly growing epithelioma of the floor of the mouth, on the left side, and encroaching on the posterior surface of the gums. Several operations were performed by Dr. Sands at varying intervals, with temporary success; but recurrence took place after periods varying from two or three years to several months. After the fourth operation, December 18, 1884, rapid recurrence took place. A flat epithelioma developed on the hard palate, just at the point where the tip of the tongue, constantly in contact with the epithelioma in the floor of the mouth, would frequently impinge. The diagnosis in this case was confirmed by repeated microscopic examinations.

Case X.—Mary M., aged forty-four, single, March 29, 1885. Family history good; no case of malignant disease known. Carcinoma of the right mamma, first noticed two years ago. Amputation of the breast was performed one year later. The axilla was not opened. Recurrence was noticed last October. Patient was first seen March 29, 1885, suffering from carcinoma, recurrent in the cicatrix of the operation, the new growth extending in the form of nodular masses, ulcerated in part, over almost the whole right side of thorax, anteriorly, laterally, and posteriorly to the external border of the scapula. The axillary glands on the same side were much enlarged, and the whole right upper extremity was enormously swollen, œdematous, and painful. On the left side of thorax, above the mamma, and on the left shoulder, were several isolated, non-ulcerated, cancerous nodules, varying in size from that of a split pea to three quarters of an inch in diameter, and not extending beneath the skin. There was a profuse sero-purulent discharge from the ulcers. The patient was last seen June 23, 1885, when the carcinoma had extended over the upper part of the abdomen and a great part of the right scapula and shoulder. Ulceration of the carcinomatous masses in the axilla had occurred. The discharge from the ulcers on the shoulder and in the axilla constantly ran down on the anterior and internal surfaces of the arm and forearm to the wrist, exciting an eczema and inducing the patient to scratch. *All along this surface there were cancerous nodules in the skin*, generally ulcerated, or excoriated on the surface; some isolated, others confluent, and extending to the wrist. She died of exhaustion July 10, 1885.

I may mention here one or two more interesting points of analogy between tubercle and malignant tumors. The former appears usually as a more or less chronic and localized disease. It occurs also as an acute infectious disease. Acute miliary tuberculosis involving the different organs with a rapidity that was a complete mystery to the pathologist until the views of Weigert (Ueb. Venentuberculose u. ihre Beziehung zur tuberc. Blutinfection, Virchow's "Arch.," lxxvii, p. 269, lxxxviii, p. 307; Neue Mittheil. üb. d. Pathol. d. acut. allg. Tuberculose, "Dtsch. med. Wchnschr.," 1884, No. 24), founded on careful anatomical research, were confirmed by the demonstration by Weichselbaum (Bacillen im Blute bei allg. acuter Miliartuberculose, "Wien. med. Wchnschr.," 1884, 12, 13), Baumgarten ("Ctrlbl. f. d. med. Wiss.," 1881, 15), and others, of tubercle bacilli in the blood. Raymond and Brodeur ("France méd.," 1883) record a case of primary acute miliary carcinosis, and refer to two similar cases by Charcot. Numerous cases have been reported, during the last few years, of general tuberculosis following operation on a local process, the operative interference having obviously opened the way for the bacilli into the general circulation (Koenig, "Bericht d. xiii. dtsch. chir. Congr."; also Tuberculose d. Knochen u. Gelenke, and Szuman, Brisement forcé eines scrophulösentzündeten Kniegelenks, etc., "Ctrlbl. f. Chir.," 1885, No. 29; P. Aubert, Le traitement du lupus à l'Antiquaille, "Ann. de dermat. et de syph.," iv, 3 [two cases of rapidly fatal phthisis pulmonum shortly after scarification of lupus]). A precisely similar general cancerous infection has been reported by Schweninger ("Bayer, ärztl. Intell.-Bl.," xxiii, 32) as follows: A girl, aged seventeen, underwent an operation for colloid carcinoma of both ovaries. The tumors were punctured shortly before the operation for diagnostic purposes. During the operation one of the tumors was torn. No reaction took place, and the wound practically healed in ten or eleven days. From this time there was a continued fever of remittent character, with diminished power and sensibility in the left arm and leg, and severe neuralgic pains and cramps in the affected extremities. Rapid extension of these symptoms took place to the right side, followed by bronchial catarrh, increasing weakness, and death, thirty-six days after the operation. A post-mortem examination showed that the peritonæum was thickly covered with carcinomatous nodules, varying in size from that of the head of a pin to that of a pea. Similar nodules were found in the liver, in the spleen, beneath the pleura, in the parenchyma of the lungs, and on the surface of the dura mater. In the interior of the brain there was a colloid tumor of about the size of a hen's egg.

Finally, it is with some hesitation that I state that I have found bacilli in a single case of rapidly growing, non-ulcerated, large-celled sarcoma of the occipital region occurring in a woman, and extirpated by Dr. Sands during the past year. The tumor tissue had been kept in ninety-five-per-cent. alcohol since the operation, and the sections were stained with fuchsin by a slight modification of de Giacomi's method for staining the bacillus of Lustgarten (Friedländer's "Fortschritte der Med.," 1885, 16, p. 543). The modification consisted merely in more prolonged immersion in the staining fluid, and may not have been essential. Every precaution was taken in the way of using sterilized vessels, reagents, etc. Of two sections examined, bacilli were found very sparingly in only one, and after prolonged examination. The examination was made with a Zeiss oil-immersion $\frac{1}{12}$, and Verick eye-piece No. 3, using, of course, the Abbé condenser. Though few in number, the bacilli found were very distinct, only one being situated in each cell, straight and apparently somewhat longer and plumper in proportion to their length than the tubercle bacilli. I know well, of course, that little or no scientific value attaches to a single observation of this kind by one man, unsupported by the evidence of any others, but mention it because it may acquire some if confirmed by future research; and at least it serves to

show that my work is not all theoretical, but practical as well. [The paper was followed by numerous references to literature.]

The President, referring to Cripps's latest work on "Diseases of the Rectum," stated that the author considered epithelioma of the rectum as probably parasitic in nature, which was supported by the fact that in the underground workers of certain mines in Silesia sarcoma occurred very frequently, whereas it did not prevail among those who lived in the adjacent country: and also that in the low lands near Liverpool in England there was no marked increase in the cases of cancer. The two cases quoted in the paper under the initial D. had been finally under his care, and they had struck him as bearing upon the question of contagion closer than any others he had ever encountered.

Dr. A. C. Post said that one interesting feature of the tumor upon which he had operated was that, although the morbid growth did not extend into the antrum, it had eroded its anterior wall so that he could pass his little finger into the cavity.

Dr. Sands was able to add another case to the list given by Dr. Hall—one in which malignant disease occurred in more than one member of the same family. A young man came to him three years ago on account of a swelling on the right side of the face over the spheno-maxillary and malar regions. It seemed to be due to the development of a tumor which was very deeply situated, and which, besides causing projection of the side of the face, was attended with a protrusion of the eye. He suspected the existence of a polypus of the spheno-maxillary fossa, and, with a view to remove it, he raised the malar bone, but was disappointed on discovering that, although a tumor was present in the spheno-maxillary fossa, it was not a polypus, but was firmly imbedded and could not be removed. The patient was known to be living, six months ago, in a state of great misery, the tumor having reached a very large size. About six months ago a brother of this patient was brought, in whom a tumor of large size had developed in the pharynx within a few months. It filled the pharyngeal cavity, and, although it was not firm in consistence, it was firmly attached. The disease was evidently malignant. The patient's general health had become very much impaired, and the speaker had been obliged to decline surgical interference. Probably both patients were now dead. They lived in the same house in Westchester County, and often occupied the same room.

It seemed to him that such cases, although they could not be accepted as proving the contagiousness of malignant tumor, indicated very clearly the direction in which future inquiries should be made in the hope of confirming the hypothesis of the parasitic nature of these morbid growths; for, certainly, there was no disease not already proved to be parasitic which would seem so likely as cancer to have such a mode of origin.

Dr. Hall remarked, with reference to the remarkable absence of cases of apparent contagion in literature, that it might be explained by the fact that, if the idea of specific poisons for malignant tumors was accepted, probably all cases recorded as of hereditary origin would fall under the head of infection. In tubercle practically the same thing was occurring now. Formerly all cases had been attributed to heredity, whereas now they were very largely attributed to infection. Congenital tuberculosis was extremely rare, and, while congenital carcinoma and sarcoma occurred, they were also extremely rare.

NEW YORK ACADEMY OF MEDICINE.

Meeting of October 15, 1885.

The President, Dr. A. Jacobi, in the Chair.

The Organization of the Section in Surgery was announced, Dr. Stephen Smith being Chairman, and Dr. A. B. Judson Secretary; the meetings to be held the second Monday of each month.

The Final Payment on the Property of the Academy was announced by Dr. F. A. Castle.

The Comparative Results of Operations in Bellevue Hospital.—Dr. Stephen Smith read a paper with this title, which was prefaced by this paragraph: "As we drift with current events we but imperfectly estimate the real advance which any art or science with which we are daily familiar has made within a limited period. It is only when we considerately pause and deliberately compare in detail past methods and results with those now practiced and obtained that we fully appreciate the vast changes which have so insidiously and imperceptibly taken place."

He then pictured Bellevue Hospital as it was in former years, located on the made lands of a cove of the East River, without drainage, adequate sewerage, or ventilation—a receptacle of typhus and typhoid fevers, small-pox, puerperal fever, cholera, and yellow fever. Bellevue Hospital had seen little of surgery before 1850; since then the increase of surgical practice in that institution had been gradual. The methods of procedure had been entirely revolutionized. Before the introduction of anæsthetics, the most important general principle governing the operator was celerity, whereas now, while the surgeon aimed to diminish the period of anæsthesia, mere haste was condemned. The surgeon's aim at present was to avoid suppuration. Formerly he troubled himself only to keep his instruments sharp, and paid little attention to cleanliness except as it guarded against rust. Now one of the assistants gave his whole attention to the instruments, placed them in a solution of carbolic acid, and took every means to render them clean. Formerly patients were brought directly to the operating-table without the part to be dressed or operated upon being even washed. Now the greatest pains were taken to clean the seat of the disease. Formerly the personal preparation of the surgeon and his assistants was only with a view to prevent soiling their clothing. No thought was given to the hands or nails. By-standers were invited to put their fingers into the wound without previous cleansing. The sponges were cleansed only in simple water; ligatures were carried in the surgeon's pocket; but one end of the ligature was cut off, the other being left for removal by traction after its final separation from the vessel. In closing an ordinary wound, the surgeon formerly took great pains to provide for the escape of pus, for he always expected suppuration. The final dressing was of adhesive plaster, and the bandage for support and retention. The plaster was never rendered aseptic, and, by its close relations to the wound, was dangerous. The bandage was usually of unbleached muslin, and added to the risks of infection. The surgeon left many wounds open which he would now close, for formerly he expected suppuration, while now he expected to avoid it. While describing the practice before the introduction of anæsthesia and antiseptics, Dr. Smith pointed out in contrast the methods of to-day. If we followed the wounds treated by former and by modern methods from the first to the last dressings, the contrast was remarkable. If the wound was large, on the second or third day the fever formerly began, announcing suppuration, and for weeks after the dressings were changed once, twice, or oftener daily. The pus-basin, irrigator, and dressing-forceps were in constant demand; there were fever, exhaustion, and depression of the patient, and then came chills, fever, and profuse sweatings, now called pyæmia, but then considered as only another stage of surgical fever. But metastatic abscesses were now things of the past. Everything was at present directed toward the prevention of suppuration.

The author then contrasted the treatment formerly adopted

in compound fractures, amputations, exsections, and ligations of arteries, with that now practiced. Amputations were not now thought of except where the nerves and arteries were so far destroyed as to prevent the conveyance of nourishment to the extremity. Formerly amputation wounds rarely, if ever, closed at Bellevue Hospital except after long-continued suppuration, and the larger ones were terribly fatal, whereas now they were among the most successful cases in the hospital, and death from suppuration and its results did not occur. Formerly psoas and other abscesses were allowed to go until they made an opening for themselves. Now they were opened and washed out with an antiseptic solution, often with the cessation of suppuration. Their walls being approximated after scraping, they frequently united almost at once. Septicæmia and pyæmia were now almost unknown in the gynæcological wards. Reviewing the surgical practice of Bellevue, it was not difficult to determine the essential feature of present methods as compared with those of the past; it was cleanliness. The agents now found efficient to secure this were soap and water to external parts, carbolic-acid solution for the instruments, bichloride solution to all surfaces and tissues, and iodoform for external dressings.

Dr. A. C. Post was prepared to accept the author's statements with regard to the thorough efficiency of cleanliness. He thought there was still room for doubt as to how far the use of antiseptics, so called, contributed to the success of operations other than as it secured cleanliness. His reason for doubting somewhat the part antiseptics played in contributing to the successful treatment of wounds was founded on the experience of the most eminent gynæcologists of Great Britain. Mr. Tait and Mr. Keith, the most successful ovariotomists, had regarded antiseptics, so called, as not only useless but pernicious; they maintained that the use of antiseptics added a small percentage of mortality to that class of operations. They both insisted, however, on thorough cleanliness. But there was no doubt of there having been a very great improvement in the treatment of surgical wounds, whether we regarded the improvement as due to antiseptic methods or to cleanliness.

Dr. W. Gill Wylie did not know whether we should have learned the full meaning of cleanliness had it not been that antiseptics, as introduced by Lister, had helped us to an understanding of it. He had no doubt that antiseptics had done good, but, like all things which had done good, they had been carried too far, and there was now somewhat of a reaction against them. He used antiseptics simply as a substitute for cleanliness, but if he could be sure of perfect cleanliness he would not use antiseptics.

Dr. Smith closed the discussion, and said that it had not been his intention to treat specially of the subject of antiseptics. Since the discussion had taken that direction, he might say, however, that in his opinion the value of antiseptics rested in their securing cleanliness. Extreme cleanliness now pervaded the wards of Bellevue Hospital. It was especially necessary that the surgeon's nails and hands should be rendered clean. Antiseptics had brought us to a knowledge of the necessity of cleanliness, and were adjuvants of cleanliness; so far as they assisted in securing cleanliness were they useful, and perhaps not much further than that. But those who were ridiculing antiseptics he thought were doing harm, for their followers might adopt less efficient methods of cleanliness than they did.

A Krackowizer Prize.—A communication looking to the establishment of a Krackowizer prize was referred to the Council with power. A resolution was also adopted authorizing the president to appoint a committee to take into consideration the advisability of certain changes of, or additions to, the constitution and by-laws.

NEW YORK CLINICAL SOCIETY.

Meeting of April 24, 1885.

The President, Dr. A. A. Smith, in the Chair;
Dr. Francis H. Markoe, Secretary.

The Treatment of Certain Fractures of the Bones of the Leg, and of the Patella, by Drilling and Wiring of the Fragments.—Dr. J. Williston Wright read a paper on this subject (see page 477), and showed several of the patients whose cases were mentioned in the paper. He also read the history of another case, prepared by Dr. Leroy W. Hubbard (see page 479).

Dr. V. P. Gibney commended the results. He was particularly astonished at the case of patella fracture shown. He thought that if simple fractures were oftener treated in this way there would be fewer cases which proved a disgrace to the profession—the increasing separation in time often rendering the limbs almost useless. He felt sure that with rigid antiseptic precautions there was little danger.

Dr. L. B. Bangs remarked that the paper had proved particularly interesting to him in view of a case which had lately come under his notice—one of compound fracture of the thigh in its upper third. The patient came under his care some days after the receipt of the injury, and when he saw it the fragments could not be replaced in position and the wounds were in a septic condition. He believed that, if the wire suture had been used early in this case, both the limb and the life of the patient might have been saved.

Dr. F. H. Markoe agreed with Dr. Gibney in believing that the unfortunate result which sometimes occurred after the most careful treatment of simple fractures of the patella might be averted by this method, but did not believe that in the present state of antiseptic surgery it should be adopted in all cases. It seemed to him that it must be particularly useful in cases in which there were well-marked obstacles to the putting of the fragments in apposition, as, for example, clots, etc., in which aspiration proved of no assistance.

Acute Phosphorus Poisoning.—Dr. E. G. Janeway reported a case as follows:

J. F. D., colored, aged twenty-five, United States, a waiter, was admitted to Ward 18 (Bellevue Hospital) April 9th, at 6 P. M. He was, from all external appearances, well, his pulse being full and regular, and his temperature in the mouth 98° F. He said he had taken, the evening before, ℥ j of bromide of potassium, having had a great deal of domestic trouble, and not having slept for a week. This gave him no sleep and produced no toxic symptoms. He confessed also that at eight o'clock the same evening he had taken the tops of three boxes of blue-topped matches, being influenced to do so by having read the account of a suicide by the same means. He was given an emulsion of magnesia and oil of turpentine, and his stomach was washed out with four quarts of water. He vomited out the tube and the remainder of the stomach contents, which smelled strongly of phosphorus, and in which were plainly seen the tops of matches.

April 10th, 8 A. M.—Temperature 99°, pulse 84 and irregular; complains of nothing but soreness in the back. During the night he had two diarrhœal movements.

10th, 12 M.—Temperature 98·75°, pulse 84, respiration 20; pulse intermittent. Was ordered whisky, ℥ ss. 3ia qu. h., and put on the use of liquid diet (milk and lime-water). 4 P. M.—Temperature 98°, pulse 90 and good. The urine was examined, and found of a reddish-yellow color, of acid reaction, and of a specific gravity of 1·030. It contained a trace of albumin, no casts, but amorphous urates. He had two scanty diarrhœal movements, containing little fæces.

11th, 4 P. M.—Temperature 99, pulse 72, respiration 25. Inhalations of oxygen-gas were ordered, of five minutes' duration, every half-hour during the day. He slept well during the night.

12th.—Complains of general weakness, and soreness in the back persists. The urine has been examined repeatedly, but no blood or casts have been found.

14th.—Doing well. The corneæ show slight jaundice.

16th.—Since the 11th inst. the temperature has ranged between 98° (morning) and 99° (evening). The pulse is good. He was allowed to get up, and the inhalations of oxygen were stopped.

He was discharged cured on the 20th.

The PRESIDENT remarked that for some years past he had taught the use of oxygen-gas in the treatment of acute phosphorus poisoning, but could not recall his authority for so teaching.

Dr. JANEWAY mentioned that, so far as he could ascertain, it was not recommended in any of the ordinary text-books.

Reports on the Progress of Medicine.

GYNÆCOLOGY.

BY ANDREW F. CURRIER, M. D.

Vicarious Menstruation and Menstrual Exanthemata.—Heitzmann ("Med. Jahrb.") remarks that by the term *vicarious menstruation* is meant the periodically recurring hæmorrhages from any portion of the body which recur at equal or nearly equal intervals of time, alone or in connection with menstruation. Such hæmorrhages may occur from mucous membranes (aside from the mucous membrane of the genital tract), or from or under the skin. Instances are related in which the bleeding has appertained to the bronchi, stomach, intestines, nasal mucous membrane, upper or lower extremities, cheeks, etc. In some cases pathological processes in different parts of the body have been associated with the phenomena. Within the last few years, especially since the publications of Leopold upon this subject in 1883, opinions have changed regarding the necessary interdependence of ovulation and menstruation. Many cases are on record in which menstruation has persisted after both ovaries were removed, and this with other facts compels us to look beyond the activity of the ovaries, or, at least, beyond the activity of the ovaries *solely*, for the cause of menstruation. The modern physiological explanation of normal menstruation is that it is an exudation of blood and blood-corpuscles, partly through the intact walls of the turgescent capillaries of the uterine mucous membrane, partly as a true hæmorrhage through the ruptured vessel walls which is favored by the construction of the mucous membrane and the falling off of its epithelial covering. The recent literature of this subject has been furnished by Leopold, Kundrat and Engelmann, Williams (J.), Wyder, Ruge (C.), and Möricke. The cause for the periodicity of menstruation has not yet been ascertained. The congestion which accompanies this function is not limited to the genital organs, and in this fact is a partial explanation of the occurrence of vicarious menstruation; at least it explains its possibility. Menstruation, whether it be normal or vicarious, is an evidence, too, of sexual maturity, and in this particular is to be distinguished from the hæmorrhages which occur before and after menstrual life, most of which, though they may proceed from the genital organs, are not connected with the monthly flow. The theory concerning the meaning and purpose of menstruation which seems most plausible to the author, though not entirely satisfactory, is that of Sigismund. This theory maintains that the uterus is prepared before the menstrual period for the presence and development of the ovum by the presence of the decidua. If the ovum is not fructified, there is no occasion for the nourishing function of the decidua, and it is cast off together with the ovum, menstruation thus being a kind of abortion. Now, regarding vicarious menstruation, in all the cases which were investigated by the author, abnormities or diseases were found in some portion of the genital tract as an explanation of the unusual hæmorrhage. Smallness of the uterus was especially noticed in this connection. Cases are quoted in which hæmorrhage occurred from the lungs, nose, stomach, nipples, scars, etc. As the time approached when the menses would naturally occur, hæmoptysis or hæmatemesis affected some of the individuals, while with others a swelling of some kind or other would be manifest, from which blood or bloody pus would be discharged for a few days, after which there would be a normal condition until the end of another month. Yet other cases are related in which with uteri of very small size there were scanty menstruation and a petechial eruption upon the skin. When the menses became normal the exanthem and other evidences of congestion disappeared, the *locus minoris resistentiæ* having been again established in its proper seat. From the cutaneous phenomena is deduced the natural inference that a reciprocal relation exists between the female genital organs and the skin, and the vicarious office of the latter is neither unwarranted nor infrequent. The performance of the same office by other parts of the body is, to a greater extent, exceptional.

Endometritis Dissecans.—Dr. P. Kubassow ("Ztschr. f. Geburtsh. u. Gynäk.," ix, 2) states, as the result of an analytical study of several preparations obtained during the past few years from patients with this disease, that the pathological process is an exfoliative inflammation of the inner layers of uterine tissue, involving not only a removal of the entire mucous membrane, but also of the contiguous bundles of muscular tissue. He finds in all literature only two cases recorded of a similar disease, and those were described by Siromjatnikoff, in the Russian language, in 1880. In one of his cases the patient died, and the uterus was carefully studied. The result was confirmatory of his opinions concerning the nature of the disease, and showed that the exfoliations were not a product of abortion or of membranous dysmenorrhœa. In each case the exfoliation occurred at or near the menstrual period. The part which was thrown off was three-cornered, had three openings, and included mucous membrane and uterine muscular tissue. With it there was also a discharge of blood, pus, and mucus. The patients showed some elevation of temperature at the time, which dropped to normal and was followed by recovery in two of the cases; in the third it became sub-normal and was followed by death. The process which resulted in this loss of substance was partly phlegmonous and partly hæmorrhagic. The study of these specimens has convinced the author that the disease is not so rare as might be supposed. The difficulty in obtaining the discharges of women will prevent such an investigation of the subject as would be desirable. Turning again to the process by which the exfoliation is accomplished, the author remarks its similarity to the process which often obtains in scurvy. Severe hæmorrhages during the process are not likely to occur, on account of the thrombi which, evidently, are quickly formed in the divided vessels. The mucous membrane may be regenerated from the small islands of that tissue which are left when the main portion is swept away. The causes of this affection are both predisposing and constitutional, but our imperfect knowledge of the subject prevents greater definiteness. The symptoms noted, in addition to rise of temperature, were vomiting, diarrhœa, dysuria, lessening of the heart's activity, acceleration of the respiration, etc., and also others which were directly referable to the pelvic organs, bearing-down pains, pains in the sides, and the mixed discharge alluded to. The prognosis can not always be favorable, especially if the Fallopian tubes are involved. Such a complication proved fatal in the third of the author's cases. In the way of treatment, the general health must be brought to as high a standard as possible, and locally such means must be used as are helpful in relieving uterine congestion [which the author seems to consider the principal element, or one of the principal elements, of disturbance]. Chief of these is the abstraction of blood by scarification or leeching. Narcotics and poultices will be required should the pain be severe.

The Significance of Alterations in the Kidney which follow the Development of Fibroid Tumors of the Uterus, with reference to the Indications for and the Prognosis of Hysterotomy.—Pozzi ("Ann. de gyn.") summarizes his paper in the following conclusions. 1. Compression of the bladder and the ureters is a complication which is frequent with fibroid tumors of the uterus, even with those which are moderate in size. It may involve, and with rapid progress, grave altera-

tions in the kidneys, such as hydronephrosis, cysts, sclerosis, and fatty degeneration. 2. When this compression is exerted upon the bladder its effect is readily recognized, but the same is not true when the ureters are encroached upon, and a positive lesion can not always be diagnosticated until albuminuria has supervened. 3. Compression of the bladder or ureters ought to have great weight among the indications for operation, and may, of itself, determine active interference on the part of the surgeon. 4. When hydronephrosis exists, the indication for operation is an urgent one, especially in view of the danger which threatens the unaffected (or presumably unaffected) kidney. In cases of this character hysterotomy should first be performed, and when the patient has recovered from that operation the cyst may be attacked. 5. The prognosis of hysterotomy is grave, according as the analysis of the urine indicates renal disturbance. If Bright's disease is clearly established it would be a positive contra-indication to the operation, but a slight degree of albuminuria would not be a contra-indication.

The Statistics of Uterine Cancer and its Operative Treatment.—Hofmeier ("Ztschr. f. Geburtsh. u. Gynäk.") states that a new era in the operative treatment of uterine cancer began with the announcement of Freund's operation. Ruge and Veit have studied and published the account of the pathological anatomy pertaining to the subject. The question recurs continually, Have the results which have been obtained repaid the time and labor which have been expended. The statistics of this paper were gathered mainly from the records of Schröder's policlinic and his private practice. From the former, of 18,000 cases, 603 were cases of uterine cancer. From the latter, of 9,400 cases, 209 were of uteriue cancer, respectivcly 3·6 per cent. and 2·18 per cent. The great preponderance of cases in publie over those in private practice is uoteworthy, and is attributed by Schröder to the severer experience of the poorer classes in the struggle for existence. The age of the patients in the collated cases varied between 20 and 85, no cases being presented under 20:

From	20	to	29	years of age	there were	16 cases.
"	30	to	39	"	"	195 "
"	40	to	49	"	"	272 "
"	50	to	59	"	"	192 "
"	60	to	69	"	"	65 "
"	70	to	79	"	"	7 "
"	80	to	85	"	there was	1 case.

In only 39 of these cases were the patients nulliparous, and the rule was, as has been enunciated by Gusserow, the greater the number of children, the greater the predisposition to cancer. Of the individuals referred to in the foregoing table, 76 had borne 10 or more children each. It was observed that the puerperal period is especially favorable to the rapid development of the disease. Of the entire number of cases studied, in 236 there was cancer of the (1) portio vaginalis, in 181 it affected the (2) cervix [*i. e.*, the supra-vaginal portion of it], in 28 the (3) body was involved, and in the remaining 367 the variety is not specified. The average age of those who are included in the first variety was 42, of those in the second 47, of those in the third 54·5. The average number of children borne by those who are included in the first variety was 6; 7 of them were nulliparæ, 33 were primiparæ. The age of the youngest in this group was 26, that of the oldest was 63. In the second variety the average number of children was 6·5; in 4 of the cases the patients were nulliparous, in 23 they were primiparous. The disease in this (2) variety came late in life, in many cases, frequently long after the menopause. Of the third variety 21 per cent. were nulliparous; the average number of children was 3·6. No individual was operated upon until after a thorough examination under anæsthesia had been made, and no hope of permanent recovery was held out in cases in which the uterus was fixed, or the folds of Douglas's *cul-de-sac* and the tissue surrounding the cervix were involved. The magnitude of the operation (*i. e.*, whether complete or partial extirpation) was limited mainly by the variety of the disease. In 160 cases operatious were performed in the hope of obtaining a radical cure. The prognosis of ultimate recovery was least hopeful in those cases in which the cervical mucous membrane was affected, since the probabilities were strongly in favor of the disease being extensively diffused at the same time. This was especially true in old women. In 96 of the cases in which the portio vaginalis was involved, vaginal or supra-vaginal amputation was performed; in 8 the uterus was extirpated *in toto*, *per vaginam*. Of the 39 cases of cancer of the cervix (supra-vaginal, or cervical mucous membrane), in 9 supra-vaginal amputation was performed, and in 30 the entire uterus was removed, 6 of the latter operations being by Freund's method. In 17 instances operations were performed for cancer or sarcoma of the body of the uterus, 13 of them consisting in the abdominal supra-vaginal amputation, and 4 in total extirpation of the uterus; two of the latter operations were after Freund's method. Of the 160 cases operated upon, 31, or 19 per cent., were fatal—20 from septic infectious processes, within a few days, 8 from hæmorrhage, in most cases within a few hours after operation, 1 from trismus, 1 from shock after Freund's operation, and 1 from iodoform poisoning. Of the vaginal and supra-vaginal (cervical) amputations 12·3 per cent. resulted fatally. Of the vaginal and supra-vaginal (by abdominal section) total extirpatious 26 per cent. of the former and 30 per cent. of the latter resulted fatally. Of the Freund operations 62 per cent. were fatal. Of the 17 cases of cancer of the body of the uterus in which operations were performed, 6 were fatal from the immediate effects of the operation, in 4 the ultimate result was not ascertained, in 3 others a fatal issue from recurrence of the disease occurred within a year, and in the remaining 4 there had been no recurrence during periods ranging from two to five years. In the 19 cases of total extirpation the operation was too recent for any judgment as to its ultimate value in 2 of them, in 5 the disease recurred within six months, in the remaining 12 only 2 were quite free from recurrence after three years. In 7 cases of cancer of the cervical mucous membraue the supra-vaginal amputation (*per vaginam*) was performed, and only two of the patients were free from recurrent disease at the end of two years. Iu 96 cases of cancer of the portio vaginalis, vaginal or supra-vaginal amputation was performed, 85 of the patients surviving the operation. At the end of three years 12 of these 85 were known to be entirely well; concerning several no report was obtainable; all the others had suffered recurreuce. The uterus was entirely removed *per vaginam* in 8 instances for disease of the portio vaginalis, 7 of the patients recovering. At the end of fourteen months only 1 of the 7 was known to be well. Of 129 successful operations of all kinds, there had been no recurrence after two years in 28 cases—that is, 21·8 per cent. In four of these, however, the disease recurred at periods varying from two years and a half to three years aud a half. Notwithstandiug these unfavorable facts, the author believes that an extension of life for two years is ample justification for the risks of a capital operation. The most favorable prospects for radical cure are thought to be offered by an operation which shall consist of excision plus the use of the actual cautery. In comparison with this method of operation Schröder does not think favorably of the galvano-cautery wire. As a summary, the results which have been set forth by these statistics, though not so favorable as could be desired, furnish a justification, in the opinion of the author, for a continuance of operative measures.

Nephritis consecutive to Epithelioma of the Uterus.—Lancereaux (" Annales des mal. des organes gén.-uriu.") boldly advances the proposition, which he thinks is justified by his experience, that in every case of epithelioma of the neck of the uterus there is, at some time, nephritis existing as a complication. This lesion is distinct from primitive interstitial nephritis, and is not, like that, accompanied by hypertrophy of the heart. Twenty-three cases are detailed to substantiate his proposition, these being cases which could be thoroughly investigated post mortem. Three varieties of epithelioma may affect the uterus, or, in other words, as many varieties as there are varieties of epithelium in connectiou with the uterus. That which is developed from pavement epithelium is the most common form, and may begin either from the vaginal *cul-de-sac* or from the lips of the vaginal portiou of the cervix. It is this variety also which, on account of its situation, predisposes more than any other to degenerative chauges in the urinary passages and the kidneys, and it is the sole variety to which the author refers in this paper. Its progress is marked by ulceration, with its accompanying fœtid, sanious discharge, and by the characteristic indurated condition of the tissue of the *vaginal portion* of the cervix. The hæmorrhages which accompany its development are, in some cases, so severe as to lead to a fatal issue before the kidneys have become involved,

such cases being, of course, exceptions to those which are laid down in the author's general proposition. Notable features of the disease, also, are severe pain, especially along the course of the lumbar and sciatic nerves, disordered digestion and nutrition, and various troubles in connection with the urinary passages. Urination becomes frequent and painful, and may be accompanied or followed by spasms. The urine may be bloody, and under the microscope may reveal epithelial cells, leucocytes, and crystals of various kinds. At other times it may be clear, pale, and abundant. In still other cases it may be purulent. Its solid constituents are very apt to be diminished. In the larger portion of the author's cases albuminuria was present, and uræmia, more or less intense, was so common that it was regarded as the rule. The form was that which affects the alimentary canal, being manifested by loss of appetite, vomiting, and diarrhœa. Less frequently uræmia, with cerebral manifestations, was present, being manifested by headache, insomnia, delirium, or coma. Uræmia accompanied by dyspnœa was rarely seen. Uræmia, in some form or other, is assumed to be, habitually, the cause of death, if that event is not attributable to some accident, or to a complication. The propagation of this disease seems to be, in the majority of cases, in the direction of the bladder rather than that of the rectum. It is brought about by means of the epithelial traces which lead to the formation of an embryonal connective tissue in the midst of the tissue which unites the bladder with the upper part of the vagina and the cervix uteri. Next epithelial elements appear in this tissue, which, as they develop, compress and produce atrophy of the muscular fasciculi, and form nodosities which project toward the *bas fond* of the bladder and along the course of the ureters. The resulting ulceration leads to vesico-vaginal fistula. The ureters, surrounded by the epithelial growth, become nearly occluded at the point of obstruction. Above that point they become dilated by the retained urine, as well as the pelves and calices of the kidneys, the Malpighian bodies become atrophied to a greater or less extent—in a word, there is a condition of hydronephrosis. After a primary enlargement of the kidneys there follows a diminution in size. The capsule may be easily removed, revealing the free surface of the organ smooth, yellowish, and without granulations. The cortical substance is thin, firm, and yellowish upon section. The pyramids are small, indurated, and sometimes atrophied. Microscopical examination shows that the lesion of the kidney, in cases of this character, is a diffuse sclerosis, and, in the author's experience, it was most pronounced at the summit of the Malpighian bodies, the uriniferous tubes being here separated by bands of embryonal tissue and the tubes themselves being more or less atrophied. At the middle and base of the Malpighian bodies the process was found to be less intense. The cortical substance is involved in this process, the glomeruli and the convoluted tubules of the periphery being chiefly implicated. In many of the tubules the epithelium has disappeared, in others it is only disarranged. These are the principal characteristics of nephritis which is consecutive to uterine epithelioma. The disorders which follow the imperfect performance of its functions by the kidney are principally those which have reference to the alimentary canal.

On the Treatment of Uterine Cancer; Advantages of Amputation of the Neck of the Womb with the Galvanic Wire.—Gallard ("Ann. de gyn.") urges the propriety of giving more attention to what are apparently hopeless cases of disease, referring especially to uterine cancer. He has tried the plan of injecting, with caustic fluids, diseased tissues and those which are immediately contiguous to them in the hope of staying the progress of the disease, but no lasting benefit has resulted; indeed, he thinks such measures are oftener harmful than useful. Cauterization with iron at red heat has given good results in a certain number of cases, but it is believed that the simple burning of the diseased foci is not sufficiently radical in such a disease as cancer of the uterus. The serre-nœud of Maisonneuve and the écraseur furnish more thorough means for operation than any of the foregoing, but they have certain disadvantages, among which may be mentioned difficulty of adjustment and liability of the wire either to slip or break. With the galvanic wire adjustment is easier, for only a fine wire is required, and this can be guided by the fingers to the desired point, and kept in position during the operation without much trouble. The electric current having been established, the cervix, grasped with hook-forceps, is to be drawn slowly downward until the uterine tissue is cut through. The author does not deny that the same accidents may occur with the cautery-loop which frequently happen with the serre-nœud or the écraseur, and in some cases it has been necessary to abandon the use of the former and complete the operation with one of the latter instruments. Twenty-five cases have been operated upon by the author, in which more or less complete histories have been taken. Twelve of these have, it is thought, been cured. In three of them the time which has elapsed since the operation is, respectively, eighteen months, two and a half years, and nearly four years, and no trace of the disease is discoverable. Even should the disease return after the operation with the galvanic loop, its progress seems to be less rapid than when a cutting instrument has been used, probably because of some modification which the tissues have undergone as the result of the operation. Accidents following the operation are very rare, occasional hæmorrhages having been observed. There is some pain, but not so severe as in some classes of burns, and it may readily be relieved. The patient should remain in bed for about three weeks, during which time there should be no examination or treatment, unless it is imperatively demanded.

Total Extirpation of the Uterus by the Vagina.—Demous ("Rev. de chirurgie") remarks that extirpation of the uterus is one of the operations which have been considered unjustifiable by many surgeons, and that there are some who so consider it even at the present time. Of ancient origin, it was for a long time discarded, to be revived, like many others, as the fruit of antiseptic surgery. Especially in cases of cancer of the uterus does it hold out the single chance of relief from that dreaded and dreadful disease, but it is also worthy of consideration in any chronic disease of the uterus (1) when that disease threatens the patient's life; (2) if there is a certainty that no other operation holds out any chance of recovery; (3) if complete removal of the diseased parts can be accomplished without wounding neighboring organs; (4) if no other fatal disease complicates and contra-indicates the operation. A large, rigid, and unyielding uterus and a small vagina would be effectual contra-indications to the performance of the operation. When operation has been decided upon, in a given case, the following plan of treatment is suggested by the author as appropriate: Rest for a number of days preceding the operation, especially if the patient is subject to hæmorrhages; hot vaginal injections of carbolized water, during the same period, frequently repeated; a cathartic on the evening of the day preceding the operation, and a rectal injection the following morning. The operation should be performed in a well-lighted and ventilated room, with an even and mild temperature. After the patient has been placed in the lithotomy position, the hair should be shaved from the genitals; the vagina, vulva, and contiguous parts should be disinfected with carbolized water of the strength of 30 to 1,000. The bladder should be evacuated, and, at one's option, an application of chloride of zinc may be applied to the cervix. The last-mentioned recommendation is both for purposes of antisepsis and to diminish the probabilities of hæmorrhage. Next, the walls of the vagina are separated widely with retractors, the cervix is seized with a volsella and drawn downward and forward as far as possible, and a circular incision of the vagina is made with a straight bistoury at a sufficient distance from the uterus to include healthy tissue, if that is possible. The further separation of the cervix from its surrounding tissues should be made by tearing with the finger, if the tissue is not so firm that a cutting instrument is required. The close proximity of the bladder, and the danger of wounding it, must be borne in mind, as the dissection is continued until the anterior peritoneal *cul-de-sac* is opened. This opening must be extended until the uterus is freed from its attachments anteriorly, after which the organ is to be completely retroverted, either by the fingers passed into the anterior opening, or by instrumental means. The most difficult part of the operation follows, namely, the ligation and division of the broad ligaments. Catgut ligatures are preferred by the author (No. 1 for the first ligature on each broad ligament, No. 2 or No. 3 for the others), and they are to be passed by means of a long, curved needle fixed in a handle, and pierced near its point. The first ligature includes the upper third of the broad ligament, the round ligament, and the Fallopian tube. The latter is not to be penetrated by the needle. The second includes the middle third of the broad ligament, and the third its lower third; the latter also includes the trunk of the uterine artery. These ligatures must be passed

as far from the uterus as possible, in order to include healthy tissue, and must be tied firmly and with unusual care. The uterus should then be cut away from the broad ligament which has thus been secured, and the same procedure adopted with the remaining broad ligament. The ovaries are not to be removed. Hæmorrhage from small vessels is not usually abundant, but it is better to tie them whenever they are cut. Various modifications of this operation (which is attributed to Récamier) have been suggested by different surgeons for the purpose of facilitating the removal of the organ and giving greater security against hæmorrhage. The possible accidents of the operation are the wounding of the bladder or the ureters, in addition to the possibility of hæmorrhage, which is ever present. The shock experienced by the patient is usually not severe, and not to be compared with the shock which attends hysterectomy by abdominal section. After the removal of the organ the wound of the vagina may be left open (and the author thinks this a bad and a dangerous plan), or the edges of the wound may be brought together, a suitable opening being left for drainage. This means is all-important in this operation—far more so than in most cases of ovariotomy. The suturing of the peritonæum is neither recommended nor disapproved, the author frankly admitting his want of experience in this direction. The vagina is to be packed with iodoform gauze, or with salicylated cotton. This should be removed upon the second day, or sooner if the discharge is abundant, and should be renewed sufficiently often to insure healthy surroundings to the wound. The use of frequent vaginal injections is not approved. Sänger's statistics, published in 1883, show one hundred and forty-three operations, of which one hundred and thirty-three were for cancer, six for prolapsus uteri, and four for fibromata uteri. In one hundred and three cases the operation was successful, the patients recovering, at least for a time. The time varies from a few weeks to an indefinite period. In fact, reliable statistics can not as yet be made. Schröder, Martin, Lomer, and von Teuffel have had cases in which there was no recurrence after a year and a half or two years from the time of the operation. As a further element in favor of the operation, should reenrrence take place, the symptoms which accompany it are not likely to be so severe as those which accompany the primary disease. As to the mutilation which is caused by the operation, the author asks if it can be considered greater than that which follows operation for cancer of the tongue, œsophagus, or rectum.

Miscellany.

The Present Status of the Affairs of the Congress.—The "Maryland Medical Journal" says: "The new committee on the reorganization of the Congress, which held its meeting in New York on September 3d to 'repair the damages' occasioned by the resignations of the gentlemen appointed by the first committee, does not seem to have met with such marked success as its official organ, the 'Journal of the American Medical Association,' predicted for it. Indeed, so far from having repaired the damages previously inflicted upon the Congress by its Chicago work, this committee has made blunder after blunder until its action has become ridiculous in the eyes of the entire profession throughout this country and Europe. Its mistakes have been so glaring and faulty that one of its own number has been forced to show that its affairs have been conducted in the interest of its own officers, and that its deliberations have been so suppressed and manipulated that the reports of its meeting in New York were not in keeping with the facts.

"The committee has added another insult to the list of injuries previously perpetrated by its arbitrary assumption of authority. Through its Executive Committee it has formally declared that its acts are 'not subject to revision, amendment, or alteration by either the Committee of Arrangement or the American Medical Association.' In fact, it usurps all power and resolves to run the Congress according to its own methods. The result of this singular and unjustifiable procedure begins to be apparent. Within the last ten days a number of the appointees of the New York meeting have declined to accept the positions to which they were assigned. Such gentlemen as John C. Dalton, Henry I. Bowditch, Henry F. Campbell, Robert Battey, E. O. Shakespeare, and others have been forced to desert the sinking fortunes of an organization which has done nothing but trifle with the best interests of American medicine since it came into existence.

"Some weeks ago, in discussing the outlook for the Congress, we urged the present committee to resign, and gave, as we believed, satisfactory reasons for this advice. The resignation of this committee would have been a graceful act and would have saved the profession in this country from the mire of contention into which it has been cast by the unwarranted action of the association at New Orleans. The committee, however, saw proper to lay aside all considerations for the interests of the profession and entered upon the work of reorganization of the Congress in a manner agreeable to its membership. This committee has no one to censure but its own membership, if its action has failed to give entire satisfaction to the profession. It has proceeded with its work in the face of active and outspoken criticism, and it must stand or fall accordingly. We have believed that the work it was attempting to do was wholly unnecessary, and we have advocated its abandonment of this work on the ground that its continuation would promote nothing but strife and dissensions. We have never believed that the success of the Congress could be promoted by its interference. On the contrary, we have predicted that the Congress would fail if intrusted to its efforts. This prediction we believe will be shortly verified. The work of disorganization has continued, the breach has been made wider, and the affairs of the Congress are in a more pitiable plight now than at any previous time. If this committee now fails to see the handwriting on the wall which significantly tells of its downfall, we are at a loss to account for its stupidity and want of comprehension. Its continued effort to carry out this work of reorganization only increases the depth of its mortification and chagrin at its final overthrow. We would again suggest to this committee the advisability of gracefully stepping down from its present lofty but absurd and arrogant position."

In another article, the same journal says: "The present Secretary-General of the Congress has had nothing good to say of those gentlemen constituting the original Committee of Eight on the Organization of the Congress for having accepted positions in the various offices of their own appointment. How can the Secretary-General reconcile his own position in this respect? Virtually the American Medical Association and the International Congress are combined in his august person. He is more autocratic than the Czar of Russia."

A Philadelphia View of the Congress Organization.—The "Journal of the American Medical Association" publishes the following, in a letter from its Philadelphia correspondent, "C. W. D.":

"The questions in regard to the proposed meeting of the International Medical Congress, which were the subject of so much discussion when I last wrote, have ceased to be a live issue in this city. The action of the new committee in New York seems to leave nothing to be done but to wait and see whether the European men will come to America under the circumstances or not. It is believed here that they will not, at least not in sufficient numbers to give the meeting an international character. It is also thought by some, and hoped by others, who did not approve of all the acts of the original committee, that those who have charge of the interests of the Congress in Europe will decide to hold the next meeting in some city there—Berlin is spoken of as most likely. This, as one of the most conservative men in this city said to me a few days ago, would be the simplest way out of an awkward dilemma, and would furnish an opportunity for the present excitement of feeling to subside to the advantage of all concerned.

"I have heard some comment upon the action of the new Executive Committee in New York on September 24th, whereby they unanimously resolved that what they were to do was not subject to 'revision, amendment, or alteration' by the General Committee, which appointed them, or even by the American Medical Association itself. It is wondered here whether such a declaration of independence will be tolerated by the association when it meets in St. Louis, or whether it will send the committee out to read and reflect upon the opinion of Mr. Randall with which their predecessors were put to naught. Time alone can

show; but the members of the original committee are said to feel a keen regret that they did not at the start adopt this easy method 'to prevent all further misunderstanding, both at home and abroad.'"

The False Position of the Committee of the American Medical Association resolutely adhered to.—Under this heading the "North Carolina Medical Journal" says:

"Discussion, so far, has done little to stay the ruinous course pursued by the malcontents of the New Orleans meeting in regard to the International Congress. The new combinations of the Chicago and New York committee meetings have only made a bad matter worse. When we look back upon the whole affair from this standpoint, we can not help feeling that those gentlemen who represented the International Medical Congress made a very unwise move in asking the American Medical Association to take any part in the construction of the forthcoming meeting. These gentlemen would have done far better by taking the whole responsibility upon themselves, and this course would have been satisfactory to the members of the last Congress, the evidence of which we have in Sir James Paget's letter to Dr. Hays. The discourtesy of the American Medical Association toward the original committee seems not to occur to the reconstruction committee, and there can be but one interpretation of the whole matter—the new committee intends to organize a Congress upon a basis so objectionable that it has already divided the profession into two parties. If the gentlemen composing this new organization are willing to undertake it, they can not be prevented, but it would be well if they could be, both for the success of the Congress and the unity of the profession. We have written the above lest by silence it might be thought that this journal has altered its views upon the subject. The American Medical Association has made a false step, and it will be exceedingly fortunate if it recovers from it without estranging some of its most desirable members."

THERAPEUTICAL NOTES.

The Juice of the Fig-tree as a Digestive.—Signor Bianchi, of Florence ("Semaine méd."; "Lyon méd."), has ascertained that a drop or two of the juice of the leaves, or of the unripe fruit, will rapidly reduce a bit of fibrin to a *bouillie* soluble in water and giving the reaction of the peptones. This new agent is therefore likely to be of service in cases of dyspepsia due to defective secretion of the gastric juice. It should also be capable of taking the place of papain as an application to diphtheritic membranes and ulcers.

An Injection for Paralysis of the Bladder.—The "Union médicale" credits the following formula to Dumreicher:

Extract of nux vomica	3 to 6 grains;
Distilled water	6 ounces.

One sixth of the whole is to be injected into the bladder every day, and retained for an hour. At the same time, electricity may be used with advantage, and micturition is to be regulated as much as possible the urine being passed every four hours.

The Treatment of Inflammation of the Vagina.—According to the same journal, M. de Sinéty recommends the following liniment:

Subnitrate of bismuth	90 grains;
Crystallized carbolic acid	15 "
Glycerin	6 drachms;
Distilled water	3 ounces.

Cotton tampons soaked in the mixture are to be introduced into the vagina. They may likewise be moistened with coal-tar or covered with the following ointment:

Pyrogallic acid	150 grains;
Starch	225 "
Vaseline	1½ ounce.

At least two applications should be made daily, and care should be taken to carry the tampons to the very top of the vaginal *culs-de-sac*. They must be carefully freed from all excess of either liniment or ointment, as it would run out upon the vulva and create unnecessary pain.

Caustic Crayons.—Moser's formula (*Ibid.*) is given as follows:

Powdered charcoal	1 ounce;
Nitrate of potassium	1 drachm;
Porphyrized iron	75 grains;
Benzoin	15 "

Add enough adhesive powder to make forty crayons. These crayons are hard, light easily, and produce immediate cauterization, so that they are suitable for the treatment of poisoned wounds.

Direct Interstitial Medication by Dielectrolysis.—M. A. Brondel, of Algiers, brought forward a novel plan of medication at a recent meeting of the Paris *Académie de médecine* ("Rev. méd."). By the term dielectrolysis (*diélectrolyse*) he refers to a process for making a nascent chemical substance pass through the tissues. For example, taking iodine, a body which is readily "dielectrolyzable," he applies to any desired part of the person a compress wet with a solution of iodide of potassium, and over it he places the negative electrode of a galvanic battery, the positive electrode being held against any indifferent part of the body. The iodine leaves the potassium, and, actually traversing the intervening tissues, rapidly arrives at the positive electrode, as may be ascertained by testing with starch-paper. In effect, therefore, this is a hypodermic, or rather interstitial (*intra-organique*), method without wounding the skin or producing pain. As a great number of simple bodies may thus be made to penetrate from one point to another, the practical applications of the new method may be very numerous and very important. By it the author has cured fibrous tumors of the uterus, a case of perimetritis, a rheumatic ovarian neuralgia, and several cases of chronic rheumatism. He has in view further trials upon parasitic and malignant tumors, diseases of the skin, syphilis, neuralgias, etc., and especially pulmonary consumption, on which latter he proposes to try the action of various mineral antiseptics, such as arsenic, mercury, fluorine, etc.

Cocaine in the Treatment of Hay Fever.—In a paper lately read before the College of Physicians, of Philadelphia, Professor J. M. Da Costa said:

"The manner of employing the cocaine is not without importance. It may be used with a small atomizer as a spray. But the readiest means is to inject from five to eight drops up each nostril, the head being thrown backward; in some persons once, in most twice, daily will be found sufficient. It will be necessary to instruct patients not to irritate the membrane by rubbing it needlessly with the glass tube, or pushing this up too far. Thus, a patient who had had hay fever for thirteen years, and who was at the sea-shore on the 17th of August when the hay fever came on, and in whom tincture of *Ignatia amara* seemed favorably to influence its course, tried cocaine in one nostril only. He inserted the tube far up, irritated the membrane, and water ran from that nostril, which became sorer and more inflamed than the other. More judicious attempts produced better results, but he could not be persuaded to give the remedy a fair trial, owing to his first experience with it. Its mode of action in hay fever is partly by the local insensibility it produces, partly by the contractions of the capillaries it induces. The effects are thus chiefly local. It will not arrest the bronchial catarrh or the asthma which attend some cases; yet it is astonishing how it seems to lessen the tendency to these complications when early applied, and before they have got much headway. Is its action, then, not partly a reflex action? That the remedy is radical, and, strictly speaking, curative, I have not found; but that it gives great comfort, converts bad into light cases, enables those to stay at their homes who otherwise are obliged to flee to hay-fever resorts, relieves much suffering and distress, I know and have fairly tested. In no case of rose-cold or hay fever ought cocaine to be left untried."

Ethyl Compounds of Mercury.—In view of the present rage for testing all possible compounds of mercury in regard to their fitness for hypodermic use, Dr. P. Hepp, of Strassburg, has thought it wise to publish a sort of warning concerning some of the ethyl derivatives, in the form of a preliminary note ("Ctrlbl. f. klin. Med."). He has been engaged in studying the properties of ethylmercury and ethylsulphate of mercury, but he has not yet been able to look upon it as warrantable to use these dangerous poisons on the human subject, although the temptation to use them is heightened by the fact that neither an oily solution of the former nor an aqueous solution of the latter causes the slightest pain when injected under the skin. He refers to the sad results to two English chemists from inhaling the fumes of methylmercury.

Lectures and Addresses.

A SKETCH OF THE LIFE OF JAMES LAWRENCE LITTLE, M. D., AND OF THE TWENTY-FIVE YEARS IN WHICH HE PRACTICED SURGERY IN NEW YORK.*

By D. B. ST. JOHN ROOSA, M. D., LL. D.

James Lawrence Little was born, of Scotch-Irish and English ancestry, in the city of Brooklyn, February 19, 1836. He attended private schools in his native city until he was about twenty years of age, when he attempted to become a bookseller, and for this purpose became a clerk in a Fulton Street establishment kept by Mr. Riker. The firm that engaged him had a stock of medical books as well as of general literature. The young clerk was soon so deeply engaged in the study of these books that he proved a very inefficient salesman, and he soon gave up his attempt in business. This inclination to the study of medicine had already been seen in young Little when he was a mere boy. After much cogitation as to the ways and means of getting a skull for the purpose of study, he finally approached a venerable African grave-digger, who consented to furnish him with the desired relic if he would bring twenty-five cents and a paper to wrap it in. Young Little secured the treasure on these terms, and, returning home, took a peep at it, and, to his youthful horror, found that it was an unprepared skull looking upon him in the ghastly covering of facial integument and scalp. Fear got the better of his anatomical enthusiasm, and seeking a plan to get rid of what was now a source of dread at its horrible aspect, as well as fear lest he might be found with such an unexplainable object upon him, he threw it into the waters of Wallabout Bay, and postponed his medical studies for a season.

After leaving the bookstore, Little entered the office of Dr. Willard Parker as a private student, and at the same time he matriculated in the College of Physicians and Surgeons. After Dr. Little had become a distinguished surgeon, Dr. Parker gave the writer an account of how he nearly rejected him when he applied for entrance to his already crowded rooms. He was at first disposed to decline to receive another student, but he was impressed by the great earnestness of the tall and handsome young man, and he consented to take another student. "But," continued Dr. Parker, "I never had occasion to regret my decision. Punctually as the clock struck nine the click of the young man's step was heard upon the doorstep, and I got to recognize his step and to count upon him, whoever failed." The word *click* aptly describes the short and quick step that many of Dr. Little's contemporaries will recall as one of his personal characteristics.

After being in Dr. Parker's office more than two years he successfully passed a competitive examination, and was appointed a junior assistant in Bellevue Hospital. This appointment did not take effect until the following spring. Meanwhile, in March, 1860, he was graduated at the College of Physicians and Surgeons. He then resigned his position at Bellevue, and after examination he was appointed junior assistant on one of the surgical divisions of the New York Hospital. A resignation of a place in one hospital to take a similar one in another was something unusual, and it was said at the time that it caused a little unpleasant feeling among the staff at Bellevue, for Dr. Little was well known to some of them, and to James R. Wood in particular, as a promising man whom it was not well to lose.

Bellevue Hospital was just coming into some importance as a school of surgery, and chiefly through Dr. Wood's clinics and his prizes for anatomical preparations offered for competition among the medical schools. Yet at that time it could in no manner compare with the New York Hospital in furnishing opportunities to a surgical student. It was an institution belonging to the city, receiving only paupers to its wards, and it was governed by politicians. It had much more importance as a school of medicine than as one of surgery. Dr. John W. Francis was one of its consulting physicians, and occasionally gave a mellifluous and learned address in its amphitheatre, and Alonzo Clark, John T. Metcalfe, and Benjamin W. McCready held clinics in the wards, while on Saturdays there was a great crowd of students to witness the rapid and skillful surgical operations of the renowned pupil of Valentine Mott, James R. Wood. Certainly any young doctor in medicine might have been honored by entrance into such a hospital. But the New York Hospital was a wealthy and private corporation, governed by some of the best laymen in the city, and, more than all, it was one of the most renowned schools of surgery in the world. In its amphitheatre Wright Post and Kearney Rodgers had won their fame, and here Valentine Mott, who was still living and lecturing upon surgery, had tied the arteria innominata. He was consulting surgeon with Alexander H. Stevens, John C. Cheesman, and Alfred C. Post. Of these, but one now remains, an honored link to connect us to the medical New York of fifty years ago. The active members of the surgical staff were Gurdon Buck, John Watson, Thaddeus M. Halsted, Willard Parker, William H. Van Buren, and Thomas M. Markoe. Of this number but one now survives, and he happily in full vigor of mind and body.

The old hospital was beautifully situated on Broadway, facing Pearl Street, on ample grounds, with grand old elms. Its beautiful lawn, upon which tame deer might often be seen, was a surprise and delight to the strangers in New York, who came suddenly upon this break in the whirl of a great city. The house staff was in a traditional state of excellent discipline. Its members vied with one another in their care of their cases, and their dressings of fractures and ulcers were at once the delight and dismay of medical students, who followed the attending surgeons about the wards. It was not strange, then, that young Little, especially when urged by his preceptor, resigned his place in a hospital which had no past for one whose annals, twenty-five years ago, were more full than perhaps any surgical hospital in the land.

* Read before the New York Academy of Medicine, November 5, 1885.

In April, 1860, Dr. Little began his duties at the New York Hospital as a junior walker. In April, 1885, he died. Hence, it may be truly said that a quarter of a century bounded his professional career. What a twenty-five years it has been for medical and surgical science in New York and in the world! There were then three colleges and perhaps eight hundred students and practitioners attending lectures in the College of Physicians and Surgeons in Twenty-third Street, the University in Fourteenth Street, and the New York Medical College in Thirteenth Street. Bellevue Hospital Medical College existed only in the embryo of its medical clinics and James R. Wood's exploits on Saturday afternoons. Clinical instruction was in its infancy, and there were but two hospitals, at long distances from the colleges, where it may be said to have existed in a meager way, and then to be attended by not more than a score or so of the students, except when a great operation was to be performed. Now there are added to the New York and Bellevue, the great Charity Hospital on the Island, St. Luke's, the Roosevelt, the Presbyterian, Mount Sinai, and St. Vincent's; these are all more or less used for clinical teaching, and eighteen hundred or more students and physicians attend the lectures of the three colleges of our faith, the College for Women, the Post-Graduate School, and the Polyclinic. Among the most widely known of the teachers at the colleges were Parker, Gilman, Watts, St. John, and Joseph M. Smith, in Twenty-third Street; John William Draper, Bedford, Paine, Van Buren, Post, and Metcalfe, at the University; Horace Green, Fordyce Barker, Ogden Doremus, and Carnochan, in the New York College; while George T. Elliot, Charles A. Budd, Loomis, Jacobi, Thomas, and Sands were, as would be said in Edinburgh, *extra-mural* teachers, who were nearly within the walls. As we recall many of these names, the words of the Latin poet come at once to our memory:

> "Eheu fugaces posteum posterum,
> Labuntur anni."

When Dr. Little entered the New York Hospital the civil war had not broken out, although exciting meetings of students had been held on account of the John Brown raid, and Southern students were being pledged not to return to Northern cities for instruction. Terrible strife was soon to cause the erection of immense hospitals by the medical staff of the United States army, from whose records surgical literature was to be enriched to an extent not dreamed of by the surgeons of this country. The battle-fields of Manassas, Shiloh, Gettysburg, and around Richmond were, from their awful experiences, to train a race of men which has caused American surgery and medicine to take a higher place in the world than would have been attained by half a century of work in small civil hospitals, while the Sanitary Commission was to open up a field for the cultivation of sanitary science and of active benevolence hitherto unknown.

When Dr. Little entered the wards of the New York Hospital the thermometer was not used to show the temperature of the body. The laryngoscope and ophthalmoscope had just been placed in the hands of a very few specialists, but they were not at all employed in the New York general hospitals. There was but one hospital of any considerable importance for diseases of the eye and ear, and that had not one half the number of patients it now has, although three similar institutions have been added to the charitable and educational resources of the city. There were no training-schools for nurses, and scarcely any trained nurses worthy the name. Those whom we had were chiefly males, who had been promoted from being patients to be nurses, with a strong preference for alcohol as a stimulant, while the women, in many instances, had been scrubbers in the wards over which they now presided. Not but that there were some excellent nurses in those days, however. Pyæmia, erysipelas, and hospital gangrene were then dreaded foes, and antiseptic surgery, if practiced in attempts at absolute cleanliness, was not understood as now, when patients, after operations, are saved, not as by fire, but as a matter of course. Marion Sims was just about to found the Woman's Hospital and become the intellectual progenitor of men who with him created modern gynæcology. All this Dr. Little saw, and in much of it he was an active participant.

New York, in 1860, had two or three medical journals, not of extended circulation, while an Ishmaelitish scribbler or two issued monthly bulletins in a style of medical journalism now happily extinct. There were two medical bookstores, called publishing-houses rather by courtesy than as a matter of fact, for no New Yorker wrote a medical book, and very few even edited or translated one. New York scarcely claimed equal rank with Philadelphia as a medical center. Now New York boasts three publishing-houses where American medical books are issued, and that in considerable number. Her medical journals are more widely circulated than those of any other city in this country, and they are to be found by the side of the works of American medical men upon the library-tables of the physicians of every nation.

In the hospital, Little gave promise of his future career. He was assiduous and faithful as an assistant, and suggestive and enthusiastic as a house surgeon. His humorous contemporary, Dr. Samuel W. Francis, remarked of him, that even then there was *multum in parvo*. He reported many of the cases occurring in the wards in the "American Medical Times." It was while in the hospital that he devised his method of making and applying plaster-of-Paris splints. It is not too much to say that chiefly, if not entirely, through Little's efforts plaster-of-Paris splints became a practical application. Until then, although much recommended, experience had shown that it was not well adapted for a surgical dressing. Little saw in plaster of Paris a material which, if properly used, would form that so much to be desired, an immovable and yet porous splint. Those of us who were associated with him remember his painstaking trials in preparing the plaster, in securing the proper consistency, and the material best adapted to take up the solution; the disappointments and failures until a splint was produced which convinced his colleague, the house surgeon of the other division, and the attending surgeons, that the days of the starch apparatus, a favorite bandage of the hos-

pital, were past. In using plaster of Paris as a splint instead of a bandage, he utilized the material as never was before done, and although it is possible that it will never have a widespread use, just as Dr. Little employed it, he gave an impetus to the subject which was perhaps the origin of the famous plaster-of-Paris jacket. His paper upon the subject may be said to be classical.*

During the civil war, on several occasions, Little's services were furnished to the Government. He was for a time surgeon-in-chief to the hospital erected on the edge of the City Hall Park, and twice, at least, after great battles, he volunteered with those other New York surgeons who went to the front at the call of the Surgeon-General. Now, as then, the avenues to professional success as a teacher and consultant began at service in dispensaries and clinics. Dr. Little was engaged in such work from the days when he was a medical student and a *substitute* for the junior walker in the hospital until his death. One year after leaving the hospital he was appointed clinical assistant to Dr. Parker, who was then professor of surgery in the College of Physicians and Surgeons. In 1863 he was appointed a lecturer in the college. His first course of lectures was upon "Fractures and their Treatment." These lectures were continued until 1868, when his chair was enlarged to that of "Operative Surgery and Surgical Dressings."

Dr. Little was very popular as a lecturer. His manner was exceedingly simple—in fact, at first distressingly so; but it was earnest and devoid of mannerisms and self-consciousness. One of our most successful teachers lately said to me: "Little did not merely tell the men to apply a flax-seed poultice, but he brought the flax-seed and the cloth to the lecture-room and made the poultice before the class. Then they knew how it was done, for they had seen it." Indeed, his teaching was realistic to a degree. The man was thoroughly in love with his work. He was alive to every progressive tendency; he traveled in no rut, but was always on the alert to assist in making surgery the exact science it is so fast becoming. He took great pains with the illustration of his subject by diagrams and drawings, which were prepared by competent men under his directions with great care. An examination of his library after his death showed that he had ransacked the surgical pictures of Great Britain and the Continent to secure the best illustrations for his lectures. Certain it is that not a little of the fame of his alma mater for thorough teaching was due to Dr. Little's lectures, although they were given in the summer term, and attendance upon them was not obligatory. They were continued for sixteen years, when he resigned from the position he held in the college as a lecturer on surgery, and one of the staff of Professor Markoe, who has succeeded Parker, to accept the appointment of professor of clinical surgery in the University of New York.

But Little's best qualities as a surgeon, a teacher, and an executive officer were seen after his acceptance of the chair of surgery in the University of Vermont. This was in 1875. He had previously declined an offer of a similar chair in the Long Island College Hospital. He entered upon the work in Burlington with great zeal. There he found a medical college that still survived the vicissitudes of forty years, although those at Woodstock and Castleton, in the same State, had been abandoned. It had about sixty students. Little's keen perception of the possibilities of this field showed him that they were great. The lately elected president of the University, Dr. Buckham; the venerable Carpenter, professor of practice; with Thayer of anatomy, King of obstetries, and Darling of anatomy, were fully alive to what lay in store for the Burlington Medical College. There was a reason for the existence of a medical college there. It was needed to supply the demand for medical education for a large number of young men from Vermont and northern New York, who could not conveniently go to Boston, Philadelphia, or New York.

The academical department, at the laying of whose corner-stone Lafayette had assisted, embraced in its faculty many soundly educated and cultured men, whose sympathies were readily enlisted for any good scheme for the cultivation and dissemination of human knowledge. They seconded the efforts of the president to give character to the various departments. The medical school acquired a certain dignity by its name, and it had that not unimportant advantage over the schools that formerly existed in the same State. Many young men, exceptionally well prepared by previous training, found it more convenient to study in Burlington, on account of the greater expense attending a long stay in a large city; and many practitioners of Vermont and northern New York found the clinics and lectures of the medical department of the University an accessible post-graduate school, which lighted up many a dark subject, and gave them a little recreation from their lonely and responsible duties as country physicians. The professor who went to Burlington from a metropolitan medical college soon saw that he had as intelligent and as earnest listeners as at home, and that he must relax nothing in his efforts to teach his science and art. With the hearty co-operation of the president of the University, who presided at all the faculty meetings, and his own colleagues, Professor Little immediately began to devise plans for increasing the fame and usefulness of the school. By personal solicitations in many instances he was largely instrumental in securing courses of lectures and clinics upon subjects not fully, if at all, embraced in the general curriculum, by specialists from colleges in our city. Then Miss Mary Fletcher, acting largely upon the advice of President Buckham and Professor Carpenter, founded a hospital, and, with a broad-mindedness not always seen in those who found hospitals, gave up its wards unreservedly to the teachers of the college. This was naturally of the greatest importance to the success of the school, for the day had passed when didactic lectures unillustrated by subjects were considered fit means of teaching medicine and surgery. Little's facilities for the performance of great operations were largely increased by the foundation of the hospital. His clinics were sought by crowds of patients from far and near. During the weeks that he lectured in Burlington the streets of the town gave evidence, by the passing through them of numerous people with surgical dressings on some part of the body, and by the great accumula

* "Trans. of the Am. Med. Assoc.," 1867; "Med. Record," 1874.

tion of the mud-stained buggies of the practitioners of the adjacent towns, as well as by the over-filled wards of the hospital, that a great deal of surgical work was going on. Stimulated largely by Little's surgical feats, and by an executive capacity heretofore, from the want of an arena, not known to belong to him, the college grew apace in character, in importance, and in the number of students. A new building was given to the faculty in 1884, by the late Mr. Howard, and, when Dr. Little died, more than two hundred and twenty students in the class-rooms of the college mourned the loss of their professor of surgery.

In an address commemorative of Darling and Little, Professor A. F. A. King sketches the introduction of the latter to the class in a manner so graphic and descriptive of the man that it is here reproduced. Dr. King says: "I introduced him to the class, and I well remember his modest embarrassment, which would, however, have passed unnoticed by the students had he not said, in the course of his first disjointed remarks, 'I'm a little nervous, as you see.' But a patient was introduced, a diagnosis made, an operation decided upon, and a knife handed to Professor Little, and I can tell you (as you know) he was not nervous *then*."

To those of us who knew Little well it was interesting to see this preliminary nervousness when a great operation was imminent. The quick, short steps, the restless tapping of the foot when he was preparing for his work, gave little promise of the bold, self-reliant man as he stood over the patient, perhaps reeking with the perspiration of surgical ardor, but yet with steady, skillful hand working in a manner that convinced any one, competent to judge, that a life given into his hands would be preserved and returned, were it among human possibilities.

In Burlington, as in New York, "Little's luck" became proverbial, for his operations, from causes that I am not able to analyze or define, were pre-eminently successful. A well-known surgeon in New York told me, in substance, that it was a prevalent opinion in St. Luke's Hospital that it would be safe for Little to cut off a foot of an intestine, when another man could hardly touch it with a knife; and yet he was deferential to a fault to the surgical opinions of his peers, ready to adopt their suggestions, and to give proper credit for them. He was a man who exhibited great common sense as a surgeon. He was not overtrained, but he knew how to get at the upshot of a case without being unduly anxious as to how Esmarch or Lister was doing that thing now.

Dr. Little's chair in the University of New York was never a satisfactory one to him. His clinics there were held but for a part of the session, and he taught but once a week, although his classes were large, and the students, at least on one occasion, petitioned the faculty that his instructions might be continued throughout the session. The request could not be granted, on account of the pressure for time in which to give the whole curriculum. Three years after his acceptance of the position, together with six members of the former post-graduate faculty of the University, he resigned, in order, in conjunction with them, to establish the New York Post-Graduate Medical School. To this institution he gave the same hearty effort that he displayed in Burlington. His lectures to graduates were, if possible, better appreciated than by the under-graduates whom he had instructed since his early manhood. A doctor was to him a brother. Without quite knowing it himself, he acted as if he supposed that every man who sought or had acquired the degree of M. D. was as eager and honest in the pursuit of knowledge with which to save life and mitigate disease as he was himself.

It is said that he always leaned toward the student, and possibly too much, when required to vote upon his examination in the faculty at Burlington. This was not from any idea of lowering the standard of proficiency, but because he could not be made to understand that there were men who, unlike himself, regarded medicine as a business, in which they were willing to embark with as little capital as could make a fair show. During these last three years he exhibited his best qualities of faithful work, and if, as Dr. Lloyd, one of his former office students and valued assistants, says, "he was inclined to throw off his work on other shoulders, and less inclined to undertake long and serious operations," on account of some grave symptoms in his general health, it was not apparent to those of his friends who saw him only at intervals. The last public work he was engaged in was a meeting of the Post-Graduate Faculty, on the evening of March 31st, when he appeared in his usual health and spirits. At that meeting an incident occurred which was characteristic of the man. He felt impelled by his judgment to vote, on a question which then came up, contrary to his feelings. It was a question that might affect the interests of some to whom he was attached, and, after he had voted and he was found to be in the majority, he expressed his regrets that he should be obliged to vote for a policy which might prove detrimental to the interests of a friend, and he vainly sought for a compromise upon the subject.

Dr. Little's services to St. Luke's Hospital were very great, and they were warmly appreciated by his patients, his colleagues, and the management. He served one term of ten years, from 1868 to 1878, when he was retired under the rules to be made a consulting surgeon. In 1882 he was reappointed an attending surgeon, and held the position until his death. Little used to tell a story of an experience of his at St. Luke's which well illustrates the maxim that "all men think all men mortal but themselves." He was to operate, on one afternoon, upon two cases for resection of the upper jaw. The first patient died upon the table from getting blood in the trachea, and Little sent word to the survivor that he wished to postpone the operation for him. He was very much disappointed at the delay, and urgently insisted that Dr. Little should personally visit him in the ward and tell him why he did not wish to operate upon him as appointed. The surgeon accordingly went up, and with some hesitation, on account of the probable effect upon the hopes of the candidate for an exsection, frankly told him that the first man was dead, and he did not feel like going on with a case of the same kind just at the moment. But instead of being daunted the patient exclaimed, "Oh, that's nothing! I'm not afraid. The other man was a sickly

fellow. I never thought he would get through. You operate on me. I won't die." As a matter of fact, Little did soon operate upon him, he got no blood in his trachea, and he did not die.

In 1876 Dr. Little was appointed an attending surgeon to St. Vincent's Hospital, a position which he held when he died. Little always believed that the kind offices of the Rev. Vicar-General Quinn, one of the managers of that hospital, were largely instrumental in securing him this position. The Vicar-General was a priest in the wards when Dr. Little was house surgeon in the New York Hospital, and in his visitations to the sick and dying in the wards had been struck by the commanding presence, the assiduous and faithful labors of the young surgeon.

Of Dr. Little's surgical achievements in detail I am not competent to speak, nor is it necessary that I should do so. They are indelibly recorded in surgical literature—at least in part, for of late years Dr. Little was somewhat regardless, from lack of time, perhaps, from his large and exacting public and private practice, to write as much as his friends might have wished. But I may say that he was the first American surgeon to puncture the bladder with the aspirator for the relief of retention of urine. He simultaneously ligated the subclavian and carotid arteries of the right side for aneurysm of the fine part of the subclavian. The operation for stone by various methods he had performed seventy-seven times, with a fatal result in but two cases. In hare-lip and strangulated hernia he also had a large and successful experience. He entered into the advances claimed to be made by antiseptic surgery with great enthusiasm, and on his last visit to Europe, at the meeting of the International Congress in London, he investigated Lister's methods very carefully, and came back to carry out all the details of Listerism in capital operations. He was a surgeon who looked round upon a far horizon. Very few operations were foreign to his knife. Yet he was extremely appreciative of specialists, and, while not heeding their advice so much as some of those who have looked askance at them, he frequently sought their aid, and often publicly recognized their value in enlarging the field of exact knowledge. He himself used the ophthalmoscope, the laryngoscope, and other means of examination not always used by general surgeons, so that he was singularly competent to make an examination in any surgical case. In the practice of medicine also—for he by no means confined his work to surgery—he was suggestive in the matter of treatment, and had many celebrated prescriptions upon which he drew with great readiness and accuracy.

Little was a great admirer of his instructor, Willard Parker. He gave his first-born the name of his preceptor. Dr. George Shrady styles him one of his worshipers. So great was this admiration when he left the hospital that some of his friends feared he would be content to be an imitator and never strike out for himself. He seemed to have acquired Dr. Parker's art of making surgery fascinating to students; he drew them about him in great numbers. Even if the clinical material for his hour, on any particular day, was scanty, the lecture would not betray the want, for what was there was made the subject of homely but important lessons. The capacity for dignifying the every-day work of surgical practice, for making apparently minor things and details assume their true importance, belonged to him in a great degree. He could make a good clinic from material which some surgeons would not deign to spend a moment upon. Like Willard Parker, also, he attracted to himself numerous office students, who almost invariably became much attached to him.

Dr. Little was, in the good sense, a simple-minded man. He loved to sit down in such places as the office at the hotel in Burlington, and, as he became warmed in his discourse, talk to plain laymen, who understood but half of what he said, of tumors and ligations, of resections and ovariotomies, and all without any idea of boasting of his own deeds, for he had not the faintest resemblance to a braggart, but he was so interested in surgery that, like Agassiz, who talked about his study of the skeletons of fishes to stage-drivers, he fairly bubbled over upon the subject. He was fond of the meetings of the profession. After its foundation, the New York Surgical Society was his favorite place for recounting his experience and listening to the discourse of the distinguished men who organized and maintained this body. He was one of the signers of the address to the profession of the State against the re-enactment of the Old Code, and the movement to liberalize the profession had his full sympathy and co-operation. Social to a degree, he could be found late in the afternoon in the conversation-room or at the monthly meetings of his club, with a cigar for himself and for his neighbor, ready to discourse upon any subject that was uppermost in men's minds. He gave great thought and spared nothing in the education of his two sons and a nephew. He had almost exaggerated ideas of the importance to a young man of an exact and thorough course of study in a college. He did not practice his profession with an idea of amassing a fortune, but he conceived that it was better to thoroughly educate his sons than to leave them the few dollars which a niggardly economy might have allowed a physician dying in middle life to put aside from his professional income. Before his death he had the great satisfaction of seeing his eldest son fully equipped and prosperously entered upon the practice of a lucrative profession. In his latter years he interested himself very much in the study of china and bric-a-brac. It became a recreation to him to visit auction-rooms, and often he came away with a rare bit of some kind.

Galton describes a certain class of men as being incapable of advancing beyond a certain point in mental attainment, just as another class can only be developed physically to a certain inferior standard. Little was not one of these. As long as he lived he grew in mental capacity. He was never satisfied with his own preparation for the study of medicine, but, while he did not enjoy the advantages of a college training that he appreciated so highly in others, he had that which no conventional curriculum can of itself furnish—a receptive, inquiring, and unbiased mind in science; and as to merely scholastic attainments he might have well said as did John Hunter when he heard that he was reproached by a rival with being ignorant of the dead languages, "I would endeavor to teach him on the dead body that which he

never knew in any language living or dead." It has been said by one biographer of Dr. Little that he was a typical American. It is certainly true that his career is a striking example of how eminence in our profession is to be attained by the resources of our own country. His education was wholly obtained within his own city. He had none of the advantages so useful to the best of men, so without use to many, which are to be obtained in British or Continental schools. But no man more than he appreciated the labors of foreign surgeons and pathologists, no one followed more eagerly the medical literature of his time; but he was fortunate enough never to acquire that slavish esteem for books which would have led him to read so many as to cease to think for himself.

The sense of humor was fully developed in Dr. Little. From the busy and sometimes weary life of a general practitioner, and from the society of his friends, he extracted much to give zest to his work. A joke at his own expense was almost as welcome as if for another. He used to tell with great glee, and awaking much laughter as he did so, how a little trick of his to stop too prolix patients once got him into great trouble. He said that he had found a good device for interrupting a needlessly long story on the part of a patient was to ask, in the midst of the long narrative, "Please let me see your tongue." He found that patients bore this interruption very well, and that, in their eagerness to get the doctor's opinion of this index of the digestion, its wagging ceased. But on one evening a friend, who was in no sense a patient, was making a call upon him, and talked long, when Little was very tired. After a time the doctor's mind wandered afar off from the discourse to the discussion of medical cases and questions, and, turning to his friend, who was in the full tide of talk, he asked with great gravity, "Please let me see your tongue." Little was never able to explain what happened when his friend had fairly taken in the meaning of this interruption.

But I must turn from the contemplation of the varied sides of our late associate's life and character. A quarter of a century was to be the limit of his professional life. In the apparent ripeness not of old age, but of middle life, it was ordered that his work should end. As has already been intimated, he was actively engaged at a professional meeting up to a late hour on Tuesday, March 31st, and on Saturday, April 4, 1885, he was in the life beyond. In August, 1884, it was discovered that he was suffering from diabetes. I believe it is thought, by some authorities at least, that the debility induced by this disease, the existence of which was shown by the examination after death, made him less able to resist the acute affection from which he died. At any rate, it had a sensible effect upon his apparent feelings and actions, as observed by his intimates. His thirst was marked, and he became much fatigued upon slight exertion. But he continued his daily work, without creating a suspicion of the existence of any serious disease, in those who saw him only at intervals, until Wednesday morning, April 1st, when he called his friend, Dr. Lloyd, to his office, at about ten o'clock, and he found him with his head resting upon his hand and complaining of a severe pain in the right iliac fossa.

He asked Dr. Lloyd to attend to his clinic for that day, while he proposed to make one or two calls in the afternoon. He then went up stairs and took a dose of cathartic medicine prescribed by himself. At noon he said he felt better, and he went out to try and finish some work, but he soon returned, complaining of severe pain. His family physician, Dr. John S. Campbell, was sent for in the evening; when Dr. Campbell arrived he ordered a dose of castor-oil, which he had seen relieve similar attacks in Dr. Little. The night passed without a movement of the bowels, and with a steady increase in the pain. Early in the morning he sent for Dr. Lloyd and gave him the necessary instructions in regard to his practice. When Dr. Campbell came for his morning visit he advised that Dr. Loomis be sent for in consultation, and when he came, although he thought there was beginning typhlitis, he advised a dose of calomel. He also had seen Dr. Little in similar attacks, which had been relieved by cathartics.

No alleviation of the pain was obtained, nor did the bowels respond to the frequent calls made upon them; and on Friday, owing to the increase of the pain, it was found necessary to resort to the hypodermic injection of morphine. It was also noticed that there was a localized peritonitis, and, when Dr. Campbell arrived, Dr. Sands was also called in consultation. By the time he arrived, in the afternoon, the inflammation of the peritonæum had become general, and it was a question whether it would be wise to operate. This was advised against, however, when the existence of the constitutional disease was fully considered. Although the hypodermic was used freely all Friday night, it was found on the morning of Saturday that the peritonitis was much aggravated. On this morning he sent for Dr. Lloyd, and when he got to the room he found him, in spite of the peritoneal inflammation, sitting in a chair by the side of the bed. As Dr. Lloyd entered the room he asked if he thought he looked much worse than the day before, and then immediately began to give instructions with regard to some business for the University of Vermont, which he thought ought to be attended to without delay. It was suggested to relieve the distension of the bowels by an aspiration, but he objected, and the matter was not urged. Dr. Lloyd, from whom I received these particulars, then continues: "After remaining with him for some time, I left to attend to the calls, and was probably absent about an hour. Upon my return I was met at the door by one of the servants, who asked me to hurry to the room, as the doctor was worse. Hurrying up stairs, I found Drs. Campbell and Powell already there, and that collapse had set in a few minutes before. Just before my arrival the doctor had asked Dr. Campbell, 'Doctor, don't you think a little digitalis would be good for this failing heart of mine?' Dr. Sands was also sent for and arrived in a very few minutes; but there was nothing to be done, and we now knew that the end was nearing fast. As I entered the room the doctor held out his hand with the expression, 'Lloyd, I am going now'; and then, a minute later, again calling me by name, he said, 'I now realize the truth of what poor Beard said.'* Dur-

* This refers to the dying words of the late George M. Beard, in which he expressed his regrets that he could not express the thoughts of a dying man.

ing all this time he was suffering intensely, but his mind was entirely clear, and his spirit undaunted by the fast approach of death. He summoned the household servants and family about his bedside, casting anxious glances at a clock that was in his chamber, plainly showing that he was counting the moments that he still had to live. Having bid farewell to each one by name, and with the words, 'I die in the Christian faith' upon his lips, there was a final instant of distress, when this brave man yielded up his spirit to the God who gave it."

Original Communications.

CASES IN ORTHOPÆDIC SURGERY.*

By AP MORGAN VANCE, M. D.,
LOUISVILLE, KY.

Mr. President and Ladies and Gentlemen of the Kentucky State Medical Society: As your Committee on Orthopædic Surgery, I submit the following cases in operative orthopædy as my report, prefaced by a few remarks in justification of the procedures in three of the cases.

The ailment known as infantile paralysis is, and always has been, the dread of the orthopædist. It is productive of almost half the cripples we meet, and is dreadful because of the meager results attained by treatment, most of the authorities now holding that all relief derived comes spontaneously, and the effects of treatment other than that to prevent deformity and to promote locomotion are nil. This has certainly been my experience so far in the effort to revive the muscles which are lost.

The use of mechanical appliances for the purpose of gaining the above-mentioned results is very unsatisfactory for a number of reasons.

If we make apparatus strong enough to render constant breaking less liable, it will be too heavy for the weakened patient to manipulate at all, hence most patients soon discard braces, either because of this or from their inability to bear the expense of constant renewal. Deformity soon takes place, and, as the patient grows older and heavier, hopeless crippling is inevitable.

How many of these persons are daily seen on our streets! some unable to help themselves at all, others showing every degree of deformity with more or less disability. The mechanical surgeon, therefore, is constantly on the alert for new suggestions toward treatment.

It has been suggested, I believe, in England, and in some cases acted upon, though the results have not been reported, that the residue of the paralyzed muscles have a section removed, thus gaining by an inelastic band better control of the joint below. It has also been recommended, whether carried out yet or not I am unable to say, that in some forms of talipes calcaneus, for instance, the tendo Achillis be resected, thus gaining an inelastic band, as mentioned above.

* Read before the Kentucky State Medical Society, June 25, 1885.

The third suggestion, and the one I have taken advantage of, is to excise the useless joint and produce bony ankylosis, thus doing by bone what we attempt to do by apparatus.

This seems at first glance to be very bold surgery, but, when we look first at the utter hopelessness of these unfortunates, and at the fact that the joints are alive and the bone in young subjects healthy, we may hope for less risks than when we get our prognosis from statistics of excisions where bone disease exists. The greatest difficulty is the gaining of the patient's consent. No surgeon should ever perform any grave operation which is proposed for convenience without making the patient cognizant of the risks he is undergoing. First, because it is not right; secondly, because if it fails and the possibility of failure has not been explained, it renders surgery too unpopular in that neighborhood.

The authorities for this class of operations are very meager. In the latter part of 1881 I saw it mentioned in a journal that Volkmann had suggested this procedure for the knee and ankle where the muscles of the hip were left, and that four or five operations had been done, with what results I have not yet learned.

Not until May, 1882, did I succeed in getting a patient to consent to the operation.

Case I.—*Boy, aged Nine, Subject of Extreme Valgus from Infantile Paralysis; Unsatisfactory Use of Apparatus for Several Years; Artificial Ankylosis produced, with Good Locomo-*

Fig. 1 (Case I.—Before excision of the ankle joint.

tion resulting.—Ed. Lawrence, aged nine, of German parentage, came under my care as a dispensary patient in the early part of 1882, giving the usual history of infantile paralysis occurring at two years of age. Both limbs were at first affected spontaneously, recovery taking place to such an extent that only partial paralysis of the left lower extremity remained, producing, as the cut will show, a bad valgus.

He had been treated by various physicians, and had worn all forms of apparatus without material benefit either as to the cure of the paralyzed muscles or to locomotion.

At the first examination I proposed the operation of excision of the ankle joint for the purpose of causing stiffness in the best position for future usefulness, thus getting rid of all braces, which had been faithfully tried.

Not for several months did I gain the consent of the parents to the procedure, but finally, finding the foot fast assuming a worse position as the boy grew heavier, and the brace more often out of repair, consent was obtained.

Fig. 2 (Case I).—After excision of the ankle joint.

On May 13, 1882, the operation was done, Dr. J. W. Holland administering the chloroform, and several other professional friends being present. A well-fitting, adjustable splint, made of leather and hard rubber, had been prepared to receive the limb.

The first step, after applying Esmarch's bandage to the limb, was to make an incision, some three inches long, half way between the internal malleolus and the tendon of the tibialis-anticus muscle in the axis of the extended foot, the center of the incision being over the annular ligament.

When the joint was reached was it was opened and the foot broken off the tibia, the ends of this bone and the fibula being sufficiently exposed to allow of their being removed with the ordinary amputating saw; then the upper surface of the astragalus was shaved off with a stout bistoury through the cartilage and sufficiently into the bone to insure that enough surface would be freshened to produce bony union with the tibia and fibula. The wound was closed with stitches, a counter-opening being made for a rubber drainage-tube. No bleeding being present except from the shaved surface of the astragalus, this was stopped only after bruising the surface with the handle of the bistoury.

Surgical fever in this case ran as high as 102° F., but no very alarming symptoms occurred, and within three weeks the external wounds were closed. I think this would have occurred earlier had it not been for the great secretion of synovia, which caused the wound to open several times.

Three years have now elapsed, and this boy has been able to walk without apparatus and with no inconvenience. There is at this date three quarters of an inch shortening of that limb, with bony union of the astragalus to the tibia and fibula.

A mistake was made at the first dressing of the foot by placing it in slight extension, hoping thereby to more easily overcome the effects of shortening by simply extending the heel of this shoe. I believe this makes him step off this foot in valgus still, despite the fact that the foot was set in varus; and has produced, by the greater strain, weakening of the ligaments anterior to the astragalo-tibial junction. From this mistake, the result is not so good as it would have been if the foot had been placed at right angles, though the result obtained decidedly justifies the means.

Case II.—*Boy, aged Seven; Subject of Infantile Paralysis, of Six Years' standing; Partial Spontaneous Recovery of One Limb, the other almost completely Powerless and Greatly De-*

Fig. 3 (Case II).—Before excision of the knee joint.

formed; No Locomotion without Crutches; Excision of Right Knee followed by Bony Ankylosis, with Relief of Deformity and Great Improvement in Walking.—Charley Hadfield, aged seven; subject of infantile paralysis since ten months of age, both lower extremities being affected; the left had spontaneously improved to such an extent that, comparatively speaking, it had become quite useful.

Many forms of apparatus had been worn and every known treatment had been tried, and, from the history, I should judge very faithfully.

The photographs will better show this child's condition than I can by any written description. Suffice it to say, as the boy grew older he more fully realized his helpless condition, and kept complaining that his father would not have anything done for his relief.

The case came under my observation three years before its last appearance, and I had then advised the operation afterward done. The father, remembering this, came again and consented to it, after understanding its full gravity and assuming his share of the responsibility.

Fig. 4 (Case II).—After excision of the knee joint.

I went so far as to let him hear a discussion upon the propriety of this form of operation by the members of the Medico-Chirurgical Society of Louisville, which was not at all favorable to its performance.

On October 21, 1884, after an open splint, made of leather and hard rubber, had been prepared, the operation was done in the presence of a number of professional friends, Dr. J. M. Ray administering the ether.

As shown by the photograph, the limb was greatly deformed, the leg flexed, rotated, and partially luxated outward and backward. On account of this deformity, the first step in the operation consisted in making an incision longitudinally along the inner border of the patella, having for its center the joint. Before turning the bones out to be sawed off the patella was removed, then the ligaments were divided and the ends of the femur and tibia easily exposed and removed with an amputating saw. There was no hæmorrhage, as in Case I, as the sawing closed the cancelli. The external ham-string was left untouched, it being the only muscle of the thigh which had any vitality left, and by its contraction had produced luxation and rotation of the tibia. This muscle served as a perfect tension band to hold the bone in apposition.

There was little or no shock following the operation, and the limb was at once placed in the splint. Ten hours after the patient was placed in bed the temperature was found to be 105° F. Reasoning that nothing but malaria developed by surgical procedure could produce such a fever as this in so short a time, quinine was used liberally with the effect desired, and had to be kept up for a considerable time.

The boy suffered little during his convalescence, and was confined in bed for eight weeks before the wound closed; during this whole time there was an excessive discharge of synovial fluid, as in Case I. His general health was much improved, as will be noticed by the difference in his appearance as shown by the photographs.

The only accident occurring during his convalescence was at about the end of the third month, when the wound and counter-opening reopened completely, following the formation of pus.

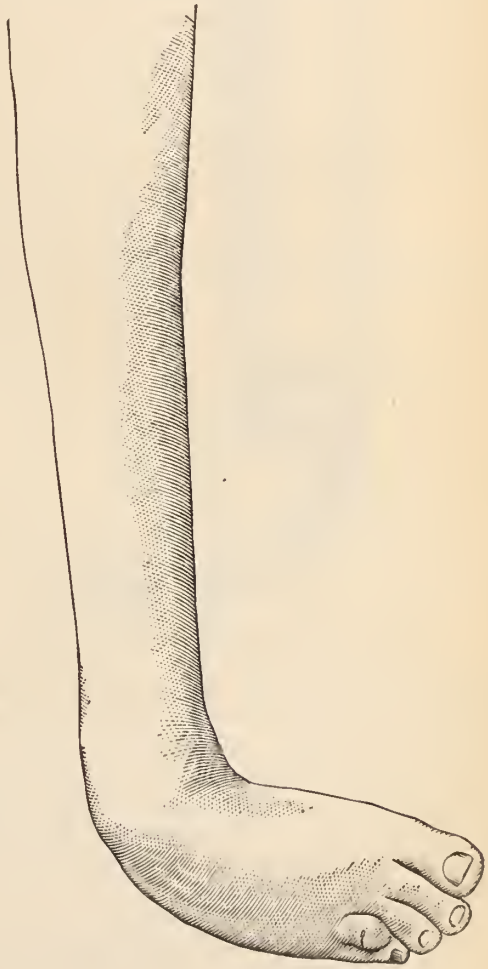


Fig. 5 (Case III).—Before excision of the ankle joint.

The child had been walking about with the convalescent plaster dressing still on, and had probably bruised the limb, or

there was slight exfoliation of bone, causing the pus formation, which, being confined under the dressing, forced the wound open from end to end, instead of discharging, as is usually the case, from a small opening at the point of least resistance. Rapid healing soon took place, and the boy has been perfectly well since. Firm bony union now exists at the site of the knee, and the boy is able to stand without the aid of crutch or support of any kind, and can walk quite well.

The long confinement produced weakness of the left limb, but this is fast gaining strength by use. The action of the hip is pendulum-like, as there is little or no power to flex the thigh. The foot in this patient was in a state of equino-varus, and was straightened during his confinement. If a proper shoe is worn, no operative interference will be needed, as was at first anticipated.

Case III.—*Case of Talipes Equino-Varus from Infantile Paralysis in a Young Woman aged Twenty-five; Complete Correction by Tenotomy and Retentive Apparatus; almost Complete Relapse after Four Years; Excision of Ankle Joint, with Correction of Deformity and Good Locomotion anticipated.*—February 6, 1885, Emma Moore, aged twenty-five, infantile paralysis of right lower extremity, resulting in talipes equino-varus. Four years ago, deformity relieved by tenotomy and retentive apparatus, which was used, until worn out, with comparatively good locomotion; then a rapid return of the deformity. At this second appearance excision of the ankle joint was proposed and readily, under the existing circumstances, consented to, as she was unable to get about at all.

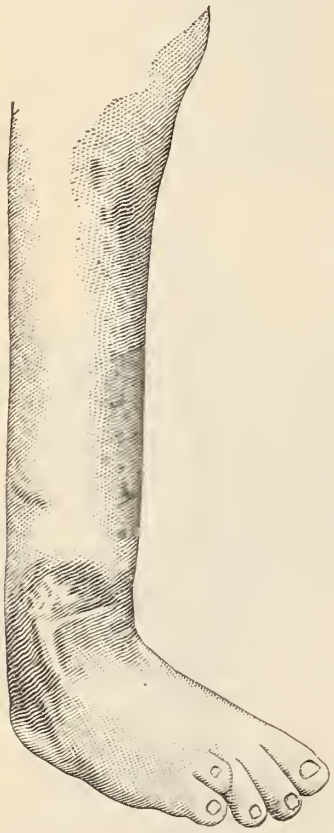


Fig. 6 (Case III).—After excision of the ankle joint.

The patient was placed in the City Hospital of Louisville, and the operation done before the medical classes, February 6, 1885, Dr. J. M. Ray giving ether. After the hæmostatic bandage was applied, a longitudinal incision was made, just anterior to the external malleolus, about three inches in length; the tip of the fibula was snipped off with the bone-pliers to facilitate the breaking of the foot off the tibia, which was then easily accomplished, the articular cartilage being removed by an amputating saw from the tibia and by Hay's saw from the astragalus, there being little or no hæmorrhage, the ligaments acting as tension bands to help hold the bones in apposition, as the hamstrings did in Case II.

An adjustable splint had been made to receive the limb and hold it at rest in the best position. Upon examination of the pieces of bone removed, quite a good deal of what appeared to be fatty degeneration was found in that taken from the tibia, while that from the astragalus appeared firm and healthy.

Prognostications of a fatal result from osteomyelitis and subsequent drain were freely made by my professional brethren present. Notwithstanding the many disadvantages in the way of surroundings and an intercurrent dysentery, she made a good recovery, the only surgical complication being the appearance, about the third week, of a diffuse cellulitis of the anterior part of the calf, yielding readily to treatment.

At the date of obtaining the photograph the patient was in splendid condition, the foot in good position, bony union between the astragalus and tibia secured, and she could bear her weight on this foot, though not allowed to walk on it yet, for fear of irritation and renewed suppuration.

Case IV.—*Subcutaneous Osteotomy of the Femur below the Trochanter for Angular Deformity of Thigh from Hip Disease; the Great Crippling relieved and Good Locomotion obtained.*—June 11, 1884, Homer Colbert, aged nine years, the subject of spinal caries and true hip disease, both long since spontaneously

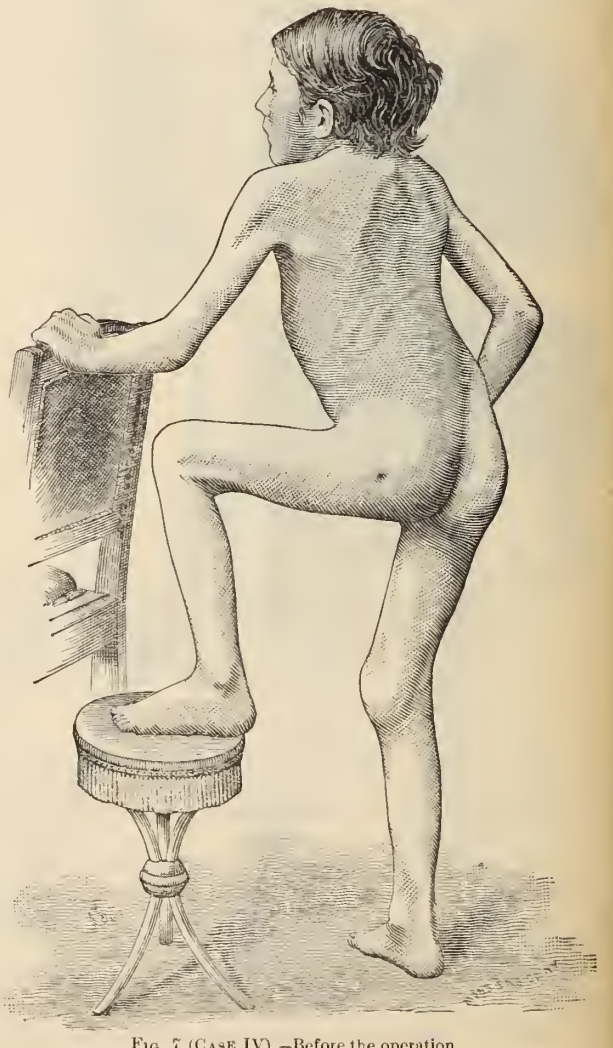


Fig. 7 (Case IV).—Before the operation.

cured, the hip being ankylosed by bone at an angle of less than 90° with the pelvis, the deformity resulting being greater because of the spinal disease in high dorsal region, which took up most of the power of compensation in the lumbar spine.

This boy could stand with difficulty by holding on to his left knee and right hip, but could not walk, his mode of locomotion being on all fours. The patient was an inmate of the Methodist Orphan Home, and ready consent to the operation was obtained; and, on the date mentioned, it was performed in the presence of the visiting physicians of the institution and several other professional friends. The patient was anæsthetized by Dr. Senteny, and turned upon his right side. A block of marble, well padded, was pressed tightly upward on the inner side of the thigh as high as the perinæum would allow. The chisel was entered just below the trochanter, the edge of the blade being in the axis of the limb. It was then sunk by steady pressure to the bone, then turned with the edge across the bone, and driven, with sharp strokes of the mallet, through until its hard substance on the other side was reached and partly entered. The direction was then changed and the same amount of cutting done in several directions until sufficient weakening had been produced to insure our being able to complete the fracture.

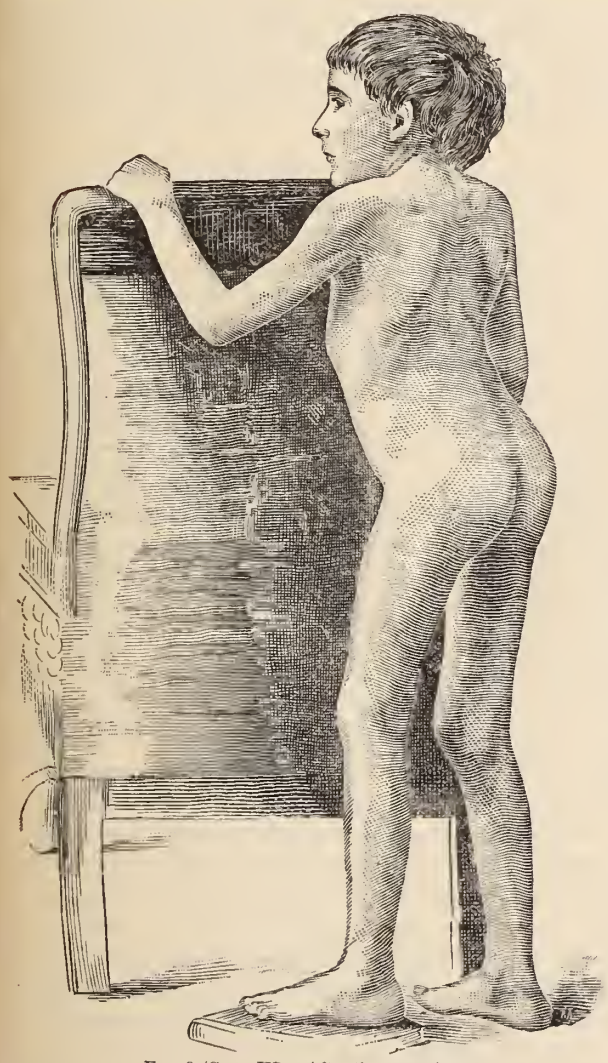


Fig. 8 (Case IV).—After the operation.

Without removing the chisel, the edge of the padded block was placed opposite the chisel and rested on the table, thus acting as a fulcrum at the weakened point. The pelvis being fixed by an assistant, a quick and forcible depression of the lower end of the femur completed the fracture.

The chisel was then removed, and tenotomy of the muscles going to the anterior-superior spinous process of the ilium was done, when, without much difficulty, the limb was brought down and fixed in plaster of Paris, 90° of deformity being overcome. The wounds were dressed with compresses of absorbent cotton and the case was treated as a simple fracture, going on to conclusion without a bad symptom, the boy being able to walk at the end of five weeks. He walks now—when the second photograph is taken—any distance without difficulty, using an elevated shoe to compensate for about one inch and a half shortening of the affected limb.

Case V.—*Deformity of Left Lower Extremity in a Young Man of Seventeen, the Result of Knee-Joint Disease of Many Years' Standing, relieved by Subcutaneous Osteotomy of Lower End of Femur.*—A. B., aged seventeen years, came under observation last November for treatment. There were the history and the evidence locally of an old inflammation of the left knee joint dating back to early childhood. The limb was greatly deformed, and he walked with painful inconvenience. The knee was found with very little motion, flexed at an angle of 135°, the leg being very much rotated in its relationship to the thigh; there was combined with this marked genu valgum. The compensating deformity of the foot being quite great and walking being painful, I was unable to get photographs in this as I did in the other cases.

The procedure of dividing the bone was exactly as in the preceding case, the final steps being much more difficult because of the limited motion at the knee, and the fear that it might be further damaged if too much strained by the use of the leg as a lever; but I succeeded by having the upper part of the bone fixed by a very strong assistant, then, grasping the condyles in both hands, with the application of sudden force downward, using the same fulcrum as before, the fracture was completed and the deformity overcome, after tenotomy of the external ham-string tendon. The limb was dressed in plaster and went on to firm union as a simple fracture.

The young man now walks anywhere without difficulty, and is the possessor, comparatively speaking, of a comely limb, a compensation of one inch and a half being added to the shoe.

June 21, 1885.

HYSTERICAL HEMIANÆSTHESIA, AND ITS IMPORTANCE.

By F. C. FERNALD, M. D. (Harvard),
WASHINGTON, D. C.

Our text-books of medical practice have so little to say on the subject of "hysterical hemianæsthesia" that the majority of practitioners understand neither the full meaning of the term nor its importance as a symptom. The symptom, although most commonly met in young women, is not confined to any age or sex. The left side is far oftener affected than the right. The anæsthesia, which is limited to one side of the body (beginning exactly in the median line) and to its members, and to the special senses of the same side, is, in a strongly marked, typical case, absolute; the sensibility of the skin to touch, pricking, pinching, heat and cold, induced and constant currents, is lost; the faculties of sight, hearing, smell, and taste on the affected side are gone; the accessible mucous membranes also have lost their sensibility; the muscular sense is absent; the skin is cooler and paler than that of the sound side, and bleeds only a little, or not at all, when pricked or slightly cut.

As in other affections, typical cases are not often seen. The variations are numerous; one or more of the special senses may escape entirely or become only slightly impaired; cutaneous sensibility may be merely more or less dulled, or dulled as regards one or another kind of irritation; different areas of skin on the affected side may differ widely in the degree of anæsthesia.

There is no characteristic method of invasion; the trouble may come on suddenly, either with or without loss of consciousness, or it may appear gradually. Its duration may be days, months, or years.

Its departure may be sudden or gradual. There are also motor symptoms, as a rule, and these are generally on the same side as the anæsthesia. They may assume the form of mere weakness, of paralysis, or of rigidity. In cases of this sort the motor disturbance may pass off rapidly, while the sensory disturbance remains; sometimes the two sets of symptoms pass off *pari passu;* at other times both may grow progressively worse.

There are no especial causes of an attack; it has been known to be produced by a strong impression on the emotions, by a fall, and by a jarring or slight injury received in railroad cars. But of most cases there is no assignable cause.

A few rare cases have been reported which presented precisely the same clinical picture as hysterical hemianæsthesia, and of which alcohol, chronic lead-poisoning, and organic brain disease, respectively, were considered the cause. Before going further, it may be well to cite a few illustrative cases.

Case I.—*Hysterical Hemianæsthesia with Hysterical Hemiplegia.*—This patient came to the out-patient nervous clinic of the Massachusetts General Hospital (in which the writer was assistant). E. B., female, thirty-four years old, married, complained of inability to use the right arm and right leg; was able to walk with some difficulty by aid of cane; movements of arm and fingers possible but awkward. This inability to use her arm and leg had been going on for over two years. Previous to this trouble she had pain in right shoulder and arm, which she attributed to strain occasioned by housework, to which she was unaccustomed. After two months of pain she suddenly became hemiplegic. At the time of her visit to the clinic the knee-jerk was normal; no apparent atrophy of muscles on the affected side. By black-board test, the field of vision of right eye limited; color-perception also impaired in same eye; hearing on this side dulled to both air and bone conduction; taste on right side of tongue absent; unable to distinguish the odor of turpentine in right nostril. Her general health was good. With encouragement was able, after a few minutes, to walk without the cane.

Case II.—*Hemianæsthesia from Chronic Lead-poisoning.* (Reported by Sturge, "Brit. Med. Jour.," London, 1878, i, p. 784.)—A man, fifty-two years old, employed in white-lead works, treated in hospital for lead-colic; cured; returned to work; three days later noticed slight weakness in left arm and leg; also observed diminution of sensibility of left half of body. Complained of itching and tingling of left hand and foot; while in hospital noticed dimness of vision in left eye, which has since increased. *Examination:* Grasp of left hand weaker than right; no dragging of left leg, but says it tires quicker than the other; power to resist forced extension or flexion of left leg diminished; no facial paralysis; general sensibility much diminished on left side; same true of face and tongue; in lower part of leg and in foot sensation but slightly dulled; unable to smell with left nostril, right normal; hearing of right ear normal, but with left ear a watch was heard only when placed in contact with that ear. Treated with metal discs; no result. Remained in hospital several weeks unimproved.

Case III.—*Hemianæsthesia Due to Alcohol.* (Reported by the same author, *loc. cit.*)—Man; habitual drinker; had had one epileptiform attack. For two years had paresis of right side. Was admitted to hospital with delirium tremens, and at this time was noticed to have muscular weakness and anæsthesia on right side; amblyopia of right eye; odors not perceived in right nostril; hearing of right ear enfeebled; sense of taste much dulled on right side of tongue. Hemianæsthesia remained stationary for ten days, then began to improve; five weeks after admission, sight equally good on both sides; hearing improved; smell normal; general sensibility still slightly diminished on right side. *Treatment:* Iodide of potassium, gr. xv per diem, with bitter tonic.

Case IV.—*Hemianæsthesia Due to Organic Brain Disease.* (Mentioned by Sturge, *loc. cit.*, but originally reported by Türck, 1859.)—Female, twenty-two years old; died six months after an apoplectic attack followed by hemiplegia and loss of special senses and general sensibility on right side. Autopsy showed a patch of softening lying outside of optic thalamus, which was intact; two thirds of the foot of the corona radiata was involved.

Diagnosis.—Hysterical hemianæsthesia has one striking peculiarity in the fact that the patient is usually unaware of its existence, and that the physician himself is apt to overlook it unless he makes his examination in a thorough and methodical manner. Hence a short description of the proper mode of making the examination may not be out of place. To avoid deception, it is essential that the patient should have his eyes closed during the testing of the cutaneous sensibility, and it is best that he should also not know beforehand what is to be done. The test is made by pricking with pin, by electric brush, by small bottles of water at different temperatures, and by other means that readily suggest themselves. This examination of the skin should be the first test in the examination of the patient, because, if any anæsthesia is found, it gives the key to the affected side, and knowing this we can avoid being deceived while testing the special senses. Always try the special senses of the suspected side first; otherwise the patient may be self-deceived by mistaking what we may call the "after-images" of the impressions that have been made upon the well side for genuine impressions on the affected side.

Both sides of the body should be tested and compared throughout. The field of vision is examined by the black-board test described in Webber's "Nervous Diseases" as follows: "If accuracy is required, it is necessary to use a blackboard with a point of fixation, the patient being placed at a distance of a foot from that point, with one eye covered; a bit of white paper or chalk is then moved from the outside inward until the patient can see it, and a mark is made on the board. This is repeated at short intervals around the central spot until we have marked out roughly the field of vision of the eye." The color test can be made in a similar way by substituting bits of colored paper for the chalk. Conduction of sound through the bone is tested by

a vibrating tuning-fork held between the closed teeth, while both ears are closed; air-conduction is tested by the voice, tuning-fork, or watch, always having the other ear closed.

Nature does not draw sharp lines. Hence it is not always possible to distinguish hysterical from non-hysterical hemianæsthesia. Frequently, however, a doubtful case is cleared up after several examinations and after carefully watching it for a time.

The tendency on the part of general practitioners probably is to ascribe the symptoms to organic brain disease rather than to hysteria. But organic disease is a very rare cause of hemianæsthesia, for only four or five cases with autopsical proof have been reported. The absence of mental disturbance, of persistent cephalalgia, of facial paralysis, of abnormal electrical reaction and of nutritive changes in the muscles, of syphilis or history of it, point to hysteria. Dr. Walton, of Boston, was the first to show that in hysteria the hearing is affected in a peculiar and characteristic way in that bone-conduction is impaired or lost before air-conduction is affected. However, a patient may not present himself soon enough for the physician to observe this. The concentric contraction of the field of vision and loss of color-perception are also characteristic of hysteria. Hemiopia is the usual form of defect in cases where the visual centers are involved by organic disease. Chronic lead-poisoning may be excluded if there be no history of lead, or if no lead be found in the urine either before or after the exhibition of iodide of potassium. The history will also exclude alcohol. Finally, in many of these hysterical cases there is a fluctuation in the symptoms quite characteristic; there may be, for instance, a complete transfer of all the symptoms from one side of the body to the other, or repeated improvements, or even complete recovery, followed by relapses—all utterly inconsistent with the hypothesis of organic brain disease.

Malingering may be suspected, *especially in railroad cases* where there is possibly a question of damages. It is quite inconceivable, however, that a person, often a very ignorant person too, should be able to simulate hysterical hemianæsthesia in its entirety, with the peculiar modifications of vision, hearing, smell, and taste. The amount of injury that may be incurred without pain in these hysterical people is marvelous, and is satisfactory evidence against malingering. Skerritt ("Brit. Med. Jour.," London, 1888) tells of a case of this kind in which a finger-tip was chopped off and a leg broken entirely without pain. The so-called hysterical or nervous temperament is by no means a universal concomitant of hysterical hemianæsthesia. Many of the most marked cases present no other symptoms whatever of hysteria.

Importance of Hysterical Hemianæsthesia.—In all obscure cases of nervous disease one should make it a rule to look for hemianæsthesia, for, if that be found, the other symptoms will most likely be of hysterical origin also. In medico-legal cases, especially railroad cases, we have in this symptom the strongest possible evidence against the theory of shamming, behind which the defendants almost invariably try to intrench themselves.

Treatment.—The treatment is highly unsatisfactory as a rule, often useless. Some patients with hysterical paralysis seem to have lost merely the "knack" of making the muscular contractions essential to certain movements. A case of this kind came to the writer's notice while assistant in the out-patient nervous clinic of the Massachusetts General Hospital. A man with hysterical hemianæsthesia and hysterical hemiplegia, the motor disturbances being especially marked in the leg which was powerless, appeared on crutches, saying that his condition was brought on by a slight shock received in a railroad car. In less than half an hour spent at the clinic he was able to walk across the room unaided by crutches, but awkwardly, however. This result was brought about by having him fix his attention on certain muscles, while these were made to contract by the stimulus of the faradaic current, after which he was induced to imitate the movements by effort of will. He was then told that if he came again on crutches it would be his own fault. He did not give them up, however. He entered suit against the railroad company, but recovered before the trial came off. Massage, tonics, electricity, especially the wire-brush, are sometimes of value. The application of metal discs has been known to cure. A full description of this mode of treatment is to be found in Bartholow's "Therapeutics." Mental and moral influences and *time* are the best curative agents.

1013 Fourteenth Street, Washington, D. C.

THE TREATMENT OF LARYNGEAL PHTHISIS.*

By E. FLETCHER INGALS, M. D., Chicago,
Professor of Laryngology in the Rush Medical College; Professor of Diseases of the Throat and Chest in the Woman's Medical College.

At a meeting of the American Laryngological Association in 1883 I presented a paper on the subject of the treatment of laryngeal phthisis. The views I then held have been but little modified by my subsequent experience, and I can hope to offer very little that is new to those who have read it. However, the malady is one of so distressing a character that it merits constant effort in seeking means for its relief. I, therefore, have yielded to the request of the secretary to present the subject at this time, with the hope of eliciting a discussion in which much may be brought out that will prove mutually advantageous to us and to those who may hereafter come under our care.

In what I have to say I purposely confine myself to a few suggestions concerning treatment alone, ignoring the entire subject of pathology, ætiology, and diagnosis of the disease.

I gave in detail, in my former paper, the history of several cases, in which I endeavored to illustrate the methods which, in my experience, had proved most successful in meeting the following indications, viz.:

1. The relief of pain.
2. The cure of the disease.
3. The prolongation of life, if the disease could not be cured.

* Read before the American Climatological Association, May 28, 1885.

For the relief of pain I have had more satisfactory results from the use of a pigment consisting of morphine, gr. iv; carbolic acid, gr. xxx; tannic acid, gr. xxx; glycerin and water, āā ʒ iv, than from anything else I have ever tried. It will usually benumb the parts for from twelve to thirty-six hours.

In the intervals between the applications of this pigment, sedative powders may be employed with benefit. Sometimes great relief may be obtained by allowing the patient to use the pigment at home in the form of a spray, first diluting it with two or three parts of water, or even employing it in full strength when we find that it is used properly; thus applied, it relieves the pain and checks cough.

In mild cases, a sedative powder—consisting of morphine sulphate, gr. j–ij; benzoin, gr. xx; bismuth subnitrate, gr. xx; iodoform, gr. xx—may be used by the patient, and even in severe cases it will sometimes be found very beneficial. Powders may be applied directly to the larynx by means of a bent tube, or, in cases where the throat is very sensitive, they may be thrown through the nares with an insufflator, providing they are blown in with considerable force at the moment of a deep inspiration. In about half the cases where this method is tried the application to the larynx will be thorough and satisfactory.

For the cure of the disease, in the early stage when there is simple hyperæmia, the ordinary topical applications for chronic laryngitis seem beneficial; and, even later on, we may hope sometimes to check the progress of the disease by the same remedies, thus preventing the distress incident to extensive ulceration and exfoliation of the cartilages.

At the time I prepared my former paper I had hope for much benefit, in the ulcerative stage, from the application of eucalyptol by means of a brush or a spray; but my expectations have not been fulfilled, although I have found it useful in a few cases.

While great reliance is placed on local treatment, the constitutional malady, which is present in most, if not all, of the cases of laryngeal phthisis, should not be neglected. This requires the same treatment as uncomplicated pulmonary consumption, and a cure of the local affection can hardly be hoped for unless the pulmonary disease can be checked, although life may be prolonged by local applications for the relief of pain. In cases where death is inevitable I follow still the general line of treatment already suggested, which was clearly marked out in my former paper, and the results are very satisfactory. Two patients whom I reported cured in 1883 are still well. One, Dr. J. C. G., who was reported as declining in health, died four months afterward from hepatic disease, which caused excessive enlargement of the liver, but he had no return of the laryngeal affection.

Sometimes the epiglottis or the arytæno-epiglottic folds become the seat of the ulcerative process. There is then likely to be so extensive a destruction of the tissues that the glottis can not be properly closed in deglutition. In such cases food and fluids pass into the larynx and give rise to such severe paroxysms of cough or suffocation that patients will abstain from food for days rather than endure the agony sure to follow any attempt to swallow it. Under these conditions topical applications can do very little, unless feeding is carried on through a stomach-tube. In other cases, where the ulceration has not selected these parts or advanced to such a degree, much can be done to prolong life by the use of some local application to benumb the parts and enable the patient to eat with comfort. For these the pigment of morphine, carbolic acid, and tannin has proved most beneficial.

From the new anæsthetic, cocaine hydrochlorate, I hope for good results; but my experience in its use has been so limited that I can not speak with authority. Thus far its cost has prevented thorough experimentation. Applied in a strong solution of from ten to twenty per cent., with a brush or as a spray, directly to the part, it will probably efficiently relieve pain for a few minutes, or for a time sufficiently long to enable the patient to partake of a hurried meal with some degree of comfort. However, the great objection to its use in this manner is that, in most cases, it is impossible for the physician to be in attendance at the right time three times a day.

The addition of the cocaine to the sedative powder already mentioned would doubtless add to its efficiency, and would furnish an anæsthetic which might be applied by the patient either directly to the larynx or, in the manner spoken of, through the nares.

The combination of cocaine, gr. j, with gr. ix of powdered starch I have recommended to be employed in this manner. I have given the powder for home use in but one instance, and then in the proportion of only two per cent. The patient reported that it did no good whatever. Its failure was probably due to the fact that so small a proportion of the drug was used.

Lack of time has compelled me to confine myself in this paper to my own experience; but I hope that what I have said may call out the personal observations of others, which will be far more valuable than anything I could compile on the subject.

Note.—Since the foregoing was written, I have several times employed cocaine hydrochlorate in laryngeal phthisis, but the results have been unsatisfactory in every case, except in reducing the swelling of arytæno-epiglottic folds.

64 State Street, Chicago, *May 23, 1885.*

SOME MINOR POINTS IN THE USE OF THE GALVANO-CAUTERY.*

By HARRISON ALLEN, M. D.,
PHILADELPHIA.

I desire to call attention to a novel means of application of the snare to the removal of hypertrophied tissue and polypoid growths in the nasal chambers. The single feature of interest in the instrument employed is comprised in the facility with which the loop is maintained in a heated condition. The general shape of the instrument is essentially that of the Jarvis snare. For the details and full descrip-

* Read before the American Laryngological Association, June 25 1885.

tion of the instrument, reference is here made to an article, by the writer, in the "Journal of the Franklin Institute," April, 1885, and a second in Pepper's "System of Practical Medicine," vol. iii.

The advantages maintained for the heated wire over the cold wire are as follows: First, the loop, being pressed against a swelling whose base is broad, can be completely imbedded in it. Secondly, the tissue embraced by the loop can be removed with rapidity. Thirdly, the operation is much less painful than the removal of growths with the cold snare. Fourthly, the bleeding is insignificant in amount.

Let me in addition speak of the manner in which an electrode can be manipulated so as to reach with accuracy points which are remote from the nostril, and which can not be readily seen by the operator. A perfectly straight instrument, when thrust directly back through the nose as far as it will go, will reach, as is well known, the vault of the naso-pharynx nearly at the spot at which inspissated mucus is so commonly found. If the platinum-loop of the electrode is bent at its middle to a right angle, and in this shape thrust through the nose, the main axis of the instrument will be found to touch the vault at its anterior curvature, while the deflected portion will reach a point more remote. When in this position, if the electrode is made part of the galvanic circuit, the loop of course becomes heated, and will imbed itself in the mucus, and the mass can subsequently be withdrawn through the nose.

To reach surfaces at the plane of the posterior nares, it is only necessary to withdraw the electrode from its position at the vault until it is seen by means of reflected light to rest upon the surface which it is desired to cauterize. It is always well to remember that the applications can be made without the electrode being secured to the electrode-handle. When the electrode is in position, the free ends of the instrument, which project beyond the nostril, can be lightly touched by the electrode-handle without in any way endangering a change of position on the part of the loop. The slightest motion on the part of the patient will simply break the contact between the electrode and the connecting wires. The method just narrated is especially useful in cauterizing the membrane overlying the posterior surface of the middle turbinated bone.

SURRENDERING TO DISEASE TOO WILLINGLY; LARGE DOSES OF STRYCHNINE.

By G. SPRAGUE, M. D.,
CHICAGO.

The case reported in the issue of the "New York Medical Journal" of June 20th, by A. D. Rockwell, M. D., New York, of chronic myelitis, is one more of the frequently occurring instances where medical men too often yield to discouraging indications, not estimating at their value the usual effects upon young subjects of wisely planned and long-continued treatment in a given direction, this being seconded by the inherent tendencies in young subjects *toward recovery*. Dr. Rockwell says in that report: "Four physicians, including myself, who had become interested in the case, regarded the condition as entirely hopeless." He adds that "the father, in the face of a completely discouraging prognosis, insisted upon unceasing efforts being made," the result being subsequent recovery.

The case was, "Miss B., aged sixteen," while on a Sunday-school excursion, sat upon a wet, cold rock until congestion of the parts adjacent to the point of exposure was produced, this being followed by paralysis, as stated.

To illustrate the principle here contended for, we will make brief mention of a case:

O. L., a book-keeper, aged twenty-two, of sanguine temperament, short stature, and very vigorous physique, feeling slightly indisposed, applied to a young practitioner from a reputable school, who gave the young man a wet pack, a mode of procedure commonly adopted in his practice, as he afterward stated to the writer. The result of the too-long-continued wet pack upon the body and limbs of the young man was—there being no especial elevation of temperature present to meet the shock—to produce congestion of the base of the brain and upper portion of the spinal column, resulting in epileptoid spasms, these recurring at frequent intervals during each day. He passed at once into the hands of another practitioner, who at the end of nine days acknowledged his inability to control the manifestations. The writer was called to the case (two years have now elapsed), finding the violence of the epileptoid spasms increasing in violence. Pulse 115, temperature 102·5°, tongue coated, and bowels not moving. Put the patient upon ½-grain doses of calomel, conjoined with a little aloin, each three hours, and after the fourth dose the bowels commenced to move gently, the evacuations being small and quite like tar in appearance. The bowels were kept gently in action, the movements taking on a healthy character on the third day. A blister was applied upon the upper portion of the spine, 4 × 4 inches. An immediate abatement of the convulsions followed, to be succeeded, very naturally, by total paralysis of the left side, of both motion and sensation. Ten weeks of treatment found him on his feet, and, feeling pretty well, he asked the privilege of going twelve miles out to spend a short time with a friend. I granted this, with the understanding that he was to be immediately brought back to the city upon the first indication of anything being wrong.

But while at his friend's he was seen by an acquaintance from New York city, who said, "Come with me and I will give you a job at book-keeping." He went without advising me of the movement, which would, of course, have been objected to; worked ten days at his books, was hauled to his boarding-house in a hack, with total loss of motion and sensation in the left side, as before. Medical attendance was summoned, and at the end of a week he had the combined aid of three medical men. The result soon was a declaration from the attendants, all concurring, that the case was a hopeless one; that he could never again walk. Upon this decision being given, his friends here sent for him, and he was brought home, the family supposing the case was, as stated, a hopeless one. I stated to the father of the young man that I hardly concurred in that opinion; that I would give him the necessary attention if they would pledge to faithfully second my movements in every particular; that if he was no better in two months, perhaps he would be in four; and if no better in four months, possibly he might be in eight; if not improved in eight months, perhaps at the end of a twelvemonth we might see him on his feet. As before, there was total loss of motion and sensation of left side, with obstinate tendency toward constipation, which condition was carefully watched and attended to. On the principle that we sel-

dom have pronounced outward manifestations without the coexistence of internal organic disease, the treatment was conducted upon this proposition, early in the management planning to place a blister, 3 × 3 inches, each third day, over the upper twelve inches of the spinal column. After the effect of the third blister was obtained there were indications of improvement. After the fourth had been brought to bear the improvement was pronounced. Regarding other means used, mention will be made under the heading that follows. As to the progress made, in four months the young man could walk, with the aid of his staff, by sliding the left foot across the floor. Soon thereafter he was on the street. Within six months he was ready for duty; a portion of last summer kept books for an ice company, from 7 P. M. to 7 A. M., without injury. At this writing he is book-keeper for one of the city ice companies. There is still a tendency to torpidity of the bowels, but no twenty-four hours is permitted to pass without a movement being produced.

Large Doses of Strychnine.—Having before me, in the issue of the "New York Medical Journal" of June 27, 1885, reference in the proceedings of the American Neurological Association to the use of strychnine in large doses, I take this occasion to say that in the case above related strychnine, in solution (I would in no case administer the drug in pill form), was given in $\frac{1}{40}$-grain doses at first, gradually increasing until $\frac{1}{8}$ grain was given three times daily for two months or more, no manifestations being made other than steady improvement in the patient's condition, with final recovery, as stated above. In a case of nicotin poisoning, under my charge during the past four years, with steady improvement, I have given strychnine in $\frac{1}{12}$ to $\frac{1}{15}$-grain doses for weeks together, three times daily, at such times as the pulse ranged from 60 down to 47 a minute.

Book Notices.

The Curability and Treatment of Pulmonary Phthisis. By S. Jaccoud, Professor of Medical Pathology to the Faculty of Paris; Physician to the Larihoisière Hospital, Paris, etc. Translated and Edited by Montagu Lubbock, M. D. (London and Paris), M. R. C. P. (Eng.), Assistant Physician to Charing Cross Hospital and to the Hospital for Sick Children, Great Ormond Street, London. New York: D. Appleton & Co., 1885. Pp. xiii–407. [Price, $4.]

The basis of this book is a series of lectures delivered in Paris by the distinguished author in the months of December, 1880, and January, 1881, and it is written with all the enthusiasm of a Gallic nature as well as with a conviction based upon extensive experience and study. It is a misfortune which the translator realizes, and expresses in his introduction, that no reference should be made to the bearing of Koch's bacillus upon tuberculosis; but the lectures were given more than a year before Koch's discovery. This fact alone renders the author's ideas concerning the pathology of the disease decidedly behind the times. The outline of the work includes not only the subject of treatment, but a preliminary portion on the nature and curability of phthisis, comprising sixty pages. Treatment is discussed under the following methods: (1) The prophylactic; (2) the hygienic, including hydropathy and aërotherapy; (3) the use of drugs; (4) the use of mineral waters, including a residence at suitable watering-places; (5) the climatic. Two distinct clinical forms of the disease are recognized—the inflammatory or pneumonic form, and the chronic or ordinary one (gray granulation, miliary tubercle, etc.); but the author also agrees with Grancher, who considers that from an anatomical standpoint tubercular granulations and pneumonic infiltrations have the same structure. He also believes that tuberculosis is an infectious disease, though he admits his ignorance of the agent which causes the infection, or the exact manner by which infection occurs. He considers that malnutrition is the chief factor in producing phthisis, and that, when upon that an irritative process or actual inflammation of the lung is ingrafted, tubercle results. The division of tuberculosis into hereditary, innate, and acquired might be condensed by dropping the first of these. One of the chief points which are insisted upon is that pulmonary phthisis in all its forms is curable. The existence of cavities and the occurrence of hæmoptysis need not, of themselves, imply a prognosis of a fatal issue, the number of the former and their size, or the number and quantity of the losses of blood, being the important considerations. The principles which are laid down concerning prophylaxis, the hygienic treatment, and treatment by the use of drugs, are sound enough, but we find nothing new or original in them. In the sections upon treatment by mineral waters and a change of climate, however, the richness of the author's experience is manifest. His directions in regard to the various places which he recommends are based upon personal experience from visiting these places, and the data which he has collected concerning altitudes and barometric pressure, prevailing winds and variations of temperature, conditions of soil and moisture, together with the conveniences of the various stations, and the effects produced upon patients in the different stages of the disease, during many years of practice. All these enable him to speak with something like precision in regard to the results of a sojourn at any station which he may recommend. It is a pity that we have not an analogous work for American patients, since, unfortunately, the treatment of pulmonary phthisis under the most favorable considerations is an expensive affair, and the majority of our patients have neither the inclination to take so long a journey nor the ability to bear the expense of a protracted residence at Madeira, Davos, St. Moritz, the Engadine, Algiers, or any other of the European or African resorts. With the great variety of conditions as to soil and climate which our country affords, certainly the field is a rich one for investigation and for a book similar in its bearings to the one under consideration. The translator's work is exceedingly creditable, and we do not recall an obscure passage in the entire book.

BOOKS AND PAMPHLETS RECEIVED.

Harn-Analyse für practische Aerzte. Von S. Laache, Reservearzt an der medicinischen Abtheilung A des Reichshospitals in Kristiania. Mit 21 Holzschnitten. Leipzig: F. C. W. Vogel, 1885. Pp. viii–166.

Applied Medical Chemistry. A Manual for Students and Practitioners of Medicine. By Lawrence Wolff, M. D., Demonstrator of Chemistry, Jefferson Medical College, etc. Philadelphia: P. Blakiston, Son, & Co., 1885. Pp. 174. [Price, $1.50.]

Epilepsy and other Chronic Convulsive Diseases; their Causes, Symptoms, and Treatment. By W. R. Gowers, M. D., F. R. C. P., Assistant Professor of Clinical Medicine in University College, etc. New York: William Wood & Co., 1885. Pp. xi–255. [Wood's Library of Standard Medical Authors.]

A Memorial Sketch of the Life and Character of the late Jacob Simmons Mosher, A. M., M. D., Ph. D., of Albany, N. Y. By Willis G. Tucker, M. D. [Reprinted from the "Transactions of the Medical Society of the State of New York."]

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co.
Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, NOVEMBER 7, 1885.

THE AMERICAN ACADEMY OF MEDICINE.

THE Academy's recent annual meeting, a brief report of the proceedings of which will be found elsewhere in this issue, was one of unusual significance. This organization has not been much given to scientific work in the past, but has rather occupied itself with matters pertaining to the elevation of the standards of medical education throughout the country. In this respect the meeting held in New York was no exception, but it was notable for a propositiou looking to a radical change in its by-laws—so radical, indeed, as to amount, in case of its adoption, to the complete effacement of the Academy's most striking peculiarity.

Section 2 of Article III of the present by-laws reads as follows:

"The Fellows shall be alumni of respectable institutions of learning, having received therefrom—1. The degree of Bachelor of Arts, or Master of Arts, after a systematic course of study, preparatory and collegiate. 2. The degree of Doctor of Medicine, after a regular course of study, not less than three years, under the direction and instruction of preceptors and professors. 3. When a candidate is an alumnus of a foreign institution not granting the degree of Bachelor of Arts or Master of Arts, a certificate or certificates, which shall be considered as equivalent by the Council and Academy, may be accepted in lieu thereof, provided he shall have subsequently received the degree of Doctor of Medicine. 4. The Fellows shall also have had an experience of three years in the Practice of Medicine, in one or more of its recognized departments, and shall have a good moral and professional character."

We have copied this section punctiliously, preserving the glory of the capital letters, the Teutonic punctuation, and the blunders of phraseology. In view of the Academy's lofty—not to say pedantic—attitude, the temptation is great to touch more pointedly upon these shortcomings, but just now we are not so much concerned with the Academy's literary achievements as with the proposed change in the substance of its by-laws to which we have alluded. The purpose of an amendment, to be acted upon at the next meeting, is to provide for the admission of graduates in medicine, who, although they may be destitute of literary degrees, "have distinguished themselves in medicine and collateral sciences." Here we can not refrain from a passing remark upon the phraseology of the proposed amendment. Why "*and* collateral sciences"? Must future candidates have distinguished themselves both in medicine and in more than one other science? However, we take it for granted that the proponent's intention is to secure eligibility for medical men who have shown a notable proficiency in either strictly medical attainments or any one of the collateral sciences.

We are convinced that the American Academy of Medicine would be taking a wise step by adopting an amendment plainly setting forth what we infer to be the purport of the proposed amendment, and we think the Academy has been fortunate in having a president who was able and willing to present the arguments in favor of such a change so forcibly as was done by Dr. Gihon in his address, our reporter's abstract of which we regret to have been compelled by the pressure upon our space to abbreviate.

Another important amendment was proposed to Section 1 of Article VIII, entitled "Discipline." The section now reads: "The Fellows of the Academy, in their relations with each other and with their fellow-men, *agree to* be governed by the principles *embodied in the present Code of Ethics of the American Medical Association*, and by the Constitution and By-laws of the Academy." We have italicized the words which it is proposed to change. In place of "agree to," the amendment reads *will;* and in place of "embodied in the present Code of Ethics of the American Medical Association," it reads *which actuate educated and upright men in every profession.* This amendment, too, we think the Academy would do well to adopt.

THE MEMORY OF WILLIAM HARVEY.

Two years ago we gave a detailed account of the pious act of the Royal College of Physicians in causing the neglected remains of Harvey to be incased in a fitting sarcophagus of its own providing. But that was only a half-measure, and a further duty yet remains to be performed. In another part of this issue of the journal it will be seen that the Harvey Chapel is still but a portion of a ruin. The parochial church of Hempstead is depicted as in a condition that ought to be remedied at whatever cost. Every consideration of propriety points to the medical profession as the fitting source of the means wherewith the restoration of this sacred edifice—sacred not only from its ecclesiastical character, but from its having been made the resting-place of the mortal remains of one of the greatest men who ever adorned medicine—is to be accomplished.

At the solicitation of the Royal College of Physicians the descendants of Harvey gracefully waived their own privilege of caring for his remains, and the parishioners of Hempstead Church, nobly recognizing the propriety of a universal tribute to Harvey's memory, now with equal grace confess their own inability, unaided, to do adequate justice to the demand, and are willing to share the honor with the medical profession at large.

The physiologists of two continents—and with them all practitioners of medicine in every nation—have daily profited by Harvey's great discovery of the circulation of the blood, to say nothing of his numerous other contributions to the advancement of medical science. That these other contributions are of no mean character is plainly shown by the interest taken in the fac-simile reproduction of their author's manuscript lectures—a work of which also mention is made elsewhere in our present issue. It is, therefore, not with any idea of doing a favor to the people of Hempstead, or even to the profession of

medicine in the mother country, that American physicians will take their proper part in providing the means for restoring the sacred edifice in which Harvey's remains were originally deposited, but with the conviction that it is nothing more than the expression of a just feeling of obligation. We trust, accordingly, to be called upon shortly to record the accession of goodly sums to the fund. Already, since our article was put into type, and before our public announcement is made, we have received a generous contribution, which we shall acknowledge in our next issue, and we do not doubt that at the same time we shall be able to acknowledge a number of others.

MINOR PARAGRAPHS.

THE METRIC SYSTEM.

Whatever may be the absolute merits of the metric system, as applied to physicians' prescriptions, in communities where it has been a part of every man's education, from childhood up, it is evident, as we have several times insisted on, that the attempt to transplant it to America is beset with some practical difficulties that are likely for many years to stand in the way of its adoption. Not the least of these difficulties lies in the fact that the use of the system adds an element of perplexity to acts which in themselves are always more or less fraught with danger—the writing and the compounding of prescriptions. This objection has lately had an illustration that well nigh proved tragical, a Jersey City apothecary having put up a certain number of grammes of a violent poison, instead of the same number of centigrammes, and having expressed the opinion that his error was in part due to the confusing effect of the metric system.

POISONOUS CAVIAR.

At a meeting of a Russian medical society, held last spring, a report of which appears in a recent issue of the "Deutsche Medizinal-Zeitung," condensed from the "St. Petersburger medicinische Wochenschrift," Dr. Knoch made some observations in regard to several poisonous varieties of fish, especially three Asiatic species of *Schistothorax* and the Japanese *Tetrodon inermis*. It seems that the roes of these fishes retain their poisonous qualities for a long period; in one of Dr. Knoch's experiments, a portion of roe that had been preserved in alcohol for six months was given to a mouse to eat, with the effect of killing the mouse within half an hour. The symptoms of the poisoning consist of vomiting, purging, syncope, tenesmus, cramps, and dilatation of the pupil, followed by collapse and death. Apparently there is no guarantee that the roes of these poisonous fishes may not find their way to the consumers of caviar in the ordinary course of trade.

HARVEY'S MANUSCRIPT LECTURES.

We learn from the "Medical Times and Gazette" that the Harvey manuscript lectures are soon to be published in the form of a photographic reproduction of the author's handwriting, interleaved with a transcript in type. It is said that the photographic work has been so successful that many of the passages are more legible in the fac simile than in the original.

THE NEW HAVEN HOSPITAL.

We regret to learn that the house staff of the hospital has had reason to make some formal complaints to the governing body of the way in which they have been treated. It is an agreeable surprise, however, to find that the Prudential Committee seems, so far as we can judge from the accounts, disposed to right any wrong that may be demonstrated. It is pleasant, too, to be able to record the forbearance and discretion of the house staff in declining to furnish the newspapers with an *ex-parte* statement.

ETHER AS A TIPPLE.

The "British Medical Journal" says that, at a recent discussion on a temperance report made to the Diocesan Synod of Armagh, in Ireland, reference was made by one of the speakers to a practice alleged to exist in various parts of the North of Ireland, that of drinking ether instead of whisky as an intoxicant. In several instances, it was stated, the excessive use of ether had caused insanity. Action was consequently taken looking to legislation to prevent the unrestricted traffic in ether.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 3, 1885:

DISEASES.	Week ending Oct. 27.		Week ending Nov. 3.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	37	8	39	9
Scarlet fever	24	3	34	5
Cerebro-spinal meningitis	0	1	4	5
Measles	7	1	5	1
Diphtheria	46	25	51	18
Small-pox	1	0	2	0

The Health of Massachusetts.—The Secretary of the State Board of Health reports to the Secretary of the National Board of Health for the week ending October 24th: In 109 cities and towns, with a population of 1,312,471, there was a total of 363 deaths, of which number 57 were referred to the principal infectious diseases. No deaths were reported from small-pox.

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, October 27th: *Montreal, Canada.*—For the week ending October 28th: 274 deaths from small-pox in the city, and 73 in adjoining municipalities. *Kingston, Canada*, October 23d, and *Toronto, Canada*, October 21st: Free from epidemic diseases. *Havana, Cuba.*—For the week ending October 22d: 25 cases and 12 deaths from yellow fever. *Matanzas, Cuba*, October 21st, *Nassau, N. P.*, October 17th, *Cape Haytien, Hayti*, October 17th, and *San Domingo*, October 15th: Free from epidemic diseases. *St. Thomas, D. W. I.*—For the week ending October 13th: 1 death from yellow fever, being that of a passenger from St. Johns. *Acapulco, Mexico.*—October 11th: Pernicious fever still prevalent, though the general health of the city is improving. *La Guayra, Venezuela.*—October 17th: City healthy. Reports from *Caracas* still unfavorable. Yellow fever prevalent. *Rio de Janeiro, Brazil.*—For the month of August: 14 deaths from yellow fever. *London, England.*—For the week ending October 10th: 3 deaths from small-pox, including one which occurred in the hospital-ship outside the registration district. The disease is steadily declining. *Paris, France.*—For the week ending October 17th: 5 deaths from small-pox. *Bordeaux, France.*—For the week ending October 10th: 2 deaths from small-pox. During the month of September there were 14 deaths from this disease. *Rheims, France.*—For the week ending October 16th: 2 deaths from small-pox. *Cadiz, Spain.*—For the week ending October 10th: 30 deaths from cholera. *Gibraltar, Spain.*—For the week end-

ing October 11th: 5 cases and 2 deaths from cholera. Communication with cholera-infected districts is unrestricted. *Genoa, Italy.*—For the week ending October 11th: 5 cases and 3 deaths from small-pox. *Venice, Italy.*—For the week ending October 3d: 10 deaths from small-pox. *Riga, Russia.*—During the month of July there were 2 deaths from small-pox. *St. Petersburg, Russia.*—For the week ending October 3d: 2 deaths from small-pox. *Warsaw, Russia.*—For the week ending October 3d: 4 deaths from small-pox. *Calcutta, India.*—For the week ending September 19th: 6 deaths from cholera. *Colombo, Ceylon.*—From August 22d to September 12th: 22 cases and 12 deaths from cholera, and 2 cases of small-pox. *Marseilles, France.*—No deaths reported since October 4th, and clean bills of health are now issued to vessels clearing from the port. In Italy, from September 23d to 27th, there were 690 cases and 382 deaths from cholera. In Spain, from March 4th to September 27th, inclusive, there were 267,689 cases and 98,929 deaths from cholera.

Cremation and the New York Health Department.—It is stated that the sanitary officials of New York do not feel authorized to issue permits for cremation until after certain necessary modifications of the provisions of the Sanitary Code have been made. In the mean time a number of bodies are said to be awaiting cremation, being now stored in vaults in various cemeteries.

The New York Medical Missionary Society.—The Training Institute and Home, at No. 118 East Forty-fifth Street, was dedicated on Wednesday evening.

The Tyndall Foundation.—In accordance with the plan which we alluded to some months since, the proceeds of Professor Tyndall's lectures in this country have been divided between Columbia College, Yale College, and the University of Pennsylvania, for the foundation of scholarships in physics. The sum allotted to Columbia College amounts to $10,800, and the Trustees guarantee that the annual income shall not be less than $648. The recipient of the income is to be appointed annually, but may be reappointed from year to year.

Cincinnati College of Medicine and Surgery.—Dr. Charles E. Caldwell has been elected to fill the vacant lectureship on general pathology.

The "Eastern Medical Journal."—We understand that Dr. C. E. Nelson, of New York, has severed his connection with the journal mentioned.

Personal Items.—Medical Director Philip Landsdale was among the passengers of the steamship Belgenland, which sailed for Antwerp last Saturday.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 25 to October 31, 1885:*

Huntington, D. L., Major and Surgeon, U. S. Army. Detailed on board to inspect Army and Navy Hospital buildings at Hot Springs, Ark. S. O. 245, A. G. O., October 24, 1885.

McElderry, Henry, Major and Surgeon. Granted leave of absence for four months from November 1, 1885. S. O. 246, A. G. O., October 26, 1885.

Patzki, J. H., Captain and Assistant Surgeon. Appointed member of board to meet at Forts Jackson and St. Philip, La., on November 5, 1885, to select a site for the new quarters for the ordnance sergeants at those posts. S. O. 230, Department of the East, October 28, 1885.

Tomey, G. H., Captain and Assistant Surgeon. Granted leave of absence for two months, to take effect after the return from leave of absence of Surgeon J. C. Baily (Major). S. O. 87, Division of the Atlantic, October 24, 1885.

Barrows, C. C., First Lieutenant and Assistant Surgeon. In addition to his other duties, to take temporary charge of office of the medical director, Department of Arizona. S. O. 102, Department of Arizona, October 17, 1885.

Ewing, C. B., First Lieutenant and Assistant Surgeon (Fort Leavenworth, Kan.). To accompany congressional committee, of which Hon. W. S. Holman is chairman, in its visit and inspection through Indian Territory. S. O. 160, Department of the Missouri, October 23, 1885.

Ives, F. J., First Lieutenant and Assistant Surgeon. Relieved from temporary duty at Fort Laramie, Wyo., and ordered to Fort D. A. Russell, Wyo. S. O. 106, Department of the Platte, October 22, 1885.

Morris, E. R., First Lieutenant and Assistant Surgeon (recently appointed). Assigned to duty at Fort Bayard, N. M. He will continue on detached service under orders of district commander. S. O. 160, Department of the Missouri, October 23, 1885.

Marine-Hospital Service. — *Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ended October 31, 1885.*

Austin, H. W., Surgeon. To proceed to Portland, Maine, on special duty. October 31, 1885.

Carter, H. R., Passed Assistant Surgeon. When relieved, to proceed to New Orleans, La., and assume charge of the service. October 27, 1885.

Battle, K. P., Assistant Surgeon. Granted leave of absence for thirty days. October 27, 1885.

Williams, L. L., Assistant Surgeon. To proceed to Chicago, Ill., for temporary duty. October 28, 1885.

Society Meetings for the Coming Week:

Monday, *November 9th:* New York Ophthalmological Society (private); New York Academy of Medicine (Section in Surgery); New York Medico-Historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club (annual); Norwalk, Conn., Medical Society (private).

Tuesday, *November 10th:* New York Medical Union (private); New York Surgical Society; Medical Society of the County of Rensselaer, N. Y.; Newark (private) and Trenton (private), N. J., Medical Associations; Medical Society of Camden County, N. J. (semi-annual—Camden); Norfolk, Mass., District Medical Society (Hyde Park).

Wednesday, *November 11th:* New York Pathological Society; American Microscopical Society of the City of New York; Medico-Legal Society; Medical Society of the County of Cayuga, N. Y.; Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society (conversational); Worcester, Mass., District Medical Society (Worcester).

Thursday, *November 12th:* Harlem Medical Association of the City of New York; Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; New York Physicians' Mutual Aid Association (annual, in the Hall of the New York Academy of Medicine, 12 W. Thirty-first Street, at 4 P. M.); South Boston, Mass., Medical Club (private—annual); Pathological Society of Philadelphia.

Friday, *November 13th:* Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *November 14th:* Obstetrical Society of Boston (private).

Letters to the Editor.

PRIZE ESSAYS ON DISINFECTANTS.

Brooklyn, *October 26, 1885.*

To the Editor of the New York Medical Journal:

Sir: Inclosed you will please find a verbatim copy of a letter from Dr. Henry B. Baker, in answer to my letter on "Prize Essays on Disinfectants," appearing in the "Journal" of October 17, 1885.

Very respectfully yours,

A. H. P. Leuf.

[*Dr. Baker to Dr. Leuf.*]

"Lansing, Mich., *October 22, 1885.*

"A. H. P. Leuf,

"*199 Dean St., Brooklyn, N. Y.*

"Dear Sir: Accept my thanks for a copy of 'New York Medical Journal,' October 17, 1885, containing your article, 'Prize Essays on Disinfectants.'

"I think you are quite right; and, if I understand the subject, I agree with you entirely.

"This is the first information I have received of the *final* action by the committee; but after I had voted on the subject I was informed that the two other members of the committee had voted as represented in your letter, so I presume you are correct. I immediately protested as vigorously as possible, and have not seen or heard anything further on the subject until I received your article to-day.

"Very respectfully,

"Henry B. Baker.

"You are at liberty to make such use of this as you choose.

"H. B. B."

DIELECTROLYSIS.

10 West Thirty-fifth Street, New York, *November 1, 1885.*

To the Editor of the New York Medical Journal:

Sir: As you correctly state in your editorial, the "dielectrolytic" method is by no means new. I gave the matter a pretty careful examination some ten or twelve years ago. In the experiments then made I used two glass tubes, closed at one end and filled with platinum wires, for conducting the current. One of the tubes was filled with solution of iodide of potassium and the other with thin starch-water. The open ends of the tubes were then closed with gold-beater's skin. If these tubes be now connected with the poles of a galvanic battery (15 to 20 cells) and applied on each side of the arm, in a few moments the starch-water will become blue, showing that a portion of the iodine has left the tube which contained it, traversed the tissues, and appeared in the starch-water tube. The starch tube should be connected with the positive pole of the battery.

Applying this clinically, I met with absolutely negative results. I know that the late Dr. Beard made some experiments of a like nature, and I fancy that Dr. Rockwell has done so likewise. Yours respectfully,

H. G. Piffard.

COCAINE IN SEASICKNESS.

228 West Thirty-fourth Street, New York, *November 1, 1885.*

To the Editor of the New York Medical Journal:

Sir: In the "Medical Journal" of October 31st Dr. Kessler denies the ability of cocaine to palliate or cure seasickness. Well, I am able to verify the statement of Dr. Manassein *in toto.* I made this year two voyages across the Atlantic, crossed the Channel three times, and found cocaine the remedy *par excellence;* but it must be given in repeated doses of a 1-to-500 or a 1-to-1,000 solution. I even found the 1-to-500 solution in delicate persons too strong, and failure followed, whereas the latter acted well. May not Dr. Kessler's failures be ascribed to the large doses, which we still are in the habit of using in too many cases? The bromides are good for nothing, and, till something better turns up, I cling to the 1-to-1,000 solution of cocaine hydrochlorate, a teaspoonful every two hours.

Respectfully,

S. Lilienthal.

Proceedings of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of October 28, 1885.

The President, Dr. John A. Wyeth, in the Chair.

A Cast of the Bladder.—Dr. Louis Waldstein, of the Microscopical Committee, reported that the specimen of exfoliative catarrh of the bladder, presented by Dr. H. J. Boldt at the last meeting, contained but very few, if any, muscular fibers; it consisted of a false membrane with some portions of the mucous surface; its thickness was largely due to œdematous infiltration.

Dr. Boldt remarked that the body had been exhumed some days after burial, and a physician had made an autopsy, but his report had been very incomplete; he had stated, however, that the walls of the bladder were thickened and contracted.

Ulcer of the Duodenum.—Dr. W. M. Carpenter presented specimens for two candidates. The first one showed an ulcer of the duodenum, an inch by an inch and a half in size, situated half an inch below the pyloric orifice.

General Carcinosis.—In the second case the specimens were of more than usual interest, showing extensive carcinomatous degeneration in various organs of the body in a girl thirteen years and six months old. Her father had died of phthisis. It was probable that two cousins of her grandfather had had carcinoma of the breast. The girl had always been very healthy, and a year ago was a vigorous, romping child. About the middle of August she complained of being tired, lost color, and became listless. She suffered no pain at first, but afterward cried out with pain in the region of the spleen. Her appetite was insatiable. On the 8th of September enlargement of the abdomen was first noticed, and from this time the increase in size in the region of the liver was very rapid. The patient complained of agonizing pain, which she always referred to the region of the spleen. She died in August. At the autopsy it was difficult to remove the liver, because of its great size; its weight was twenty pounds. Cancerous nodules of various sizes studded its surface. All of the organs of the body except the lungs contained nodules. The specimen was referred to the Microscopical Committee.

Dr. Waldstein presented a specimen for a candidate, consisting of a malignant or semi-malignant tumor of the great toe, following an injury.

Fibro-Myoma of the Uterus.—Dr. H. Marion-Sims presented a round tumor of the uterus, about five inches in diameter. The patient had been married eighteen years, had given birth to one child, had always been remarkably healthy, and had been regular in menstruation. Three years ago was the commencement of her illness; she complained at that time of dragging and lancinating pain in the hypogastric regions. The speaker first saw her in October, the present month, when he found the depth of the uterus to be four inches, and discovered a movable tumor in the abdomen which he diagnosticated as a

fibroid of the uterus. The patient was extremely fat, and, to remove the tumor, it was necessary to make an abdominal incision nine inches long. She rallied well from the operation, and there were no signs of inflammation about the wound. On the third and fourth days she complained of distress in the abdomen, and vomited a large amount of black fluid, some of which entered the respiratory tract and caused death by suffocation. The autopsy showed no suppuration about the abdominal wound; the organs were not examined.

Plates for the Support of Pedicle Skewers.—Dr. MARION-SIMS also exhibited some vulcanized-rubber plates with grooves for the support of the skewers, which had a tendency to cut into the abdominal wall.

Dr. J. B. HUNTER had prevented the skewers from sinking into the integument by means of flat buttons, but the plates exhibited were preferable as being larger.

AMERICAN ACADEMY OF MEDICINE.

Ninth Annual Meeting, held in New York, Wednesday and Thursday, October 28 and 29, 1885.

The President, Dr. ALBERT L. GIHON, of the Navy, in the Chair.

Wednesday's Proceedings.

The Study of Medicine as a Means of Education was the title of the first paper, read by Dr. ROBERT L. SIBBETT, of Carlisle, Pa., who first referred to the various elements in education, considering time the most important of these. The medical colleges of the United States were not institutions to be proud of. In this country two hundred and nineteen medical colleges had been chartered, of which ninety-three had become extinct, whereas in Canada only fifteen had been chartered, and twelve remained, all regular. A preliminary examination, with graded courses and frequent examinations, was heartily recommended. A protracted course of academic training was necessary for a proper study of medicine. A State medical examining board with full authority to examine all practitioners, irrespective of degrees, would do more to elevate the profession than all other means combined.

Medical Supervision in Student Life.—Dr. CHARLES MCINTIRE, of Easton, Pa., then read a paper, in which he assumed that the times had changed; that modern life made a greater demand upon the time and energies of the individual, to the detriment of his health and development. It was considered impossible to diminish tasks and give more time to rest and recreation. There was no way known to shorten the period of rest, so something should be done for recreation. The plan suggested was the usual one given by students on these subjects. A careful physical examination at the beginning of school-life and a series of graded bodily exercises under medical supervision throughout school-life were recommended. Many appeared to be ignorant of the end to be obtained by a modern gymnasium, so that in colleges the parents of the pupils were afraid that their children would be injured by the gymnasium. But, as the weaklings were the subject of special care and direction, they were the ones least apt to be harmed and most likely to be improved. The end aimed at was to give such tasks as would tend to strengthen the weaker parts.

The Climatic Treatment of Disease, with an Illustration of Western North Carolina as a Health-Resort.—Dr. HENRY O. MAROY, of Boston, read a paper on this subject. The higher Alleghanies in western North Carolina were described at considerable length as offering mountain health-resorts of a character well suited to a variety of diseases. The deductions had been based on a long tour of personal investigation made during the last summer as a sanitary study.

The President's Address: "What is Medicine?"—At the evening session the PRESIDENT read his annual address. He said that the place of the Academy was not to be sought for among the pathological, clinical, sanitary, and other national associations. It antagonized none of these, but sought to cement all into a compact unity. One of the reasons of its slow growth was the restriction of membership to graduates in medicine who had received degrees in letters. As the co-operation of every educated man interested in the objects of the Academy was desirable, the time had come when every limitation to fellowship should be removed except the solitary requirement that the candidate should be in fact, as in title, "learned in medicine," and in all else that this term implied; but he would make it impossible for any one unfit or unworthy to enter, though he came with an armful of diplomas and had subscribed to the most inflexible of codes, and no matter what faculty, society, or institution he might be delegated to represent. A second reason why the Academy had not met with more pronounced sympathy and support was its necessarily hostile attitude to institutions and individuals who defied the principles of its constitution. It encountered a third obstacle in the lukewarmness of its quasi-friends, some damning it with faint praise, others being exuberant in private but chary of public indorsement. Let us ask ourselves the question, "What is medicine?" It was the most profound and ennobling study that could engage the intellect of man. This was not the popular idea, which was that medicine was only something in a box or bottle, that was prescribed by a man or woman who had acquired more or less skill in administering the particular remedy appropriate for each disease. Medicine involved the knowledge of everything that related, however remotely, to the existence of man, his place in nature, his origin, growth, development, preservation, and continuance. The prevention and cure of those abnormal conditions which tended to his destruction were but one chapter in the volume, which, coming near the end, could not be read understandingly without the thorough comprehension and diligent study of all that preceded. Medicine was so far-reaching in its sources and so connected with every other branch of knowledge that he who would begin its study must first have drank deep of the well-spring of human knowledge. Medicine was a science of such proportions that only a well-educated man could master it. Medicine had no need to rear its superstructure on any other foundation than the broad basis of fact. It had been dragged down to the level of commonplace occupations by the dissensions incited by the dogmas of theorists. When all physicians stood on the plane of higher medicine, there would be less tendency to diverge into extremist classes. Was our estimate of medicine visionary, and had we sought the impracticable? Must we silence our voices because few cared to hear, and cease our efforts because the task was difficult? Must we tread the beaten track, lest we offend prejudices, antagonize pecuniary interests, and upset established orders? Not on this account should we hesitate, if the truth was with us. The ethics of medicine rightly denounced fraternity with charlatans and quacks. Was the dishonor less if we degraded a noble profession by admitting to its rights and honors those who were ignorant, illiterate, and incompetent?

Thursday's Proceedings.

Medical Education.—The following resolution was adopted: *Resolved*, That a committee of three be appointed by the president, to report at the next annual meeting, to prepare a statement of the best preliminary education for medical students, and also a statement of the minimum attainments which medical schools should require of students before admitting them to the study of medicine. It was also resolved to appoint a committee of two to report on the requirements for a preliminary

education of the various medical colleges in the United States and in Canada.

Officers for the Ensuing Year were elected as follows: President, Dr. R. Stansbury Sutton, of Pittsburgh, Pa.; Vice-Presidents, Dr. Lewis P. Bush, of Delaware, Dr. S. J. Jones, of Illinois, Dr. R. L. Sibbett, of Pennsylvania, and Dr. F. H. Gerish, of Maine; Secretary and Treasurer, Dr. R. J. Dunglison, of Philadelphia; Assistant Secretary, Dr. Charles McIntire, of Easton, Pa. Pittsburgh was selected as the next place of meeting. The time, the third Tuesday of September, 1886.

Medical Evidence.—Dr. Thomas J. Turner, of the navy, read a paper which had had its origin in his duty in connection with the naval retiring board. The positions of the medical member of the board were that of an ordinary witness, that of an expert witness, and that of a concurrent judge of both the facts and the law. In the first instance the medical officer made a physical diagnosis; in the second place he made a rational diagnosis based upon subjective phenomena; combining these, he arrived at a conclusion. On questions of science, skill, art, and the like, persons instructed on such subject-matters, known in ordinary language as experts, were permitted, from the necessities of the case, to give "matters of opinion" in evidence; and, as to the necessity which permitted the introduction of such opinions, each tribunal determined for itself at the time. Herein the expert differed from the ordinary witness, who testified as to "matters of fact." The boundary-line where ordinary testimony ended and expert testimony began was not always well defined. So far as related to opinions on medical questions, any one at present might be permitted to testify, the question of the special amount of knowledge being left to the jurors to determine. It followed from this that there was no testimony which varied so immensely as so-called expert testimony. It had been decided that a medical opinion might be received as evidence if it was based upon study without practice, or upon practice without study, and it had been ruled that it was not absolutely necessary that one should have either studied or practiced medicine. The term expert testimony was somewhat misleading, and the term "opinion-evidence," as used by Best, was preferable, for opinions might be admitted in evidence by those who could not be classed as experts. The test of the admissibility of opinion-evidence seemed to be this: Had the expert witness any peculiar knowledge or experience not common to the world which rendered his opinion, founded upon such knowledge or experience upon the subject-matter under inquiry, of value to the Court in determining the truth of the matters at issue? The degree of credence given to opinion-evidence should be founded upon the professional skill, the quickness of perception, the powers of discernment, the aptitude, the acquirements, and the education, as well as the experience and observation, of the expert.

A Report on Laws regulating the Practice of Medicine in the United States and Canada, by Dr. Richard J. Dunglison, of Philadelphia, and Dr. Marcy, was read by Dr. Dunglison.

From New York it was reported that the act of 1884 had not been effective in excluding from the profession grossly incompetent and uneducated men.

Health Officers, Ancient and Modern, was the title of a paper by Dr. Benjamin Lee, of Philadelphia. In regard to the organization of boards of health, the first point made was that, in selecting the material, politics, in the bad sense of the term, should be rigidly excluded. Where it was possible to avoid it, the members should not be elected by the people, especially in large cities. Secondly, boards of health should be composed chiefly of physicians, but at least one member should be a man eminent among his fellows for prudence and judgment in trade and commerce, for doctors were proverbially bad business men. Thirdly, as it was desirable that there should be harmony of action and of sentiment between the municipal government and the board of health, there should be a representative of each in the other. Fourthly, it was essential for the practical working of the board that it should employ a paid agent, who should devote as much time as was necessary to inspection and investigation of the sanitary conditions of the locality, and carry into execution the orders of the board. Finally, every member of the board should receive a fair and even generous compensation for his labors.

Micro-organisms and their Relation to Disease was the title of a paper by Dr. Samuel N. Nelson, of Cambridge, Mass.

Observations on the Relation of Bacteria to Certain Puerperal Inflammations was the title of the next paper, by Dr. Ernest W. Cushing, of Boston. He called attention to the great difference between the customs and rules governing the obstetric assistants and students in Berlin and in Vienna. In the former city, every precaution was taken to avoid not only direct infection, but also any possible carrying of germs in the hair or clothing, as if bacteria were freely present in the air. In Vienna, although the possibility was admitted in theory, yet in practice the assistants and students were allowed to be present at autopsies. Obstetric operations and laparotomies were performed before the whole class, without spray, and the chief assistants gave operative courses on the cadaver every afternoon, relying for safety on washing, bathing, and change of clothing. Practically, sepsis arising in the hospital was very rare, and the results obtained by avoiding direct infection through the fingers and instruments were regarded by the speaker as an argument in favor of the view that puerperal fever was not an entity the poison of which was carried about in the air and entered the system through the lungs, etc., but was the result of the invasion and multiplication of bacteria, arising from infection of the uterus or abraded vagina, as a rule, directly from hands, instruments, or applications.

In discussing this paper, Dr. R. Stansbury Sutton, of Pittsburgh, Pa., said that, while there was no question as to the success achieved by the use of antiseptics in general surgery, yet in abdominal surgery the best results so far had been obtained by strict attention to cleanliness without the use of any antiseptic agencies. He agreed with Dr. Cushing that, when the poison entered the abdominal cavity in laparotomy, or the vagina or uterus in puerperal cases, the germs were not carried by the atmosphere, but by the hands, forceps, ligatures, or instruments. So far as abdominal surgery was concerned, he thought that all chemical agents could be discarded, but cleanliness could not be lost sight of.

Dr. Marcy related a case bearing on the introduction of antiseptics into the peritoneal cavity. It was that of a child four years of age, whose abdomen was filled with pus, in which the streptococcus was found. The pus was evacuated and the peritoneal cavity thoroughly washed out with bichloride-of-mercury solution. The patient recovered without a bad symptom.

Medical Licenses and Medical Honors was the title of a paper read by Dr. Edward Jackson, of Philadelphia. A comparison was made between the requirements of the medical colleges of this country when first organized and the requirements of to-day, and a gradual lowering of the standard, with a corresponding decrease in the honor conferred, was noted. The speaker thought it doubtful if any system of State license to pursue any calling should be looked on with favor. If adopted, it must be removed from all possibility of lowering competition, and surrounded by every guarantee of honest enforcement which disinterested examiners and full publicity could give.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of October 1, 1885.

The President, Dr. B. F. Baer, in the Chair;

Dr. W. H. H. Githens, Secretary.

The Different Forms of Paralysis met with in Young Children.—Dr. Wharton Sinkler read a paper on this subject. He said that the form most frequently met was infantile spinal paralysis, or polio-myelitis anterior. This term indicated the pathology of the disease, which was an inflammation of the nerve-cells of the anterior horns of white matter of the spinal cord. This affection might come on at any period of life, but was generally seen in children, and usually at the age of two years. The children were generally strong and apparently healthy, and the paralysis was sudden in its onset. Fully two thirds of the cases he had seen had been attacked in the summer months, hot weather and teething seeming to be predisposing agents. Dr. Barton, of Manchester, Eng., reported that, of fifty-three cases in which he noted the time of onset, twenty-seven occurred in July and August. The attack was preceded by fever of greater or less intensity, with pain in the head and limbs, with general soreness when moved or lifted. After a few days, paralysis more or less complete occurred, but in a few days a regression of the paralysis from some of the affected parts occurred. Sensation was undisturbed. Atrophy of the muscles was soon apparent; in fact, the paralyzed portion stopped growing for a time. The temperature of the affected portion was low and the skin was blue and mottled, but there was no tendency to ulceration, and wounds or scratches healed readily. The skin and tendon reflexes were lowered or abolished in the affected limbs. At first response to the faradaic current was lost, and later on the galvanic current produced but little muscular contraction, except when a powerful current was used. When atrophy had set in the reaction of degeneration was seen. Most of the cases of club-foot were the result of infantile palsy. Deformities of the upper extremities were rare, this disease differing in this respect from cerebral palsies. The exact causes of infantile palsy were unknown. Over-fatigue often preceded an attack; sudden chilling was considered by Seguin to be a frequent cause.

The *prognosis* as to perfect recovery was only moderately good. In many cases the most faithful treatment failed to restore the paralyzed muscles, but in almost every case we could expect more or less improvement.

In the early stages of the paralysis, after the subsidence of the fever, the treatment should consist of mild stimulation to the spine; ergot and small doses of bromide of potassium should be given internally. Later in the disease, iodide of potassium should be given instead of the bromide. When the palsy was established, electricity and massage were the means to be depended upon. They must be persisted in for months or even for years. Internal treatment was of little or no value unless there was some failure in the general health of the child.

Spasmodic paralysis as seen in children was of two varieties—when of primary spinal origin, or when there was a descending degeneration of the cord from a primary cerebral lesion. Sometimes there seemed to be a congenital defect in the motor tracts of both brain and cord. In the spinal variety there was often seen, soon after birth, rigidity of the limbs; at first this was only occasional, but, as the child got older, every effort to move a limb caused muscular rigidity in it. The child did not attempt to walk until three or four years of age. Then, when it was supported under the arms and it tried to stand or to walk, the movements were very peculiar and characteristic. The feet were extended and inverted so that the child rested on the toes. The knees were strongly adducted and locked together so that the legs became entangled. By degrees the child became able to walk with the aid of apparatus or some form of crutch. The hands and arms were often affected and every effort caused muscular rigidity to come on. The mind was unaffected in these cases and the speech might be distinct, although it was often very defective. Sensation was unimpaired and the patella reflex and ankle clonus were exaggerated. There was no wasting of the muscles. By these symptoms we inferred that the disease was localized in the lateral columns; but exactly what was the nature of the lesion we did not know, for no post-mortem examinations had been made in these cases. The cause was unknown. Hamilton found three of seven cases which he had collected were premature births. Adherent and contracted prepuce had been thought by some to be the cause by reflex influence of the spasmodic paralysis, but operation had not given relief. The treatment should consist of massage, galvanism to the spine, ergot, and cod-liver oil. Fluid extract of conium might be given to allay spasm. In some cases great improvement followed this treatment.

Even when we could do no positive good to the limbs, very much could be effected by the aid of apparatus. Properly adjusted braces to the legs would enable a child to walk on crutches or in a Durrach wheel crutch.

There was a form of spasmodic spinal paralysis in which the child was imbecile. In these cases there had probably been congenital defect in cerebral development. The head was small and there was no evidence of intellect; often nystagmus was present.

Paralysis from Pott's Disease.—Paralysis of the lower extremities might result from caries of the spine. The lesion might be either a meningitis or a myelitis. If meningitis alone, there was considerable pain and contraction of the legs. Generally there was a transverse myelitis. The symptoms were numbness and pricking of the legs, with loss of sensation; gradually increasing loss of power with wasting of the muscles; incontinence of fæces with retention or incontinence of urine. Sometimes there were ulcers over the sacrum or on the limbs.

The indications for treatment were evident. An apparatus which would take the weight of the body from the spine was necessary, and was sometimes sufficient of itself. Frequently, however, the application of the actual cautery over the spine produced improvement in the symptoms when an apparatus had done no good. Massage and electricity should be used to restore the atrophied muscles.

Paralysis from rhachitis and diphtheria was seldom complete. The former was often spoken of as the pseudo-palsy of rickets. Negro children, who were very subject to rhachitis in cities, often had rhachitic paralysis. The child at three or four years was unable to walk or stand. Sometimes it had not sufficient muscular development to sit upright. It could move every limb and had no loss of sensation, but had no power. Cod-liver oil and massage brought about the most satisfactory results in these cases. Diphtheritic paralysis usually began in the muscles of the soft palate and pharynx and extended to the extremities. It was generally bilateral and incomplete, but he had seen a case in which it was hemiplegic. It was considered peripheral in character and was believed by some to be connected with the altered condition of the blood consequent on the original attack. Diphtheritic paralysis was rarely fatal and lasted in most cases only a few weeks, although it might continue for months. Strychnia and electricity were the means to be employed, and the case usually responded promptly to these remedies.

Pseudo-hypertrophic paralysis was a rare affection, but was of much interest. The disease belonged almost exclusively to infancy. It was characterized by muscular paralysis with great

increase in the bulk of the muscles. This enlargement was due to fatty deposit, while the muscular tissue proper was atrophied. The affection began with weakness of the legs, a peculiar balancing of the trunk, and separation of the legs in walking. The shoulders were thrown far back in standing and walking. There was great difficulty in getting from the sitting to a standing position. Later in the disease the muscles became wasted and shrunken and the general health began to suffer. Death resulted from implication of the respiratory muscles. The skin was mottled like a piece of Castile-soap. The tendon reflexes were abolished, and electro-muscular contractility was impaired. There was often a greater or less amount of mental weakness. There was no loss of power over the bladder and rectum, and sensation was not affected. Heredity influenced the disease, which was slow in its progress, but the course was steadily downward.

Friedreich's disease was still more rare than the preceding. It was practically locomotor ataxia in childhood. There was evidenced here also a hereditary predisposition, and the female children seemed most liable.

Cerebral Palsies.—Hemiplegia might result from some injury at the time of birth, either from the forceps or from the pressure of a prolonged labor. A child might be born hemiplegic after a perfectly natural and easy labor. Under these circumstances, we must regard the paralysis as the result of imperfect cerebral development. Hemiplegia under these circumstances was generally permanent. The side affected grew less rapidly than the other. The flexors of the arm and hand were usually contracted. The leg became rigid in the act of walking. Convulsion was almost always associated with cerebral paralysis, either immediately preceding the attack or occurring soon after. The convulsive movements were most violent on the side which was subsequently paralyzed. The child would have an idiotic expression and speak indistinctly, but its friends thought it intelligent. The convulsions were liable to return when the child was older and then assume an epileptic form. The walk was peculiar, and was called the spastic gait. The patient plodded along looking as if he were about to pitch forward. The affected limbs were smaller and shorter, the growth of both bone and muscle being affected. In the choreic variety, where the arm was in constant motion, the muscles might become hypertrophied, but the bone remained short.

Prognosis.—As a rule, the prospect of recovery was bad; even if the patient got well, the hemiplegic side remained awkward.

Treatment.—Cod-liver oil and massage, which always relaxes the contracted muscles. The affected limbs should be used as much as possible.

Dr. Harris inquired if Dr. Sinkler had ever observed any hereditary predisposition to convulsions and cerebral paralysis.

Dr. Sinkler replied that the hereditary influence was decided even when no convulsions occurred.

Oophorectomy.—Dr. E. E. Montgomery reported the following case: Mrs. L., of Columbia, Pa., aged thirty-six years, married ten years, pregnant five times; the last, four years ago, was brought to his notice by Dr. A. F. Chase. Her health had been bad since her last confinement. First menstruation at twelve years and a half, regular and very free for one year and a half, when she fell, producing pelvic distress, after which for seven years the flow was very scanty, lasting but one or two days, and accompanied by excruciating pain. She improved somewhat after marriage. Her first conception was followed by so much nausea, vomiting, and anæmia, that her physician advised and induced an abortion.

She was now regular as to time but irregular as to quantity; it was preceded by an excruciating pain for two days and continued until the flow disappeared; she also had severe pain in the head. She was very nervous at all times, but this was much intensified during the period. Pain was more marked in the left inguinal region and down the corresponding limb. Coition and vaginal examination were very painful. The uterus was enlarged and painful, tender on pressure over both ovaries. Local uterine treatment had been kept up during the entire four years with no relief. Trachelorrhaphy had been performed. Ovariotomy was advised. September 19, 1885, she entered Dr. Montgomery's private hospital, and, assisted by Dr. W. H. and Dr. C. B. Warder, and Dr. E. Eshleman, the uterine appendages were removed. The left ovary was composed of a number of cysts, the largest of which ruptured while adhesions were being separated. The right ovary was not enlarged, but it was removed to insure relief. The wound was closed with silk gut and dressed with sublimated gauze and absorbent cotton. There was no shock. The highest temperature reached was 101·6° at midnight of the 20th, and it became normal on the 22d. Sutures were removed on the eighth day and the wound redressed for the first time. It had united throughout, and there was no irritation from the suture. The effect upon her general health remained to be determined.

Supra-vaginal Removal of the Uterus and both Ovaries for Fibroid Tumor.—Dr. Montgomery also reported the following case: Ann U., aged twenty-seven, was brought to him by Dr. T. H. Boysen, of Egg Harbor City, with the following history: Her menses from the beginning occurred every three weeks, and were free an entire week. During the last four years they had occurred every two weeks, and were attended with pain in the pelvis and down the limbs, and severe pressure upon the bladder, causing frequent urination and several times rendering the use of the catheter necessary. Dr. Boysen had diagnosticated fibroid tumor, which Dr. Montgomery's subsequent examination confirmed. The tumor was the size of a child's head, filling up the pelvis and apparently arising from the anterior wall. The examination led him to believe that the bladder was adherent over the anterior surface, and would render the removal of the tumor unsafe. He suggested the removal of the ovaries. She entered his private hospital September 15, 1885, for that purpose. Dr. W. H. Warder, Dr. Boysen, and Dr. Martin assisted, Dr. C. B. Warder and Dr. Staltweather present. An incision three inches long was made, and, finding the tumor free from the bladder, with cervix sufficiently long to serve for a pedicle, the incision was extended to within an inch of the umbilicus above and symphysis below, and the tumor, with some difficulty, withdrawn. In the absence of a Tait's clamp, which had been ordered some days before, the pedicle was constricted by a wire écraseur, and the tumor, with the ovaries, was removed. The pedicle was then transfixed with two steel pins and tied in three sections with strong silk thread. The peritonæum was fastened to the pedicle below the ligatures and the wound closed with silk-gut sutures, the pins holding the stump ontside. The wound was dressed with sublimated gauze and absorbent cotton. The operation was followed by some shock; temperature 97·4°, pulse 104, from which she soon rallied. She complained greatly of pain. A half-grain of morphia had been given by suppository, and three hypodermatic injections of morphia, one quarter of a grain each, were given during the afternoon, before the pain was relieved.

At 3 A. M. of the 24th he was called by the nurse, who reported bleeding from the stump. Three ounces of blood had been lost. By aid of Dr. Warder, a Wells's clamp was applied below the pins, apparently controlling the hæmorrhage; but it recurred later in the day from the angles and from beneath the clamp. By this time the Tait's clamp had arrived, and the patient was etherized, the lower three sutures removed, the pedicle drawn up, the clamp applied so as to control it completely, and the wound again closed. The wound had united throughout.

Temperature reached 100·6° at 9.30 P. M. The highest subsequently, 101·6, was in the afternoon of the 25th, and it became normal on the 28th. Upon removing the dressings on the 27th, some pus welled up about the pedicle. As the skin was irritated, the dead pedicle was cut away until the clamp slipped off. There resulted, of course, considerable retraction of the stump, but the sloughed tissue was nearly cleared away. The patient suffered no pain or discomfort; temperature normal. The tumor was situated in the anterior wall and fundus of the uterus, and projected into the uterine cavity.

Dr. PARISH remarked that removal of the ovaries had given such good results in cases of uterine fibroids, and was comparatively so free from danger, that he would like to hear from Dr. Montgomery his reason for his choice of operation.

Dr. MONTGOMERY replied that the tumor filled the pelvis and pressed upon the bladder and rectum, causing great and constant distress. As diminution of the size of the fibroid tumor was not a certain result of oöphorectomy, and as all the circumstances were in favor of the major operation, he decided upon it as the best one.

Reports on the Progress of Medicine.

OTOLOGY.

By CHARLES STEDMAN BULL, M. D.

The Effect of Sounds upon Diseased and Healthy Ears.—Roosa ("Ztschr. f. Ohrenheilk.") draws the following conclusions from his observations: 1. Many persons, who in quiet places suffer from deafness, hear readily during or in the midst of a loud noise. 2. The disease in such cases is situated in the middle ear, and is of the chronic, non-purulent variety, though it may be an acute catarrh, and even a chronic purulent process with partial loss of the drum-head. 3. The cause of this phenomenon probably depends on an altered action of the ossicula. 4. The acuteness of hearing of laborers in a boiler-shop steadily diminishes. 5. The disease produced by this occupation lies in the labyrinth or trunk of the acoustic nerve. 6. These patients do not hear better in a noise, but their hearing is better in a quiet place, and improves by absence from the source of injury which causes the deafness. 7. The cases of hardened wax and catarrh of the middle ear occurring in boiler-makers resemble those met with among other laborers; they mask and complicate the original disease known as "boiler-makers' deafness." 8. In disease of the labyrinth or acoustic nerve the tuning-fork C is heard louder and longer by air-conduction than by bone-conduction.

The Production of Artificial Deafness, and its Relations to the Ætiology and Development of Ear Disease.—Cassels (*Ibid.*) formulates three theories as to the ætiology and development of disease of the ears: 1. A certain degree of tension of the drum-head is necessary to a perfect functional act of the drum-head. 2. The essential cause of all disturbances of hearing depends upon an alteration in the normal tension of the drum-head. 3. All pathological symptoms in ear disease are developed in regular succession. As a result of his experiments in the production of artificial deafness, he considers that when three of the ordinary symptoms of a disease of the ears may be produced by an experiment within a few minutes, and in the order of succession in which they appear in the natural way in disease, the assumption is justified that, if this experiment were continued for hours or days, these symptoms would be further developed and might produce complicated tissue changes.

Caries of the Petrous Bone, with Paralysis of the Facial Nerve and Fatal Hæmorrhage from the Carotid.—Moos and Steinbrügge (*Ibid.*), in a report of such a case, call attention to the rapid development of the caries, within a period of four months. There was total destruction of the cells of the mastoid process. They regard it as doubtful if such an extensive sclerosis could develop in so short a time along with the carious process, and think it probably began a year earlier—at the time of an attack of typhus fever from which the patient had suffered.

Perforation of the Mastoid Process.—Hartmann (*Ibid.*) gives the results of this operation in fourteen cases, and lays down rules for its performance. 1. The incision in the skin and the opening in the bone should be made in the line of attachment of the auricle to the bone or immediately behind it. 2. The wound should not be made farther upward than the level of the upper wall of the auditory canal. 3. The wound should be sufficiently large to admit of perfectly seeing the bone and carefully treating it. 4. The wound must be kept open until the bottom has become filled by concentric granulations. 5. All secretions or cholesteatomatous masses must be carefully and thoroughly removed, and the walls of the wound and bony canal must be filled with powdered iodoform.

Pyæmia in Acute Suppurative Inflammation of the Middle Ear.—Hessler ("Arch. f. Ohrenheilk.") here gives the results of five autopsies of cases of suppuration of the middle ear, which he had taken from published reports of cases. In the first case there was acute caries of the walls of the tympanic cavity, but the left transverse sinus was empty. In the second case the transverse sinus contained a pulpy, degenerated, and completely decolorized thrombus, which extended into the bulb of the jugular vein. In the third case there was caries of the walls of the tympanic cavity, with pus between the dura mater and tegmen tympani, but no thrombi in the lateral sinuses. In the fourth case the brain substance and ventricles were normal, and there was no sign of caries in the petrous bone *in situ*. In the fifth case there was no change in the brain and sinuses, but the middle ear was filled with thick, offensive pus. In all these cases the patients had suffered from symptoms of pyæmia. He cites in detail a case of his own, occurring in a boy, aged twelve, in whom the pyæmic symptoms were pronounced, but the boy subsequently recovered. From the results of the autopsies, it seems probable that the pyæmic poison in the blood in affections of the ear may reach the circulation not only by means of the sinuses, but also by phlebitis of the small veins in the bony walls of the tympanum and mastoid antrum.

Gumma of the Auricle.—Hessler (*Ibid.*) reports a very interesting case of this rare disease in a man aged twenty-four. There was partial necrosis of the cartilage of the auricle resulting from an ulcerating gumma, which had existed for several weeks. This suppurated for several days at a time, and then the discharge ceased. The right auricle was very much swollen, bluish in color, and stood out straight from the head. The tissues over the mastoid were markedly swollen. Upon the anti-helix was an ulcer, 3 mm. in diameter, with yellow margin and base, and a dirty serous discharge. The external auditory canal was narrowed, but the glimpse of the drum-membrane that could be obtained through the lumen showed it to be normal. The hearing power was undiminished. The initial lesion had probably occurred four years previously. The case was at first treated by cauterizations with silver nitrate and simple lead-washes, and each application of the caustic was followed by enormous swelling of the auricle. At a later visit, the whole substance of the auricle round the ulcer was found undermined, and the cartilage found necrosed throughout a considerable extent. Large doses of potassium iodide brought about a complete cure in less than two months.

The Temporal Bones of Two Deaf-Mutes.—Moos and Steinbrügge ("Ztschr. f. Ohrenheilk.") here gives the results of a very careful macroscopic and microscopic examination of four temporal bones removed from the bodies of two deaf-mutes. The following conditions were common to the labyrinths of all four bones: 1. The absence of nerves in the lamina spiralis ossea of the first whorl of the cochlea; in the upper whorls of both cochleæ of the second case there were still some nerve-fibers present. 2. The arrest of development and atrophy of the ganglion-cells within the canal of Rosenthal. 3. The defective development and fatty metamorphosis of the organ of Corti. 4. The filling of the ductus cochlearis in one case, and of the scala vestibuli in the other case, with a caseous mass of material intimately by coagulated lymph. 5. The occurrence of hyaline masses in various parts of the membranous labyrinth. In the left labyrinth of the second case there was also found a membranous and osseous coalescence of the tissues of the first portion of the first whorl of the cochlea in the scala tym-

pani; and in the first case the nerve-epithelium and nerves in the left sacculus were wanting.

The Employment of Calomel in the Treatment of Otorrhœa.—Gottstein (*Ibid.*) speaks highly of the local employment of calomel in chronic suppuration of the middle ear; when combined with the mercurie bichloride, he regards it as more valuable and prompt in its action than boric acid. He assumes that when calomel comes in contact with fluids which contain sodium chloride, such as pus, the mercuric bichloride is formed; this has a powerful antiseptic action in itself, and in a state of nascent productiou this action is probably more energetic. He has employed calomel in a large number of cases; has found it absolutely non-irritating to the mucous membrane of the middle ear; it never forms any deposits upon or in the mucous membrane which are difficult of removal, and the results of its action are sometimes surprising. He recommends that the ear should be washed out with a weak sublimate solution (0·1 per cent.); then the ear should be inflated by Politzer's method, so as to drive all secretions into the external auditory canal, and these should be removed by another injection. The canal is to be thoroughly dried with cotton and filled with powdered calomel by means of a powder-blower, and stopped with cotton. This method of treatment may be employed even in the beginning of acute inflammation of the middle ear. By reason of its marked insolubility, it always remains finely pulverized and does not clog the powder-blower. Gottstein regards calomel as a much surer and more powerful antiseptic agent than boric acid. The secretion in these purulent cases diminishes within a few days after the commencement of the calomel treatment, and no adverse symptom has ever been noticed from its employment. In some cases Gottstein has employed a mixture of powdered calomel and common salt, and discovered that this mixture was mildly corrosive. He employed this powder in cases of otorrhœa with extensive perforations and swelling of the mucous membrane of the middle ear. The powder causes a slight pain for a few minutes, and the secretion is temporarily increased. The next day there may be seen a thin, grayish-white slough upon the mucous membrane. When this slough comes away the powder is insufflated again.

The Diagnostic Value of the Relation between Air-conduction and Bone-conduction.—Brunner's investigations upon this subject (*Ibid.*) are of considerable interest and importance, and are given as follows: 1. Under normal conditions the air-conduction overbalances bone-conduction, so that the vibrations of a tuning-fork are heard longer and louder through the air than through the medium of the mastoid process. 2. In pure diseases of the external and middle ear, where the deafness has reached a certain degree, the reverse is the case as regards air- and bone-conduction. 3. Neither theoretical speculation nor clinical observation makes it probable that bone-conductibility may be strengthened or increased by pathological processes in the labyrinth or acoustic nerve. 4. Hence it is proper to infer, from the distinct overbalance of the latter, the existence of a constant disturbance in the sound-conducting apparatus, which, by resonance or hindered sound-exit, favors bone-conduction over air-conduction. It must be remembered, however, that the aurist has often to deal with mixed diseases, in which it is necessary to clearly understand the relations of air-conduction to bone-conduction. One of the questions to determine is whether in nervous deafness the expected overbalance of air-conduction might, by simultaneous anomalies in the sound-conduction (such as impacted cerumen), be changed into an overbalance of bone-conduction, and *vice versa*. Another point for consideration is the possibility that in an affection of the sound-conducting apparatus (such as middle-ear catarrh) the expected overbalance of the bone-conduction might be weakened or entirely abolished by a simultaneous complication in the labyrinth. This leads to the question whether the overbalance of boue-conduction always presupposes a more or less intact perception. In these mixed cases two factors are to be considered: 1, the factor which increases bone-conduction by resonance, which is by no means of equal importance in all affections of the sound-conducting apparatus; and 2, the factor which diminishes the bone-conduction caused by an affection of the nervous apparatus. One source of error which must be remembered and avoided is that the relation between bone-conduction and air-conduction, even in the normal ear, is not the same for all tuning-forks, since low-toned forks are more strongly and readily perceived through bones than the high-toned forks. Brunner thinks that there is no doubt that at the entrance of the cochlea in the lowest whorl the actual or innate power of irritation of the terminal nerve-apparatus is much greater than in the upper whorls.

Miscellany.

Surgical Meteorology.—According to Dr. B. W. Richardson ("Asclepiad"), the time is favorable for operation: *a.* When the barometer is steadily rising. *b.* When the barometer is steadily high. *c.* When the wet-bulb thermometer shows a reading of five degrees lower than the dry-bulb. *d.* When, with a high barometer and a difference of five degrees in the two thermometers, there is a mean temperature at or above 55° F. The time is unfavorable for operation: *a.* When the barometer is steadily falling. *b.* When the barometer is steadily low. *c.* When the wet-bulb thermometer approaches the dry-bulb within two or three degrees. *d.* When, with a low barometrical pressure and approach to unity of reading of the two thermometers, there is a mean temperature above 45° and under 55° F.

The University of Pennsylvania.—The Medical Faculty has issued the following circular:

"The passage of the law of 1881, entitled 'An Act to provide for the registration of all practitioners,' etc., placed the Medical Faculty of the University of Pennsylvania in a very embarrassing position. It had no knowledge that the act was before the Legislature, so that no opportunity was afforded of considering it. Hitherto, with great hesitation, the Faculty has issued certificates as to the genuineness of the diplomas possessed by applicants, and these certificates have been acknowledged by officers of registration. It is, however, evident that, in doing this, the Faculty has not complied with the law which requires it to be 'satisfied as to the qualifications of the applicant,' and it is very doubtful whether the certificates which have been given legally entitle their recipients to registration. During the last few months it has become more and more apparent that the University of Pennsylvania, if it continues to grant certificates as to the genuineness of diplomas, must issue such certificates for the diplomas of all sorts of colleges. The genuineness of the diploma is in no way dependent upon the scientific character of the body issuing it. A diploma is genuine if the body from which it emanates has a legal right to issue such diploma, and, if the law is to be interpreted by the University as requiring its faculty simply to testify as to the genuineness of a diploma, it can make no difference whether such diploma is issued by a regular or irregular college. Further, the gradations between colleges in this country are so close as to make the drawing of lines a task of great difficulty, and the Medical Faculty can not set itself up as a judge between colleges, and say that the diploma of this suffices and that does not. A very serious matter is the fact that these certificates issued by the University are looked upon by persons ignorant of the circumstances—*i. e.*, by the general community—as indorsements of the medical qualifications of their possessor, and as being in some measure tantamount to the diploma of the University. When the ease with which genuine diplomas are obtained in America and the little significance which so many of them have are remembered, it becomes evident that the issue of these certificates by the University is an injustice to its own graduates. The Medical Faculty also feels that the qualifications of applicants can only be determined by examination, and that it is not legally justified in issuing any certificates whatever, unless 'satisfied as to the qualifications of the applicant.' It, of course, believes that no one is qualified to enter upon the practice of medicine who can not pass the examinations required from students of the University. It therefore proposes hereafter to exact such examinations from applicants. In the future, all persons desiring from the University of Pennsylvania the indorsement on the diploma demanded by Section 4, of the Act of 1881, will be required to pass an examination on chemistry, anatomy, physiology, materia medica and therapeutics, pathology and morbid anatomy, practice of medicine, surgery, and on obstetrics; failure in any branch will cause rejection. To compensate for the labor of such examinations, a fee of $30 will be charged."

The Remains of Harvey.—In our issue for November 10, 1883, we published a letter from London, describing the ceremonies connected with the transfer of the remains of William Harvey from the dilapidated leaden envelope in which they had lain for more than two centuries to a sarcophagus provided by the Royal College of Physicians. At the same time, October 18, 1883, the remains were transferred from the vault of the church to the Harvey Chapel above. All was done that was then possible toward providing the remains with a proper resting-place.

HEMPSTEAD CHURCH BEFORE THE ACCIDENT.

There is still left, however, the restoration of the church itself to be accomplished. The church is situated in Hempstead, a small and obscure village in North Essex, where the Harvey family settled. About three years ago the tower fell and reduced the building to a ruin. Its former appearance and its present ruined state are shown in the accompanying views, which are reproduced from the London "Graphic."

It appears that the parishioners are too poor to provide the entire funds needed for the restoration of the church, and a committee of our professional brethren in England have very properly taken in hand the task of raising the necessary amount. Sir Henry Pitman, M. D., Royal College of Physicians, Pall Mall East, London, S. W., who is the treasurer of the committee, has issued a circular briefly setting forth the facts, and stating that "*any* contribution will be thankfully acknowledged."

It is for the purpose of bringing the matter to the attention of American physicians that we have written this notice, and we believe that many of them will be glad to contribute something toward the performance of a duty that the medical profession of the whole world owes to the memory of the discoverer of the circulation. The publishers of this journal will take pleasure in forwarding any contributions that may be sent them to the treasurer of the London committee, and all sums received will be acknowledged in these columns.

THE RUINS OF HEMPSTEAD CHURCH.

The Scope of Laws regulating the Practice of Medicine.—Dr. C. N. Metcalf, the secretary of the Indiana State Board of Health, having addressed a number of queries to the Attorney-General, Mr. Francis T. Hord, in regard to the interpretation which should be put upon some of the provisions of the Medical Act, those queries, together with the Attorney-General's replies, have been printed, and we are indebted to Dr. James Bradwell, of Indianapolis, for a copy of the document, from which we quote as follows:

"Q. 4.—'Does the statute apply to a person who undertakes to cure diseases by manipulating the patient's body, by rubbing, kneading, and pressure?'

"A.—The statute applies to persons desiring to practice medicine, surgery, and obstetries only, and it ought not to be so construed as to cover persons not substantially within its terms. (Smith *vs.* Lane, 24 Hun., 632. Wert *vs.* Clutter, 37 Ohio St., 347–352.) In Wert *vs.* Clutter, *supra*, the Court says: 'This statute was not intended to create a right in any one to practice medicine. It was simply intended to prohibit the exercise of the right (which before was universal) by unqualified persons. The right remains in all persons, except those from whom it is taken away by the statute.' In Bibber *vs.* Simpson (59 Me., 181) suit was instituted for $51 for services rendered the defendant's intestate, at his special request, by the plaintiff as a clairvoyant. It appeared from the plaintiff's testimony that she professed to be a clairvoyant; that when asked to examine the patient she saw the disease and felt as the patient did; that sittings or séances were of different durations, from one quarter to one half of an hour each; that she did not pretend to understand medicine or anatomy; that she was requested by the intestate to visit him and render him professional services, and did so as by the account; that she helped him, but he died from taking cold; acquainted him with the prices, and he agreed to pay them, but never did. Appleton, C. J., in deciding the case, says: 'The services rendered are medical in their character. True, the plaintiff does not call herself a physician, but she visits her sick patients, examines their condition, determines the nature of the disease, and prescribes the remedies deemed by her most appropriate. Whether the plaintiff calls herself a medical clairvoyant, or a clairvoyant physician, or a clear-seeing physician, matters little; assuredly, such services as the plaintiff claims to have rendered purport to be, and are to be deemed, medical, and are within the clear and obvious meaning of R. S., 1871, c. 13, sec. 3, which provides that "no person, except a physician or surgeon, who commenced prior to February 16, 1831, or has received a medical degree at a public medical institution in the United States, or a license from the Maine Medical Association, shall recover any compensation for medical or surgical services, unless previous to such services he had obtained a certificate of good moral character from the municipal officers of the town where he then resided." The plaintiff has not brought

herself within the provisions of this section, and can not maintain this action.' In Smith *vs.* Lane (24 Hun., 632), Daniels, J., says: 'The action was brought to recover the price which it was alleged the defendant agreed to pay the plaintiff for the treatment of himself and wife for certain bodily disabilities. It consisted entirely of manipulations with the hands. It was performed by rubbing, kneading, and pressure. The evidence given by the plaintiff was to the effect that he was employed by the defendant to perform these services for a specific compensation, and that he had performed them until the amount due him was the sum of $149. Upon the close of the case on his part, the referee dismissed the complaint because it appeared that the plaintiff was not a graduate of any medical school, and had no license permitting him to practice either medicine or surgery. The direction was given because of the prohibition contained in Chapter 436 of the laws of 1874, and, as no other reason appeared in the case, or the evidence which was given that would prevent the plaintiff from recovering, and whether this act contains anything subjecting him to such disability, is the only substantial point which requires to be considered in the case. The statute in terms merely declared it to be a misdemeanor for any person to practice medicine or surgery who is not authorized to do so by a license or diploma from some chartered school, State board of medical examiners or medical society, or who shall practice under cover of a medical diploma illegally obtained, and for the purpose of qualifying a person neither licensed nor possessing a diploma of the nature of that mentioned to practice medicine or surgery, it was provided that he should obtain a certificate from the censors of a medical society either in the county, district, or State, in which it should be set forth that he had been found qualified to practice all the branches of the medical art mentioned in it. It appears to be quite manifest that the object of the Legislature in the enactment of this chapter was only for regulating the practice of medicine or surgery, as those terms are usually or generally understood, and, confining them to such significance, it is evident that they would not include the occupation of the plaintiff. The practice of medicine is a pursuit very generally known and understood, and so also is that of surgery. The former includes the application and use of medicines and drugs for the purpose of curing, mitigating, or alleviating bodily disease, while the functions of the latter are limited to manual operations usually performed by surgical instruments or appliances. It was entirely proper for the Legislature by means of this chapter to prescribe the qualifications of the person who might be intrusted with the performance of these very important duties. The health and safety of society could be maintained and protected in no other manner. To allow incompetent or unqualified persons to administer or apply medical agents, or to perform surgical operations, would be highly dangerous to the health as well as the lives of the persons who might be operated upon, and there is reason to believe that lasting and serious injuries as well as the loss of life have been produced by the improper use of medical agents and surgical implements and appliances. It was the purpose and object of the Legislature by this act to prevent a continuance of deleterious practices of this nature, and to confine the uses of medicine and the operations of surgery to a class of persons who, upon examination, should be found competent and qualified to follow their professional pursuits. No such danger could possibly arise from the treatment to which the plaintiff's occupation was confined. While it might be no benefit, it could hardly be possible that it could result in harm or injury, and for that reason no necessity existed for interfering with this pursuit by any action on the part of the Legislature. His system of practice was rather that of nursing than of either medicine or surgery. No bodily disability or diseases could either result from or be aggravated by the applications made by him, and what he did in no just sense either constituted the practice of medicine or surgery. He neither gave nor applied drugs or medicine, nor used surgical instruments.'

"It is my opinion that our statute is susceptible of the same construction expressed in said case of Smith *vs.* Lane, and that our statute does not cover the person embraced by your question, and that he is not required to procure a license."

The Health of the State of New York.—The State Board of Health's "Monthly Bulletin" for September gives the total reported mortality as 6,251, the percentage of infant mortality being 37. In each 1,000 deaths there were 134·22 from diarrhœal diseases, 23·20 from typhoid fever, 141·74 from consumption, and 76 from acute respiratory diseases.

The New York Physicians' Mutual Aid Association will hold its annual meeting on Thursday, the 12th inst., at 4 o'clock P. M., at the hall of the Academy of Medicine. A revision of the by-laws will be proposed by the Board of Trustees, and a full attendance of the members is desired.

THERAPEUTICAL NOTES.

Dover's Powder and its Modifications.—Dr. B. W. Richardson ("Asclepiad"), after giving in brief the history of a case of "septinous pneumonia" (a term which he applies to pneumonia "induced by inhaling some toxic product from a cesspool"), says that in cases of that sort there is no such anodyne, no such soporific febrifuge, as Dover's powder. If he could envy any one as a therapeutist, he says, it would be the old physician who originally had the happy thought of blending astringent opium with relaxant ipecac, and both with a diuretic and laxative. He thinks it is often very good practice to modify Dover's powder by combining the one grain of opium and the one grain of ipecac with other salines than sulphate of potassium. True Dover's powder, he continues, contains the nitrate as well as the sulphate of potassium—four grains of each in ten grains of the compound—and it often seems to him reasonable to revert to this form, nitrate of potassium, in small doses, being a good diuretic. He also often ventures upon other modifications: in acute rheumatic fever he usually substitutes sodium salicylate for the potassium salt; in gout, bicarbonate of sodium; in remittent febrile cases, two grains of quinine with five of sodium salicylate; and in quinsy and other febrile throat affections, chlorate of potassium.

The Therapeutic Value of Chloride of Calcium.—Dr. R. W. Crighton ("Practitioner") considers this salt of special value in the treatment of scrofulous affections of the glands, and thinks it has an alterative action in all forms of the strumous diathesis. He uses the crystallized chloride, as the anhydrous salt forms a turbid solution and has an unpleasant taste. He gives one, two, or three grains at a dose to young children, and rarely over twelve or fifteen to adults. The dose of Coghill's solution (five ounces of the crystallized salt to twelve fluidounces of syrup) varies from five to forty minims, according to age and other circumstances. He always gives it in milk, after meals.

Nitrite of Sodium in Gouty Epilepsy.—Dr. J. M. Granville ("Brit. Med. Jour.") thinks that epilepsy is often of gouty origin, especially in female members of gouty families, and in such cases he has produced highly satisfactory results with the following formula:

Sodium nitrite	36 grains;
Sodium hippurate	3 drachms;
Infusion of serpentaria	to 12 ounces.

Two tablespoonfuls to be taken three times a day, before meals. The author says that the dose of sodium nitrite may be increased by one grain after each fit that occurs after the treatment is begun, until the dose of fifteen grains is reached. The mixture should be taken for three or four months.

The Action of Quinine on the Fœtus.—Vadenuke ("Thèse inaug. de St. Pétersb."; "Arch. de tocol.") arrives at the following conclusions: 1. Quinine taken by the mother passes into the system of the fœtus in the proportion of about one ninth of the whole amount. 2. The largest amount is contained in the fœtus at the end of two hours. 3. The fœtus eliminates it in a little more than forty-eight hours, and the neonatus in seventy-two hours. 4. Large therapeutic doses, given to the mother, do no harm to the fœtus. 5. The same is true of large doses repeated every forty-eight hours. 6. Quinine is not an abortifacient. 7. It may ward off abortion or premature labor when the mother is under the influence of fever, especially of malarial origin.

A Mercurial Soap, made by triturating equal weights of mercury and a perfectly neutral olive-oil-and-potash soap, is highly recommended by Dr. P. Spillmann, of Nancy ("Ann. de dermat. et de syphil."), as a substitute for mercurial ointment. It keeps well, is not irritating, and can be washed off from the skin with simple water.

Lectures and Addresses.

MODERN METHODS OF TREATMENT OF PULMONARY PHTHISIS.

BEING A CLINICAL LECTURE

DELIVERED AT THE BELLEVUE HOSPITAL MEDICAL COLLEGE, OCTOBER 27, 1885.

BY BEVERLEY ROBINSON, M. D.,
CLINICAL PROFESSOR OF MEDICINE.

GENTLEMEN: The subject of my lecture before you today is to me a most interesting one. It is especially attractive because I believe, by the general adoption among practitioners of medicine of the means to be referred to, a positive and great benefit may be afforded to a vast number of individuals who are now sufferers from an otherwise almost hopeless disease. Let me say to you at the beginning of my remarks, so as to avoid any possible misapprehension, that I am of the opinion at the present time, just as much as ever before, that all usual means of treatment in pulmonary phthisis which have been proved to be practically useful are none the less advantageous because something newer and further can be added. By all means advise your phthisical patients to observe strictly well-determined hygienic rules, to breathe, habitually, if possible, a high, dry, pure, equable atmosphere; give them cod-liver oil, as much as they can properly digest and assimilate; let all undue mental and physical fatigue be eliminated, if it may be, from their daily existence; locate them in large, sunny, well-ventilated apartments; see to it that their food and drink are nutritious and suitable—in short, do whatever you can to retard the march of disease in the lungs, or to promote and obtain absolute cure. Admitted, then, that this plain duty is set before us; admitted that what our classical text-books teach is sound doctrine and should be unerringly followed, still may we not go beyond their teachings and try new methods which reason encourages and clinical observation and experience obviously support?

The answer is evident. The three methods, then, to which I call your attention, taken in the rank of what I believe to be their relative importance, are:

1. Increased alimentation.
2. Continuous antiseptic inhalations.
3. Intra-pulmonary injections.

One of the symptoms most to be dreaded in the course of pulmonary phthisis is anorexia. When this condition is insurmountable, the patient's future is well-nigh hopeless. Food must be taken, so as to preserve life. But at times the repugnance to food is so great among phthisical patients that they turn from it in sheer disgust. No matter how temptingly the dish is prepared, there still remains the inability to swallow it. Now, then, how can the appetite be awakened, especially when its complete absence is already feared at an early stage of pulmonary phthisis? Of course, we may and should first try the different vegetable bitters, combined, or not, with an acid or an alkali; but if these fail, and very often they will, despite our best-directed endeavor, what then shall we do?

Under these circumstances, and in view of what my reading and personal experience show me, I now recommend washing out the stomach by means of a soft-rubber tube connected with a funnel. After a very short period—sometimes within a few days from the time daily washing is begun—the patient will gladly say that his appetite is already much improved. Take another instance—that, for example, of a patient whose appetite is not good, it is true, but who, nevertheless, forces himself to eat, and who, within a few minutes or hours after food is taken voluntarily, vomits it up. How are such patients to be treated? As I have said in regard to my first example, by washing out the stomach daily until stomachal tolerance is, at least, acquired for easily assimilable food. Further, there is a class of cases in which the anorexia is only moderate and the power of digestion for food not completely lost. Of course, it is an effort to eat, and there is certainly no desire for food. Besides, soon after food is swallowed the patient suffers from weight or pain in the stomach, acid eructations, or extreme flatulence, which are about equally unpleasant and render the patient unwilling to eat unless forced to do so by his own convictions or the urgent appeals of friends. Manifestly in these instances the patients do not take sufficient food, or do not assimilate it well enough to hold their own, far less to repair the daily damages that are effected by the wasting disease of which they are victims. Here again I counsel daily washing of the stomach. In the beginning I do not advise so-called forced feeding by means of the soft-rubber tube. I believe it is wiser in many instances to wait some days before commencing alimentation in this manner; still there are exceptions. In certain cases, even after repeated washing of the stomach, the patient will be unable to retain food after swallowing it. He may feel that he needs food, and he may be perfectly willing to take it, and yet every time he attempts to swallow even a few mouthfuls the food is almost immediately rejected by an effort of retching or vomiting.

Singular to say, the mere act of swallowing appears sometimes to occasion the subsequent feeling of nausea and vomiting. If we introduce food into the stomach with the stomach-tube, even in tolerably large quantities, the food is retained. And not only is it retained, but it is digested and assimilated, and the patient soon feels better and stronger. And with the repeated administration of food in this manner the appetite returns by degrees and in a relatively short time, and the stomachal digestion continues daily to improve. After the lapse of several weeks, a month or two, or perhaps longer, daily washings of the stomach are no longer necessary. These may be repeated at longer intervals, finally to be stopped altogether. In regard to the forced feeding it is somewhat different. The rule is to super-aliment if possible—to give the patient more than he can possibly crave or desire, to make him digest and assimilate more food than he would be willing to, or indeed could, swallow. Now, this may be accomplished by pouring into his stomach once, twice, or even three times a day milk; milk and eggs; milk, eggs, and beef peptonoids, in smaller or larger quantity. The main indi-

cation is, after all, to *stuff* the patient to his or her utmost capacity, short of causing actual distress or incompetence on the part of the digestive organs. It is, again, a remarkable fact that, within an hour or two after the time when a pint or more of milk, two or three eggs, half to an ounce of beef peptonoids have been poured into the stomach of a phthisical patient, he or she will have quite as good appetite as, if not better than, there would have been if no nutriment had been taken. When this forced alimentation, together with the regular daily meals, has been continued for some days, the patient's weight will commence slowly to increase. And, so far as his general condition is concerned, it will be manifestly improved. While this is true, and although flesh and muscular vigor are both obviously on the increase, the intra-pulmonary condition will remain absolutely stationary. It may also progress slowly or rapidly. It may, fortunately, become retrogressive and markedly improved. An instance of the former kind was fully reported by me last June at a meeting of the American Laryngological Association, and I do not wish at the present time to repeat this history. I have not been able to bring before you to-day a case of pulmonary phthisis in which washing the stomach and forced alimentation are being carried out, although I have two such cases (in women) under my care *now* at St. Luke's Hospital. In place of *cases of phthisis* being thus treated, and in order to show you the ease and effectiveness of the plan of forced alimentation, allow me to present to you this man. The patient, J. P., is forty years old, single, and a cigar-maker. He has suffered for a long while from asthma, that followed a bronchial attack which occurred during the war of the Rebellion. He has had dyspepsia during three years, which has frequently been accompanied by vomiting of very offensive liquids. Occasionally he has felt much depressed, and even ill, from the repetition and severity of these paroxysms. All the food he ate lay like a dead weight on his stomach, or gave him intense pain. His power of digestion seemed completely gone, and he suffered continued misery unless he recurred almost daily to the use of purgative pills. In this case the stomach-tube was first used on October 22, 1885, and the stomach washed out thoroughly with warm water slightly alkalinized by means of borax. After the first washing, twenty-two ounces of milk were poured into the stomach and easily retained. The operation of washing and feeding with the tube has been repeated twice since until to-day (October 27th), and to the milk two or three eggs have been added. Already the patient affirms, as you hear, that he has now no pain in his stomach after eating, that food does not lie as a load in his epigastrium, and his appetite has improved. Yesterday he ate and digested some meat without difficulty, which is the first experience of this kind he has had during several months.

Now, then, what this man states I have heard repeatedly before, and had several like cases under my care at different times. For your benefit I will now show you how easily my patient swallows his tube, how easily his stomach is washed out, and how acceptable milk received into his stomach through the tube appears to be. A word or two before I leave this subject in regard, 1, to the apparatus employed; 2, to the best manner of using it. Simple instruments are often the best, and so it is in this instance. The instrument I show you is, in my opinion, the best one for combined washing and feeding with which I am acquainted. There are several others, invented or modified by different physicians, each one having its special advantage, perhaps, but each somewhat complicated; at all events, none quite so simple as the one here shown, which to all intents is little more than a long rubber flexible tube with a vulcanite funnel at one end. To be more particular, I would add that the stomach-tube is similar, except for *increased caliber* and *length*, to those made by Tiemann or Ford for catheterization of the urethra. This one is twenty-eight inches long and about one third of an inch in diameter. It is connected at its proximal extremity by means of two inches of *glass* tubing with a soft rubber tubing of similar size five feet in length. This latter piece of tubing is terminated by a funnel. The stomach-tube may be dipped into warm water before passing it in order to lubricate its surface, or make its passage easier. It is then introduced in the median line beyond the base of the tongue, and the patient is told to swallow. At each repeated effort of deglutition the catheter is pushed farther on until from eighteen to twenty-one inches are introduced. We are then quite sure the tube has penetrated into the stomach beyond the "eyes" by which the food pours into the stomach. So soon as this is accomplished, we raise the funnel to a suitable height—usually the level of the patient's head is sufficient—and pour into it slowly water of about blood-heat, or a little warmer, with the addition of borax. The proportion of the latter may be one drachm to two quarts of water. When we have poured about a pint of fluid into the stomach, or when the patient himself makes *a sign*, or says that his stomach feels distended, we quickly lower the funnel near the floor while *pinching* the soft tube near the funnel with the index-finger and thumb of the right hand so as to retain fluid in the entire length of the tube. So soon as the funnel is lowered into an empty receiving-vessel on the ground, pressure on the tube is relaxed and the water containing the washings from the stomach is siphoned off. After repeated washings, or until the stomach is quite clean and the water comes away clear, we pour in the alimentary substances in the same manner we did the hot water for washing. In withdrawing the stomach-tube we should do it quite rapidly, in order to avoid possible rejection of the food. We should also pinch the tube near its proximal extremity in withdrawing it so that none of its contents will fall upon the carpet or floor. Of course it is understood that the daily *washing* of the *stomach* should take place in the early morning, or at a time when it is comparatively or entirely free from food; otherwise the tube is liable to be choked up by bits of undigested food. Besides, such pieces may be rejected alongside the tube, and possibly become impacted in the larynx or trachea, causing symptoms of asphyxia. Whenever it is inconvenient to perform the washing at a very early hour in the morning, the patient may be allowed some peptonized milk, and the washing may then be delayed for an hour or two. After a certain number of washings the patient himself may be able to

accomplish this little feat quite as well as the doctor. As regards the *mere* passage of the tube, he frequently learns how to introduce it with greater ease to himself than the physician can command, and, while introducing the tube, is perfectly able to make a passing intelligible remark or two.

We now come to the second part of our lecture, viz., the subject of *Continuous Antiseptic Inhalations.* This, gentlemen, has been a subject which I have studied very attentively during the past two or three years. I have examined many different kinds of oro-nasal inhalers, but I know of none so simple, so cheap, and so effective as the one I have in my hand. These inhalers were originally made in London, and sold by Squire. I imported a large number of them for use at the New York Hospital in the out-patient department, and, within a brief period, finding them so useful, I have requested Mr. Ford, of Caswell, Hazard & Co., to manufacture a lot for sale to the public generally. The inhaler itself is nothing but a simple sheet of light zinc perforated with numerous small holes and bent into a somewhat pyramidal shape of suitable size to cover the nose and mouth. The apex of the pyramid—which is the part of the inhaler farthest separated from the mouth and nares—contains a small sponge, held in place by thread, upon which the inhalant is poured. The inhaler is held fixed before the nose and mouth by two light elastics which go around the ears. I have employed at different times a large number of inhaling fluids and many different combinations. The fluid and combination to which I now give the preference is creasote and alcohol, equal parts, to which I also frequently add a like proportion of spirits of chloroform. This combination is certainly very useful in allaying cough and modifying the quantity and quality of the sputa in pulmonary phthisis. I therefore recommend it very warmly. The alcohol is added to the creasote for the double purpose of diluting it and making it more volatile; the spirits of chloroform are added, in view of the experience of Dr. Cohen, of Philadelphia, to diminish local irritation and excessive cough. The inhaler must not be worn too long at first, nor should too much fluid be poured on the sponge at any single time. In either event, instead of giving relief, disturbance is caused; the throat is rendered more irritable, and the patient complains of increased soreness and tightness in the chest. Properly and judiciously employed, the creasote inhalant relieves symptoms notably, and in the beginning, at least, of pulmonary phthisis is, I believe, a means of decided utility so far as the possible arrest of the disease is concerned. It is important that beechwood creasote be employed. At first the inhaler should be worn ten to fifteen minutes every two or three hours; afterward, it may be worn half an hour or an hour at a time, or even longer. When the length of time is gradually increased, only positive benefit will result. From ten to twenty drops of fluid should be added to the sponge at any one time. If more is added, it will cause undue irritation. The fluid should not be poured on the sponge more than two or three times in twenty-four hours. Precisely the way in which creasote is most useful is perhaps difficult to state. By its antiseptic action it is possibly destructive of bacilli; by its local action and general effect it is certainly of value in combating catarrhal conditions. Where purulent cavities exist it tends to destroy or neutralize putridity. These are certainly sufficiently good reasons for its use without pursuing the inquiry further. At all events, these inhalations do good. The physician notices it and the patient affirms it. In many instances they allay cough better than any cough-mixture, and they are certainly free from the great objection of destroying appetite, as opium and morphine so frequently do.

We now come to the third and last topic of to-day's lecture, and that is, *The Utility of Intra-pulmonary Injections in Pulmonary Phthisis.* I for one, gentlemen, believe they do good. I also believe they rarely do any harm. They may occasion localized pleuritis, slight hæmoptysis, or cutaneous emphysema—but that is about all. They certainly allay cough, diminish the quantity and change the character of the sputa, and, in some remarkable manner, have at times manifest power in lessening the distressing symptom *dyspnœa.* This method of treating lung-cavities was first employed in this country by Professor Pepper in 1874; since that time, and except by Dr. Pepper himself, I am not aware that any one but myself has practiced these injections any considerable number of times. I have now made between forty and fifty intra-pulmonary injections, and am disposed to continue them in favorable cases. Of course it is often a difficult thing to follow up any particular line of treatment in private or hospital practice, on account of the prejudices or fears of patients. Thus it is with intra-pulmonary injections, and in a similar degree, perhaps, with forced alimentation, already fully described. Whenever this little operation can be performed, it is, in reality, a very simple matter.

The point of a fine cannulated needle should be inserted in the first, second, or third intercostal spaces anteriorly, or in the axillary region. While there is no risk in making injections upon or outside of a vertical line passing through the nipple on either side, there is danger in injecting at any measurable distance within this line for fear lest we penetrate the pericardium, or one of the great thoracic vessels. The needle should be inserted from two and a half to three inches. Of course, if considered necessary, the slight pain of the puncture may be annulled by the use of local anæsthesia. I have made use of iodine usually in my injections, and am now employing a solution of the compound tincture of the strength of one part to four parts of distilled water. From ten to twenty minims may be injected upon each occasion, and the injection may be advantageously repeated in four or five days. Previous to the introduction of the needle of the Pravaz syringe the patient fully expands his lungs, and retains the air in them during the few moments it takes to make the injection. Slight or moderate cough, some expectoration, streaked or not with blood, may follow the injection, and for a day or two there may be slight localized pain in the region where the injection was made. Further than these symptoms, little or no reaction accompanies or follows the injections. In many cases, as in that of the man whose chest I have just injected for the *third* time within ten days, there is no reaction whatsoever at the time

of the injection, inasmuch as he does not even cough. I I have told you this patient has a cavity at the right apex.

One of the gentlemen wishes to know how I am assured that the point of my needle has penetrated the cavity. The answer is very simple; by giving a slight movement in different directions to the body of the syringe we can readily appreciate whether or not the point of the needle encounters any resistance, or is perfectly movable in an empty space, or one only partially filled with semi-fluid material. But, presuming for a moment that I can not be always confident that I have struck the cavity, does it matter? Practically, and according to me, no. That is to say, if you fear any bad results simply because the injection has been made into solidified tissue about the cavity. Indeed, I am more and more convinced that the best indication for these injections is in cases where the apices are *solidified* and not *softened*. I am borne out in this belief by my own experience. I have already injected in nearly as many cases of phthisical infiltration at its first stage as at a later period, and I have ordinarily seen apparent benefit result. As to the slight accidents that do occur, they can be easily allayed by an anodyne, external irritation of the chest, or rest in bed for a day or two. Of course, when we inject a cavity we have distinct objects in view, and, if we do not reach the cavity, we fall short of doing what we purposed to do. These objects are mainly to disinfect the sputa and to modify the walls of the cavity so that it will, little by little, tend to close up and cicatrize, and, in producing this result, we shall also expect the amount and character of the secretions from the lung-cavity to be sensibly changed for the better. When we inject solidified lung-tissue, we expect something very different. If there is an underlying inflammatory cause in very many cases of phthisis, and I still believe there is, we shall modify this inflammatory exudation considerably. We shall, perhaps, produce such changes in it as to render it fluid and easier of resorption or expectoration. As to the influence of iodine or other injections on the growth or vitality of bacilli, I have yet no very positive and determined views—any more, indeed, at this moment, than I feel perfectly sure in regard to the real, active rôle of the bacillus itself. Only a few months ago the chorus of the supporters of Koch was somewhat after this fashion:

"What is consumption? The bacillus.
What is the bacillus? Consumption.
But what causes consumption? Why, the bacillus.
But what causes the bacillus? Consumption."

And now I ask, in the words of Professor Loomis, "whether they [these microbes] are the *cause* or the *scavengers* of disease?"

Clinically, of one thing I am quite confident, viz., intrapulmonary injections of iodine benefit phthisical sufferers. Why not, therefore, give them the opportunity of the treatment, and await patiently the auspicious day when even changing theory may be wholly favorable to their use.

In conclusion, let me urge upon you all to earnestly consider the facts brought to your attention in this lecture. It is a subject pregnant with the most vital interest. Our hospitals and dispensaries show a fearful death-rate from phthisis. Ordinary methods of treatment are confessedly disheartening by reason of their very slight influence in arresting the march of a dread disease, when, moreover, the *odds* are, for other and manifest reasons, many against the *poor* sufferers.

I have studied with you a series of topics which makes me more hopeful of what I may be able to do for the arrest or cure of pulmonary phthisis. In this line of research may all of you find renewed courage and conviction. Perhaps some one among my hearers may yet discover the "arcana" of science in its conflict with this destroyer of our fellows.

Original Communications.

PARALYSIS OF THE LARYNX; WITH REPORTS OF THIRTY-TWO CASES.*

By H. A. JOHNSON, M.D., LL.D.,
CHICAGO.

The following cases are presented with the thought that they may be useful in future studies. Only what seemed to be the essential facts have been transcribed from my note-books. I have no theories to suggest, but leave the record for the interpretation of those who may be interested in this class of derangements of the larynx. I have not included cases in which the derangements depended upon tumors, ulceration, and other structural alterations of the organ.

DISTURBANCES DEPENDING UPON HYSTERICAL CONDITIONS.

Case I.—H. B., female, single, aged twenty-four. No change in the form or structure of the larynx. The vocal bands in the cadaveric position. Health in other respects fair, menstruation normal, appetite good. Was put upon iron, strychnine, etc., and advised to live as much as possible in the open air. I also applied the faradaic and galvanic currents, the latter interrupted. None of these measures produced any change in the function of the organ. After several months she went East, and finally to Europe, where she consulted a great number of laryngologists, with always the same suggestion of strychnine, electricity, and tonics.

These were tried with the thought that possibly under new conditions and in more expert hands they might be successful. After visiting California and the southern portions of our own country, she went to Europe again, spending a winter in Egypt. On her return she was under the care of Dr. Hughlings Jackson, of London, who had the good fortune to hear her speak after about five years of silence. During three years of this time she did not even whisper. The cords remained as described till her return from Dr. Jackson. At that time she occasionally spoke aloud, but only a part of the time. Upon examination, I then found that in the effort to phonate the vocal processes were brought together, but there was a triangular opening back of their points—in other words, there was a paralysis of the arytænoids, leaving a space through which the air escaped, making phonation laborious and at times producing complete aphonia. From that time to the present, now several years, there have been periods, for several days and occasion-

* Read before the American Laryngological Association, June 24, 1885.

ally for a week or more, that she could not speak above a whisper. She is and has always been fairly nourished, but of a lymphatic temperament, and is easily fatigued. I have repeatedly examined the larynx during the last few years, and have never found any changes except as above stated.

That this was a case of hysterical aphonia I presume no one will for a moment doubt. The interest consists in the fact that the trouble continued so long and resisted all treatment till seen by Dr. Jackson.

Dr. Jackson's treatment did not in any essential respects differ from that which had already been tried. There could be found no evidence of those perturbations of the uterine or other organs which generally accompany these cases. I have said that I presumed this would be admitted to be a case of hysteria. I use the word not in the strict sense of uterine irritation, but for that class of neuroses generally grouped under this name.

Case II.—Mrs. F., aged thirty, married, has had for the last eighteen months some difficulty in speaking, and for the last four months she has been completely aphonic. There has been occasionally dyspnœa, but this has seemed to be asthmatic rather than due to laryngeal stenosis. She has also been under treatment for some uterine trouble. Examination of the lungs reveals some vesicular emphysema; heart weak, but no murmurs; larynx normal in form and color; vocal cords immovable in the cadaveric position. There were no evidences of central trouble nor of any lesion along the course of the nervous trunks. The patient was sent to me by a gynæcologist with the query as to the reflex nature of the laryngeal difficulty.

Case III.—T. H., aged twenty-three, female, single. Nine months ago she took cold; is now aphonic; is short of breath upon exercise; emaciated. Physical examination of chest reveals no evidence of disease of the lungs or heart. She is emotionally depressed. Menses have not appeared for the last five months. No fever or other derangements to suggest organic troubles elsewhere. Tops of the arytænoid cartilages slightly swollen; no loss of motion of abductors; right cord does not come quite to the median line in the effort to phonate; it is lax, sagging, and hanging away from its fellow. This case seems to me to be a paresis of the right thyro-arytenoid and probably also of the right crico-thyroid, hysterical in origin.

Case IV.—M. C., aged seventeen, female, single. Was never strong. Has always been subject to colds and throat trouble. Had diphtheria four years and a half ago; had suppuration of the lymphatic glands of the neck seven or eight years ago; is now in school, but devoting herself mainly to instrumental music; is fairly nourished, but has dysmenorrhœa and signs of ovarian irritation; no lung or heart trouble.

Upon effort at phonation, the cartilaginous glottis is open; in other respects movement of the parts is normal. Says that she formerly was in the habit of singing, but was obliged to abandon all efforts to sing because, as she expressed it, her "voice rattled." There may be a doubt as to the ætiology of this case. The patient had diphtheria four years and a half before the consultation.

Case V.—A. P., aged twenty-five, female, married. Has been aphonic for the last five months. Was referred to me by a gynæcologist. Has laceration of the cervix; has now an acute inflammation of the pharynx and larynx; the vocal cords are in abduction and immovable. No evidence of any central or local laryngeal lesion to account for the paralysis.

Catarrhal.

Case VI.—E. B., aged sixteen, single. Has several times during the last eighteen months lost her voice, being able to whisper only. This has usually been treated by her physician by local applications of argent. nit., thirty grains to the ounce, and in a few days she has recovered. I find thickening of the mucous membranes above the glottic chink, and in normal efforts at phonation the false vocal bands approximate so as to come in contact, shutting out the view of the true cords. In easy respiration the vocal processes are nearly in contact. There must be some paresis of the abductors. The patient was under the care of a physician in a neighboring city, and I learned that she entirely recovered with no other treatment than that mentioned. The health was in every other respect good. The impairment seemed to be the result of acute catarrh.

Case VII.—J. G., aged thirty-eight, male. Three months ago was taken suddenly with hoarseness after getting wet. Very soon afterward the voice became extinct. This condition has continued to the present time. General health in every other respects good. No history of specific disease.

Vessels of the larynx large. Secretions excessive. Left vocal band in efforts at phonation remains midway between adduction and abduction. Motions of right band normal. The interrupted galvanic current was applied with an immediate improvement. The patient soon passed from my observation. The only cause that seemed probable was a catarrh from the cold.

TYPHOID FEVER.

Case VIII.—M. A., aged twenty-nine, female. Had inflammation of the lungs when a child. At the age of twenty had typhoid fever. Soon afterward the voice began to fail. Was unable to sing. Two years ago became very much frightened by an accident, and for two weeks was completely aphonic. Has been hoarse the most of the time since, except when aphonic for ten weeks about a year ago. For the last few weeks has had pain in the larynx and the left side of the chest, running through to the back. No chest trouble. No uterine or ovarian difficulty.

In efforts at phonation the vocal bands remained lax, allowing the air to be expelled between them without the production of sound. The muscles involved seemed to be the crico-thyroids. A marked improvement took place under treatment by the faradaic current.

Case IX.—B. B. B., male, aged fifty-five. Thirty years ago had typhoid fever. After convalescence, became suddenly hoarse and then aphonic.

This condition continued eighteen months, when he recovered the use of the voice. Since then has had, when fatigued, and especially after speaking for a while, a sense of fatigue, which he locates in the supra-sternal region. When eight years old commenced the use of tobacco. Much of the time for forty years he smoked twenty-five cigars daily. Stopped on account of a heart difficulty. Has now post-nasal catarrh. There is also dysphagia, apparently from want of action of the constrictors. The surfaces of the pharynx are very tolerant to mechanical interference. The patient is well nourished, weighing 180 pounds. The action of the kidneys normal. No lung trouble. No organic heart trouble.

Chronic catarrhal inflammation of the larynx. At time of examination, no derangement of motion.

The case is presented for the reason that the patient had just recovered from typhoid fever when the aphonia occurred, lasting eighteen months. The excessive use of tobacco for so long a time in connection with anæsthesia of the pharynx gives additional interest to the history.

SYPHILIS.

Case X.—M. L., aged forty-two, female, married. Has had for eight years some difficulty in swallowing solid food. Says that six months ago "something broke in the throat." Says

that the matter discharged from the throat at that time was not pus, but a "glairy, transparent fluid; it was like the white of an egg." Since then she has been able to swallow better, but there is now constant dyspnœa. This is especially marked when asleep, or when fatigued, or excited during the day. The difficulty is mainly in inspiration. Expiration is easy. General health is not good. Has a family history of cancer and consumption. There was no evidence of thoracic trouble and no history of specific disease.

Examination revealed paralysis of the abductors of both vocal cords. There were no evidences of disease along the course of the nerve-trunks, so far as I could find. I suggested tracheotomy as a measure of prudence, and ordered pot. iod., with the thought that there might have been a specific intoxication. The subsequent history is unknown to the reporter.

Case XI.—D. M., aged forty-seven, male. Had syphilis eight years ago. Six months ago began to have some trouble with the throat. Voice hoarse, but not lost. Secretions of pharynx and larynx increased. Health in other respects fair.

Chronic inflammation of the mucous surfaces of the larynx. Top of left arytenoid cartilage swollen. Left vocal band near the median line, and does not move upon deep inspiration. Right band normal in movement.

I am not quite sure that this is a case of paralysis; it may be an ankylosis of the cartilage.

Case XII.—E. G., aged forty-six, male. Had syphilis in early life. Has had cough and difficulty of breathing for several years. This difficulty came on gradually. It was more marked when asleep than when awake. The appetite is good. No lung trouble. Heart sounds normal. No disease along the pneumogastrics or recurrents. So far as I can ascertain, there are no secondary or tertiary symptoms of syphilis, unless this laryngeal disorder be of that character.

Examination reveals a bilateral paralysis of the abductors of the vocal bands. During phonation the bands become normally tense, separating slightly at the cessation of the act of speaking. There did not appear to be any mechanical fixation of the arytænoids. The quality of the voice is little, if at all, affected. Soon after the first consultation tracheotomy was performed for the relief of a dangerous dyspnœa which occurred during the night. The patient was put upon constitutional treatment, with the thought that it might be syphilitic in origin. No benefit resulted from these measures, and he has worn a cannula now about four years. I am still inclined to think that the case is specific.

Case XIII.—D. M., aged forty-seven, male; had syphilis eight years ago. Six months ago began to be hoarse. The voice is now rough, but not lost. Health in other respects good.

Secretions of the pharyngeal and laryngeal mucous membranes excessive in quantity. Top of left arytænoid cartilage swollen. Left vocal band near the median line, and does not move upon efforts at phonation or deep inspiration. Right band normal in movements.

It is possible that this is a case of ankylosis of the cartilage. The patient was put upon the use of iodide of potassium.

DISEASE OF CENTRAL ORIGIN.

Case XIV.—M. E. P., aged forty-two, male. Never sick till four months before consultation. While on the plains in western Kansas or eastern Colorado he suddenly became aphonic. There was no cause to which he attributed the loss of the power of speech. After a few weeks he partly, but not entirely, recovered, and this improvement was followed by complete aphonia, which has continued to the time of consultation. General health good. No evidence of any thoracic trouble.

Epiglottis pendulous, omega-shaped. Right vocal band normal in movement. The left is drawn close to lateral wall of larynx, so as to be seen with difficulty as a line in the mucous tissues. Upon efforts at phonation there is not the slightest movement of the band. Under the influence of the interrupted current there was a slight change of position. Surface of larynx hyperæsthetic. Subsequent history of case unknown.

Case XV.—P. D., aged sixty-five, male. Five years ago had an injury from a fall, striking upon the right shoulder. Ten days afterward began to have difficulty in speaking. For three weeks could not make himself understood. Has not been able to speak easily since. Now there is something like stammering. There has never at any time been loss of consciousness, nor is there now any impairment of the intellectual functions. The arm and leg of the right side are weaker than those of the left. No deformity of the face or want of co-ordination. Bowels regular. The urine passes slowly. Has been treated during the last five years by various methods, including the use of electricity. Thinks nothing has done him any good. The appetite is now fair; sleep not good. Has headache every day.

Mucous membrane of the larynx slightly injected; otherwise normal. Movements of the left side of the organ very slight. In efforts to phonate, the right arytænoid cartilage is carried beyond the median line, its apex drawn forward of the apex of the left. The edge of the right band is higher than that of the left, and is also carried beyond the median line.

What is the explanation of the paresis of the right side of the trunk and extremities, and the left side of the larynx?

Case XVI.—V. P., aged thirty-six, male. During the last two years has had at times a dull post-sternal pain. This has not been constant in character. Has never been sick since childhood till the commencement of the present trouble. There is no pain in the throat, nor is there constant dyspnœa, but within the last three months there has been shortness of breath upon taking exercise. Speaks now with difficulty; the voice is rough. Of late there has been slight dysphagia. Within the last few weeks there has been some numbness of the left leg. No perversion of the special senses and no ataxia. In other respects the patient seems well. Physical examination of the chest reveals no lung trouble, and I can find no evidence of aneurysm.

Left vocal cord nearly immovable in the cadaveric position. No other alteration of the organ. At a subsequent examination there was the same condition so far as the motions of the parts were concerned. But there was in addition a marked anæsthesia of the mucous surfaces. The dysphagia was increased, and the laryngeal muscles on the left side did not respond to the faradaic current.

Case XVII.—R. W., aged forty-eight, male. Not strong as a child. Had "brain fever" when twenty-one years old. Never had syphilis. About one year ago began to have dysphagia. It came on suddenly, and gradually increased during the year. Five weeks ago attacked with dysphonia. This also came on suddenly, and has remained without change to the present time. Was subject to headache for several years before the commencement of the present troubles. Not so much since the advent of the dysphagia a year ago. Has, however, frequent attacks of neuralgia of the right side of face and head. No evidence of lung or heart trouble.

Right vocal band immovable near the median line. In other respects the organ is normal. Can see no evidence of any dis-

ease along the course of the nerves. The headache, neuralgia, difficulty of swallowing, with the "brain fever," all point to some central lesion.

Case XVIII.—E. N., aged fifty-four, male. Has had for the last ten years some discomfort in the throat. At times dyspnœa. During the last year the difficulty of breathing has been worse, especially upon taking exercise. Seven months ago had a slight hemiplegia of the right side. Is now able to use the right arm to some extent. The throat trouble is worse since the paralysis. Never had any specific trouble. Had typhoid fever twenty years ago. No thoracic trouble, lungs or heart.

Larynx normal in appearance. Upon effort at deep inspiration there is only a narrow opening between the bands. There is only a very slight movement of the bands in phonation. The paralysis of the abductors is not complete, but nearly so.

COMPRESSION OF THE RECURRENT NERVE.

Case XIX.—O. A., aged twenty-four, male. Has had some cough for last six months. A slight hæmorrhage occurred about two weeks before consultation. Evidently deposits in apex of left lung. There has been for some time impairment of voice. Upon inspection, the left band is restricted in the range of movement. No other signs of laryngeal trouble. No swelling of the cartilages or thickening of the mucous membranes.

The interest of the case consists in the fact of paresis of the left side of the larynx in connection with tubercular deposits in the corresponding lung. It is stated by some authorities that such deposits do, by their pressure upon the recurrent, produce paralysis. I think it must be very rare; but this case seems to justify the proposition.

Case XX.—X. S., aged forty-nine, female. Has been hoarse for two years. In that time has lost twenty pounds in weight. Six months ago had rheumatism. No cough. No fever. Examination of the chest reveals a soft bruit at the outlet of the left ventricle with the first sound. This is propagated into the aorta, and heard with great distinctness in the supra-sternal notch. No evidence of any lung trouble.

Color and appearance of the larynx normal, except that the left band moves only very slightly. It is very near the median line, both in inspiration and in phonation. The right in phonation passes beyond the median line to meet its fellow. There must, I think, be a dilatation of the arch of the aorta, producing pressure upon the left recurrent. Saw the patient several months afterward. Found no material change.

Case XXI.—E. B., male, aged thirty-seven. Has been hoarse for the last five months. Recently has been troubled with cough. General health till commencement of this trouble good. Upon examination of the chest, find aneurysm of the aorta at the superior and left portion of the arch. No lung trouble. Paralysis of the abductors of the left vocal band, which remains in the position of adduction in the median line. Motions of right side perfect.

Query.—Why is not the left band in the cadaveric position?

Case XXII.—H. S., male, aged fifty-one. Had, four years ago, a kick from a horse, producing an injury to the back of the head and the right side of the neck. The wound of the neck was on a level with the fourth ring of the trachea. The cicatrix is well marked, and is close to the trachea. Since the injury he has been hoarse; speaks with difficulty. General health good.

Epiglottis large, wide, erect. Complete paralysis of the right side of the larynx. Left side normal.

Case XXIII.—G. T. L., male, aged forty-eight. In early life was not in good health. Twenty years ago spit blood. For the last three years has had some difficulty in speaking when fatigued. This sometimes produced vertigo. Fourteen months ago had a severe strain of the muscles of the right side of the neck; said at the time that he "had broken his neck." Eight months ago began to experience pain in throat, and more decided difficulty in speaking. The voice is now low in pitch and feeble. No lung or heart disease.

Paralysis of laryngeal abductors of the right side, *the cord remaining in the median line.* Left side normal. Why is the cord not in the cadaveric position? Was there an injury to the pneumogastric or recurrent at the time of the "strain"? There had been some difficulty in speaking before that injury.

Case XXIV.—J. C., male, aged sixty-two. Has had hacking cough for twenty-five years. Became hoarse ten months ago. For the last six months has been aphonic. There is now difficulty in swallowing liquids. They pass into the larynx and produce cough and spasm. Appetite good, bowels regular. Kidneys normal. Emotionally despondent. Percussion note normal. Breath sounds harsh; rude over both apices; more marked in front than in back. Heart sounds normal.

Right vocal band immovable in the cadaveric position. Motions of left normal.

Case XXV.—T. B. K., male, aged forty. Has always enjoyed good health till nine months ago, when he fell upon the right shoulder, upon which, for ten or twelve days, the head was drawn down. He rapidly recovered, however, and was as well as ever, except that when he took cold he had a stiffness of the right shoulder. About five months ago he took a severe cold, and had a hard cough with expectoration of white mucus. He recovered from this, and about six weeks ago was suddenly seized with a violent fit of coughing, and immediately the voice became rough and hoarse. There was difficult inspiration. The difficulty was greater while sleeping than when awake. At times there was spasm, making inspiration very difficult. Never had syphilis. Upon physical examination, the lung and heart sounds were found to be normal.

Complete immobility of the right vocal band in the cadaveric position. Left side normal.

UNCLASSIFIED.

Case XXVI.—L. L., male, aged forty-seven. Ten years ago, while pitching hay on a very hot day, he took cold. Cough was severe at the time, and since then he has frequently had hoarseness and shortness of breath. Now the hoarseness is constant. He attributes it to the "cold" ten years ago. Never had any injury along the course of the laryngeal nerves. No specific history. Is well in every other respect. No lung or heart disease. Slight anæsthesia of the pharynx and larynx.

Left vocal band immobile in the cadaveric position. In efforts at phonation, the top of the right arytænoid cartilage passes in front of the left, and the right band is carried beyond the median line to meet its fellow of the opposite side.

Case XXVII.—M. W., female, aged thirty-two. Has a uterine fibroma. Is now taking ergot. During the last three months has had a cough. Has now some dyspnœa. Is hoarse. Speaks with difficulty. No lung or heart derangement. Slight enlargement of the cervical glands, especially back of the left clavicle.

Paresis of the abductors and adductors of the left vocal band. In deep inspiration and efforts at phonation there is only a very slight movement of the vocal band.

Subsequent history unknown. I am not certain that this is not reflex in its origin, but the enlargement of the

post-clavicular glands on the same side with the affected cord leaves a reasonable doubt.

Case XXVIII.—E. W., male, aged five years. Well till eight months ago, when he had an attack of diarrhœa. Soon after began to be hoarse. About four months before consultation, became completely aphonic. No dyspnœa or cough; now well nourished; complains of no pain nor of any discomfort. Laryngoscopic examination reveals paralysis of the adductors of both sides. Electricity was used, interrupted current, with benefit, before a cure was effected. The case passed out of the knowledge of the writer.

Query.—What was the nature of the affection? There was no cerebral trouble, and I could find no cause of interference with the function of the recurrents. There was nothing except the diarrhœa as an antecedent.

Case XXIX.—A. D. B., male, aged twenty-seven. Phonation has been difficult for the last four years. Health in other respects good. Previous to this, had been in the habit of singing, and had used the voice a great deal. Upon inspection, there was seen, in the act of phonation, a wide space between the vocal cords throughout their entire length, including the vocal processes. No other departure from the normal condition.

Query, Was the trouble the result of the over-straining of the tensors and adductors? The subsequent history is not known.

Case XXX.—F. R. C., male, aged twenty-five. Always well until within the last year, during which he has noticed that he becomes easily fatigued by speaking. It is for this that he asks for advice. Says that he is in every other respect well. No specific history. No lung or heart disease.

A triangular opening in the cartilaginous glottis during phonation. Can find no cause for the difficulty.

Case XXXI.—E. F. D., female, aged thirty-eight. In general good health. Ill two years ago, when she had pneumonia. Since then has been subject to cough. Is now hoarse, and has dyspnœa upon taking exercise. Complains of post-sternal pain. No history of any pelvic trouble. Lung and heart sounds normal.

Upon efforts at phonation there is left a wide triangular opening in the cartilaginous glottis. Membranous glottis normal. No thickening of the inter-cartilaginous tissue. Left ventricular band slightly larger than the right.

Case XXXII.—X. M., female, aged twenty-nine. For the last two years has had cough, with expectoration of moderate quantity of mucus. No hæmorrhage. Appetite fair. Bowels regular. Menses normal. No emaciation. Slight dullness at the left top. Breath sounds rude over the same region. Heart sounds normal in character, but heard with unusual distinctness over the left apex.

Membranes and cartilages of the larynx normal. No impairment of sensation. Upon efforts at phonation, a long elliptical opening is seen between the bands and including the cartilaginous glottis. Both vocal bands are in the same position. Could find no history or evidence of any trouble along the track of superior laryngeal nerve.

DISCUSSION.

Dr. Cohen: There is a point in connection with the first case which is interesting, and that is the difficulty of whispering, or the inability to whisper. This condition, to which I have ventured to give the term apsithyria (lack of whisper), corresponds with the word aphonia, or lack of voice. This patient I saw some ten years ago. She was under the care of a neurologist, who consulted me on account of her inability to speak and to whisper. She communicated with others entirely by pencil and paper. But she used to whistle, and had adopted a peculiar habit of expressing Yes by one whistle and No by two whistles, and so on. This showed that the paralysis of the muscles of articulation was not complete. As it was evidently a case of functional aphonia, I suggested the use of the electric current to the muscles of articulation, with the result of curing her whisper. She was exceedingly emotional, and the gentleman under whose care she was put her to bed for some intercurrent complaint, and sent her abroad, and I never had anything professional to do with her after that time. I saw her eight or nine years afterward; she was well, married, and the mother of a fine child. She told me she had never lost her whisper. I have met with a few other cases in which there was inability to whisper as well as inability to speak. I do not think there is a real paralysis in these cases—paralysis either of the voice or of speech. I think we have that condition in which these patients can not "will" to speak or can not "will" to whisper—the condition described by Sir James Paget, of London, in connection with diseases of the urinary organs. If you can control these patients, and get them to will to do what they ought to do, you can cure them. Some cases you have of inability to swallow. The patients can swallow, but they can not or will not will to swallow, and you have to manage them by having a skilled nurse to stand over them, give them confidence, and force them to swallow. I am very glad to see the author has been able to include in his cases one of extreme abduction of the vocal band. This will add two more to the cases on record.

Dr. Glasgow: When Dr. Cohen commenced to speak I thought his case was due to a loss of will-power and not to an absence of muscular power. We often see these cases, and we can not always determine whether these persons can speak or not. It recalls an instance which occurred to me last year of a patient who was unable to speak, but was able to whisper; but this also was imperfect. Most of the conversation was carried on in writing. There was absolutely no change in the muscular powers of the larynx. Everything seemed to be perfect, so far as we could see by examination. I dismissed her by saying she could whisper if she wished to. A cure of this case was effected by prayer. It was on Thanksgiving Day. I first saw her in August. The minister prayed that the afflictions of the family should be taken away, that this daughter should be relieved from her infirmity, and at the end of the prayer she spoke. Now, there was a deficiency of will-power, I really believe, in this case. This case was the sequel of a prolonged typhoid fever. I should think that weakness of the muscles followed, and she found a sort of difficulty in speech, and, as it worked upon her mind, she thought she could not speak. I had assured her she could speak if she would; and after this I think she was waiting for nothing but an opportunity. This prayer produced the opportunity. After the prayer she spoke well. I do not think it was deficient will-power, but perverted will-power. I think we see many cases in young women. I think this explains a good many cases of aphonia without organic muscular change or action.

Dr. Hooper: I have always thought so-called hysterical aphonia purely functional. Although the patient is voiceless, the vocal bands are freely movable, as may be seen by asking the patient to laugh while being examined with the mirror. The statistics of the Throat Department at the Massachusetts General Hospital show that unilateral paralysis of the vocal bands occurs about once in two hundred and fifty cases. In the cases of paralysis which I have seen, I have never yet heard a patient with one vocal band immovable who was able to speak in a clear, natural voice, no matter what position the paralyzed band might be in. I can imagine, however, that in certain rare in-

stances, as in one case of Dr. Johnson's, the voice may be good. I agree with Dr. Johnson in the difficulty of determining the ætiological factor of many of these cases.

Dr. Rice: In a number of cases of hysterical aphonia seen lately I have been impressed with the frequency of the inaction of the transverse or arytænoidæus muscle. I think this muscle is more frequently affected than any other in hysteria. This is frequently seen, too, in acute inflammatory troubles of the larynx, it being the first muscle affected, and the sole cause of dysphonia and temporary disability of the voice. There is one case of hysterical aphonia I will mention, since the cure was so remarkable. It was the case of a young woman twenty years of age. She had no constitutional trouble that I remember, and her general health was apparently good. She had been unable to speak for five or six months, and I found the loss of voice was caused by a paralysis of the transverse muscle. She had been treated by a physician, who used electricity and strychnine. I was unable to benefit her. I received a letter from her three or four months after my treatment, in which she stated she had met with a runaway accident, had been thrown from a wagon, and since then had spoken perfectly. I saw her a short time after, and there was no paralysis. Another interesting case to me was that of a man who had a syphilitic history, and who was, in addition, phthisical. One of the vocal bands was ulcerated all along its free border; the other much swollen. Both arytænoids were in a state of ankylosis, the vocal bands being in the cadaveric position. The remarkable point about the case was this: when attempts at phonation were made, there was apparent a tremendous muscular exertion in the larynx, endeavoring to compensate for the non-movement of the vocal cords. The patient was able to produce a fair voice, husky in character. This was produced entirely by the approximation of the larynx above the level of the vocal bands—that is, by the action of the false cords.

A REPORT ON THE ORIGIN AND GEOGRAPHICAL DISTRIBUTION OF PHTHISIS PULMONALIS FOR THE STATE OF MICHIGAN.*

By E. L. SHURLY, M. D.,
DETROIT.

Mr. President and Gentlemen: The object of the investigation upon which this imperfect report is based is to ascertain, if possible, what, if any, influence is exerted by strictly telluric environment upon the causation of phthisis pulmonalis. The aërial and social factors of its ætiology have been for a long time freely and widely discussed, but the telluric aspect and geographical distribution, according to my observation, have received much less consideration, and perhaps deservedly, although it seems to me that we have too little knowledge on this point to warrant such a decision.

Circulars were sent out to the profession of the State of Michigan asking for data relating to the number of cases of phthisis pulmonalis which had *originated* only in the township or county where the practitioner resided, together with a statement of the number of such patients who were known to have hereditary predisposition, and whether primary or secondary. Although a large number of replies were received, I regret to say the number was somewhat less than I had hoped for.

As the number of physicians who keep notes of cases is small in the aggregate, I endeavored to shape the queries as concisely as possible, and to ask for so little that almost any practitioner could fill out the answer from memory and with the consumption of very little time. To those who were good enough to reply I feel greatly indebted, and I believe all who are interested in this subject will also share in this feeling.

I thought it advisable, even at the risk of wearying you, to precede the tables with a few extracts from the reports of Professor Winchell and Dr. Rominger, showing the topography of the State.

I am greatly indebted to Dr. A. W. Nicholson, lately of our State Board of Health, for the general and census tables, and to Dr. Erwin Wright for the preparation of the other data in the form presented.

Topography, Hydrography, and Geology.

"The two natural divisions of the State are distinguished by marked physical characteristics. They are completely cut off from one another by the Straits of Mackinac. The northern is rugged, with numerous rocky exposures; the southern consists of plains, plateaus, gentle undulations, and moderate hills, with very few outcrops of rocky strata. The northern peninsula is a mineral region; the southern, agricultural. The climates of the two peninsulas are as distinct as their location and topography."

"The climate of Michigan, both in summer and winter, is well adapted to the interests of agriculture and horticulture. Its marked peculiarity is attributable to the influence of the great lakes by which the State is nearly surrounded. It has long been known that considerable bodies of water exert a local influence in modifying climate, and especially in averting frosts; but it has never before been suspected that Lake Michigan, for instance, impressed on the climatic character of a broad region an influence comparable with that exerted by the great oceans."

"The influence of the sea in equalizing temperatures has long been understood. The immunity from unseasonable frosts secured by bodies of fresh water to localities in their immediate neighborhood has also been universally observed; but the fact that inland lakes of the size of Lake Michigan exert an ameliorating agency quite comparable with that of the Atlantic Ocean is something which has only been brought to light by recent thorough discussion of a wide range of meteorological data."

Distribution of Precipitation through the Seasons in Percentages of Total Precipitation.

	Spring.	Summer.	Autumn.	Winter.
Upper Peninsula	19·0	27·0	28·8	22
Lower Peninsula	25·8	28·7	27·3	19
Whole State	23·8	28·3	27·7	20

It appears that the northern localities experience a somewhat greater liability to dryness in all seasons. It must be

* Read before the American Climatological Association, May 28, 1885.

borne in mind, however, that the percentages given are percentages of the seasonable means.

"A general glance at the superficial configuration of the lower peninsula reveals a surface swelling gently from the shore toward the interior regions."

"Generally the lake shores are depressed."

"The rise of the peninsula from the level of the lakes is generally gradual, and in a few places only is it abrupt. The surface is of an undulating, hilly character; the hills are rounded, and never attain a very great height above the surrounding country. The southern peninsula is lower than the northern. The swell of the land forming the water-shed of this southern division coincides with a line drawn in a southwest direction from Port Austin, at the entrance of Saginaw Bay, to the southwest corner of Hillsdale County, where it enters the boundaries of the State of Ohio. Within the limits of Tuscola and Sanilac Counties the known surface elevation of this water-shed is about four hundred feet, while in Hillsdale, not far from the southern State line, some points with an elevation of six hundred feet are recorded; but the water-shed is probably not over five hundred feet high."

"This, which may be called the southeastern water-shed, is not broken through by any of the streams, though deeply excavated by the Huron River in Washtenaw County."

"The descent from the height of the water-shed to the lake shore is so gradual that a traveler in crossing the peninsula from either lake to the other, if he follows the river valleys, can scarcely perceive it. The northern division of the peninsula rises to nearly double the height of the southern part; its surface is more broken and diversified by steeper ascents from lake to terrace. Its highest points in the vicinity of Otsego Lake are, according to the records of the railroad surveys, eleven hundred feet from the lake level. Otsego Lake lies directly west of Thunder Bay, and not far from the northern terminus of an extensive high plateau with undulating surface, and an average elevation of from seven hundred to eight hundred feet."

"All the rivers of the northern part of the peninsula have their source within this plateau, which is dotted with a number of inland lakes, some of which, like Lakes Higgins, Houghton, and St. Helen's, are of large size. The terraces by which the descent from the plateau is made form a succession of broad belts; their sides are moderately steep and finely timbered; the lowest are wider, gradually slanting toward the shore, or overlooking it in bluffs of from forty to sixty feet."

In some places on the west side the bluffs are from one hundred to two hundred feet high, and Sleeping Bear Point, a promontory facing Lake Michigan west of Big Traverse Bay, is said to have an elevation of five hundred feet. Opposite this point, twelve miles out in the lake, the Manitou Islands rise abruptly to a height of two hundred feet above the water. South of the second correction-line the plateau rapidly declines toward Saginaw Bay. Between the north and south parts of the peninsula a depressed strip of land extends from Saginaw Bay to the mouth of the Grand River on Lake Michigan, having rarely more than one hundred feet elevation.

An astonishing number of smaller and larger inland lakes are found in every part of the peninsula; all have crystal-clear water, and the principal supply of the head branches of our rivers comes from them. The more important rivers collecting the waters of the western slope of the peninsula are the St. Joseph's, Kalamazoo, Grand, Muskegon, and Manistee. The three first named have their sources in close proximity to the elevated lands of Hillsdale and Jackson Counties.

From the same swell of land the River Raisin emanates, flowing outward into Lake Erie. The Raisin River enters the lake near Monroe; it drains the southern part of Washtenaw County, and draws its branches from a number of small lakes in the southeast corner of Jackson County through its main north branch. The south branches have the drainage of Lenawee County.

The St. Joseph's, Kalamazoo, and Grand Rivers almost touch each other within the small area of a few square miles in the County of Hillsdale. The St. Joseph's River originates in a number of small lakes and marshes in Hillsdale County, and enters Lake Michigan at the village of St. Joseph.

The streams which form the head-waters of the Kalamazoo River rise in Hillsdale County. The river runs north, west, and northwest, and falls into Lake Michigan near Saugatuck.

Grand River springs from a few lakes in Jackson County; it runs north and opens into Lake Michigan near Grand Haven.

Huron River collects its waters from innumerable lakes and marshes in Livingston and Oakland Counties, flows southwest, and at Dexter turns southeast and retains this direction until it enters the Detroit River in the northeastern corner of Monroe County.

Clinton River drains the eastern part of Oakland County and all of Macomb County, entering Lake St. Clair near Mount Clemens.

Black River is remarkable for its southern course for nearly fifty miles parallel with Lake Huron, at a distance of only five or six miles from it. It begins in the northern part of Sanilac County, and enters St. Clair River near Port Huron.

Saginaw River is the receptacle of a whole system of rivers. By the Tittibawassee River the waters of the north and west are led into it. The Shiawassee collects from the south, the Flint River from the south and southeast, and finally the Cass River brings its waters from the northeast and east.

The river system of the northern part of the peninsula consists of the following rivers: Commencing at the southeast side, we first find the Rifle and Aux Grès Rivers, which drain the southeastern shore-belt surrounding the before-mentioned high plateau. Au Sable River is the next largest river north of them. It draws its branches right from the high plateau, and drains Otsego in the north end of it.

Thunder Bay River, opening into Thunder Bay, spreads its arms north, west, and south, reaching the foot of the high plateau. The Cheboygan River on the north of the

peninsula forms the outlet of three large lakes—Black, Mullet, and Burt. These lakes are fed by rivers of good size. On the west side of the peninsula two large rivers deserve to be mentioned.

Manistee River originates very near the head-waters of the Au Sable River on the east side. Its mouth is at Manistee.

Muskegon River is larger than Manistee; its branches extend to the top of the central high plateau, and are fed by Higgins and Houghton Lakes. Of all the rivers mentioned, none are navigable. The water-power afforded by these rivers is ample, and those the branches of which flow through timbered lands are of vital importance to the lumber business as mediums for the transportation of felled timber from otherwise almost inaccessible parts of the interior to ports or railroad stations.

RELIEF FEATURES IN THE LOWER PENINSULA.

SOUTHERN LOBE.

Northwestern slope.		Livingston Summit	350 feet.
		Ingham Summit	391 "
		Grand Ledge Summit	250 "
		Barry Summit	250 "
		Kent Summit	213 "
	Cass Summit.	Oshtemo culmination	349 "
		Cassopolis culmination	384 "
Southeastern water-shed.		Oakland Summit	539 "
		Washtenaw Summit	394 "
		Francis County Summit	411 "
	Hillsdale Summit.	Somerset culmination	600 "
		Cambria culmination	613 "
		California culmination	546 "

NORTHERN LOBE.

Roscommon Summit	820 feet.
Clare Summit (central water-shed)	750 "
Ogemaw Summit	850 "

Southern Division.

Crawford Summit	700 "
Wexford Summit	700 "
Osceola Summit	700 "

Northern Division.

Oscoda Summit	800 "
Otsego Summit	1,200 "

The rivers have all eroded their valleys into the loose drift masses which almost universally cover the surface of the peninsula in great thickness. Only in rare instances have they been deep enough to touch the solid rock ledges below the drift, or, if such deep cuts did exist, they have filled them up with *débris*, and the beds of the present streams lie high above those of former times. The peninsula was, in its original condition, heavily timbered, with the exception of a few marshy flats. Climate and quality of the soil determine the character of the vegetation. In the southern part of the peninsula deciduous trees, particularly hard-wood timber, prevail. Pine is only sporadically intermingled. The mildness of the climate favors the growth of the oak, hickory, walnut, poplar, etc., which abound here, but become rarer farther north, where beech, maple, and birch take their place. The sandy soil of the central high plateau is most congenial for the growth of pine forests, which have taken possession of nearly the entire district. The marshy condition of some other places adapts them for the tamarack, elm, asp, and willow trees, or for the growth of the cedar, while a few parts of the high plateau, proving too sterile even for the pine, afford sustenance to nothing more than a stunted scrubby growth of *Pinus banksiana*, and a few creeping herbs which attempt to hide the barrenness of the scene. Such barrenness has, in some instances, been caused by fires which annihilated forests of large area, totally denuding the surface, and leaving it exposed to the burning rays of the sun and to the exsiccating winds, and unable for a long time, if not for ever, to recover its former well-timbered condition.

"The entire surface of the peninsula is covered by heavy drift deposits, with the exception of a few limited localities in which the drift, subsequent to its deposit, has been washed off by the floods, or by rivers curving their course deep enough to touch the rock-beds of older formation. These drift masses are almost the same as those of the upper peninsula. The material has been changed somewhat, by the admixture of rock-*débris*, from the formations encountered by the moving glaciers in their southern course. The glacier-drift spreads itself in a compact body over the entire surface of the lower peninsula, in evidence of which fact the rock-beds, wherever they are found denuded and the nature of the rock has been capable of preserving the marks, bear the traces of its motion on their scratched surface. Not all the drift material found on the lower peninsula has been transported there by glaciers; a large portion of it must have been carried southward by water, partly in suspension—as mud and sand—partly frozen with floating ice—as the coarser material, the gravel and the bowlder.

"The glaciers deposited moraines—heaps of rubbish composed of all kinds of rock-*débris* in every degree of comminution, from the large bowlder down to the impalpably fine clay.

"Much of the drift is not found in this orderless form of moraines, but is disposed in well-stratified layers, assorted, according to the weight of its particles, by water-currents."

A long time of submergence of the land must have followed the glaciers. The surface of the highest points of the peninsula, 1,100 feet above the level of the lakes, is formed by stratified drift-sand, mixed with pebbles.

"The older glacier-drift and the later deposit of floods and icebergs are materially of the same composition; both are made up of clay, sand, gravel, and bowlders of detritus from crystalline and metamorphic rocks, mixed with *débris* of younger sedimentary strata."

The coarse bowlder-drift all through the southern part of the peninsula appears not to occupy the lowest position, in which most frequently a hard, dark blue, sandy clay, with pebbles and some bowlders intermingled, is found in layers of considerable thickness. It is known among laborers by the popular name of hard-pan.

"Bog-iron occurs very frequently in small patches of marsh lands in all parts of the State."

"As another surface deposit, peat has been mentioned. Innumerable larger and smaller patches cover the swampy surface depressions throughout the whole State."

The soil of the lower peninsula, being a drift-soil, is generally very deep, and contains all the chemical constituents of a good soil.

The assortment of the drift-soil into clay, sand, and gravel determines its character as the layers happen to occupy the surface positions, while by intermixture a great variety of intermediate shadings in the quality of the soils is locally produced under atmospheric influences. The distribution of soils over the State is sometimes very unequal and changeable, so that within limited areas, and often within single farms, a number of variations in the character of the soil are represented. But with the differences seen in the surface configuration of certain districts is also usually found a corresponding contrast in the quality of their soil. The high plateau in the northern part of the peninsula has its peculiar soil, a thick, uniform mass of fine sand, containing few pebbles and a small proportion of argillaceous constituents. In accordance with it is its vegetation; the pine-tree finds a congenial home in these sandy hill-lands, and their surface is overgrown with splendid forests of this tree, to the exclusion of almost every other kind.

"Other districts—represented by lowlands adjoining the lakes, and, to all appearances, within comparatively recent times parts of the lakes' bottoms—are covered by a stiff clay soil overgrown with elm, ash, and kindred trees, as, for instance, the lower part of Saginaw Valley and a strip of land bordering Detroit River, from Monroe up to Lake St. Clair.

"The climate of the peninsula, which is the other principal factor in its productiveness, is over the whole extent temperate, extremes of heat or cold being prevented by the surrounding lakes. From the northern to the southern end all the cereals can be planted with little risk of failure. The northern part is somewhat cold, its vegetation coming out two weeks later than in the south, and the winter setting in that much earlier, which affects somewhat the raising of the more tender fruit crops, as grapes, peaches, etc.

"The grape and the peach do well in the southern part of the State, and particularly near the shores of the great lakes, where the foggy, humid air prevents late frosts, the greatest enemy of these fruits. The west shore up as far as Muskegon has become famous for its peaches and other small fruits."

"Beneath the drift the peninsula is underlaid by regularly stratified rock-beds, in undisturbed horizontal position, which represent the upper part of the palæozoic strata."

In the following report it will be seen that under the heading of County is given the name of each county; under the heading of Population is given the population by counties in 1870 and 1880, and under the heading of Number of Deaths by Phthisis is given the total number of deaths from phthisis from 1869 to 1882, inclusive. The column marked Number of Cases originating in County gives the cases reported to me from various physicians as having originated in their county, with the year of their appearance. Of these, the remaining columns, marked Primary and Secondary, will show the number of cases as far as known which were primary, and those which arose secondarily to some other malady:

DEATHS BY PHTHISIS PULMONALIS IN THE STATE OF MICHIGAN.

Record by Counties.

COUNTY.	Population in 1870 and 1880.	No. of deaths from phthisis from 1869 to 1882.	No. originating in county.	Primary	Secondary.
Alcona	766 & 3,107	155	11	2	
Allegan	32,093 " 37,815	506	5	3	2, '83–'84
Alpena	2,756 " 8,780	58			
Antrim	1,985 " 5,237	37			
Baraga	1,804	17			
Barry	22,204 & 25,317	332			
Bay	15,820 " 38,081	415			
Benzie	2,148 " 3,433	45	4	..	'81–'84
Berrien	35,119 " 36,785	602	4	3	1, 82'–'84
Branch	26,229 " 27,941	467	15	13	2, '80–'84
Calhoun	36,571 " 38,452	653	23	12	4, '80–'85
Cass	21,097 " 22,009	308	9	..	'78–'84
Charlevoix	1,724 " 5,115	63	3	2	'82–'84
Cheboygan	2,197 " 6,524	30			
Chippewa	1,690 " 5,248	63			
Clare	266 " 4,187	22	3	1	'82–'84
Clinton	22,852 " 28,100	348			
Crawford	1,159	2			
Delta	2,441 & 6,812	43	6	6	'60–'70
Eaton	25,164 " 31,225	450	29	18	5, '70–'85
Emmet	1,211 " 6,639	84			
Genesee	33,965 " 39,222	515	32	2	'81–'84
Gladwin	1,127	3			
Grand Traverse	4,443 & 8,422	65	3		'80–'84
Gratiot	11,809 " 21,936	180	13	63	'70–'84
Hillsdale	31,691 " 32,723	577	19	10	9, '79–'85
Huron	9,049 " 20,489	135			
Ingham	25,270 " 33,676	424	2	1	'82–'84
Ionia	27,676 " 33,872	469	100	16	1, '57–'84
Iosco	3,175 " 6,873	56	5	2	3, '75–'84
Isabella	4,113 " 12,159	172			
Isle Royal	55				
Jackson	36,042 & 42,031	550			
Kalamazoo	32,063 " 34,342	618	15	12	3, '70–'84
Kalkaska	424 " 2,937	12			
Kent	50,410 " 73,253	1,114	28	16	2, '69–'84
Keweenaw	4,209 " 4,270	27			
Lake	548 " 3,232	22			
Lapeer	21,345 " 30,138	314			
Leelenau	4,577 " 6,253	81			
Livingston	19,417 " 22,251	324	98	68	15,'56–'84
Lenawee	45,503 " 48,343	693	35	9	17,'70–'85
Michilimackinac	1,716 " 2,992	44			
Macomb	28,050 " 31,627	544	8	4	3, '68–'85
Manistee	6,074 " 12,532	109	30	13	17,'72–'84
Manitou	891 " 1,334	11			
Marquette	15,077 " 25,394	258	10	10	'81–'85
Mason	3,266 " 10,065	87			
Mecosta	5,645 " 13,973	122	21	9	5, '82–'84
Menominee	1,894 " 11,987	25	1	1	'80–'84
Midland	3,383 " 6,893	80	13	4	1, '80–'84
Missaukee	1,553	5	4	2	'64–'80
Monroe	27,534 & 33,624	470	30	19	11,'82–'84
Montcalm	13,642 " 33,148	295	36	14	20,'71–'84
Montmorency	....				
Muskegon	14,895 " 26,586	251	49	39	10,'74–'84
Newago	7,292 " 14,688	107	10	4	6, '80–'84
Oakland	40,906 " 41,537	618	65	35	13,'74–'84
Oceana	7,222 " 11,699	160	5	2	3, '80–'84
Ogemaw	1,914	6			
Ontonagon	2,846 & 2,565	34	2	..	2, '77–'84
Osceola	2,104 " 10,777	62	15	14	1, '72–'84
Oscoda	467	1			
Otsego	1,974	2			
Ottawa	26,665 & 33,126	455	6	..	2, '83–'84
Presque Isle	3,113	14			
Roscommon	355 & 1,459				
Saginaw	39,078 " 59,095	915	62	25	30,'78–'84
Sanilac	14,565 " 26,341	250	14	9	2, '72–'84
Schoolcraft	1,575	9			
Shiawassee	20,864 & 27,159	307	15	5	10,'81–'84
St. Clair	36,687 " 46,197	572	29	18	11,'66–'84
St. Joseph	26,274 " 26,626	430			
Tuscola	13,721 " 25,738	247			
Van Buren	28,735 " 30,807	478	9	6	3, '79–'84
Washtenaw	41,442 " 41,848	683	13	7	6, '78–'84
Wayne	119,054 " 166,444	4,237	396	237	85,'75–'84
Wexford	650 " 6,815	45			

It will be seen by these tables that the whole number of deaths from phthisis pulmonalis, as reported to the State Board of Health, from 1869 to 1882 (thirteen years) is 22,103, or an average of 1,700 a year. Of these, 1,241 were reported in 1869 and 1,979 in 1882.

During 1882 rain fell 179 out of the 365 days, with a total fall of 30·31 inches, which was about the average fall for the preceding ten years. The mean temperature for 1882 was 51·2, which was slightly higher than the average for the preceding ten years.

The whole number of cases reported to me as having originated in the State between the years 1857 and 1885 is 1,370, and of these, 673, or nearly one half, were reported as primary, while 205 were reported as having been secondary to some other disease.

Of the total number of original cases (1,370) from 1857 to 1885, 602, or a little less than one half, occurred between the years 1879 and 1885, or during a period of six years.

The total population of the State, according to the census, in 1870 was 1,184,059, and in 1880 was 1,856,100, showing an increase of 672,041; so that proximately, so far as learned, the percentage of deaths from original cases to population would be about $\frac{7}{100}$ per cent., which no doubt is somewhat below the truth; but, as before remarked, these statistics are necessarily inaccurate (as are all United States vital statistics). However, if enough has been elicited to awaken an interest in the further investigation in this line, the work may not prove entirely valueless.

Note.—A very full and able account of the climate and topography of Michigan, illustrated by numerous maps, by Dr. H. F. Lyster, of Detroit, may be found in the "Report of the Michigan State Board of Health," for 1878.

HOW TO TREAT HÆMORRHOIDS BY INJECTIONS OF CARBOLIC ACID.

By CHARLES B. KELSEY, M. D.

The many requests which I have received from members of the profession for an exact description of this method of treatment have decided me to write the following communication, even at the risk of repeating what I supposed I had already made sufficiently clear.

The injection of hæmorrhoids with carbolic acid, though apparently a simple and trivial affair, is to be regarded in the light of a surgical operation, and should not be undertaken by the practitioner until he has surrounded himself and the patients with all the safeguards at his command.

There are two accidents which may happen in these cases, and for which the operator must be on his guard. One is undue ulceration, the other is abscess. Ulceration is the result of using a strong solution, which causes a distinct slough of the tumor injected. The resulting ulcer is seldom larger than a silver quarter, and I have never known it to give rise to serious trouble or to refuse to heal kindly with proper local treatment. When it occurs it is well to cease further injections and to deal exclusively with this condition until it is healed. Applications of nitrate of silver, iodoform, calomel in powder, etc., are usually sufficient to induce cicatrization. The ulcer is not generally painful, the discharge is about the only symptom of which the patient complains, and the complication is not therefore to be considered as a serious one.

It will at once be asked what strength of solution is capable of producing a slough? I can not say. The worst one I ever produced came from an injection of a fifteen-per-cent. solution, and I have deliberately tried to produce one in a large hæmorrhoid by the use of undiluted carbolic acid, and failed to get anything more than a hard tumor of the size of the end of the thumb around the injection. The individuality of the patient seems to exert a decided influence, and, given a certain standard strength of solution—say thirty-three per cent.—it is impossible to predict beforehand in how many patients it will produce a slough and in how many it will produce a simple induration. Of course, as a general rule, it can be stated that weak solutions are less apt to produce sloughs than the stronger ones, but beyond this my experience does not yet enable me to go, and I do not consider the question as one of very great importance; for these ulcers which result from a slough heal fully as well as the wounds which follow either the ligature or the clamp, and it is with these two methods of operating that I wish the treatment by carbolic acid to be compared. I hold it to be a surgical procedure, comparable in its results with either of these, and to be judged on its merits as compared with them. I believe that it possesses many advantages over either of them.

The second complication is abscess, and these are of two kinds—one trivial, the other serious. In two or three cases I have seen the following chain of events: An injection of medium strength being made, the patient has returned after a few days complaining of a painful swelling. An examination has revealed a tumor of the size of the end of the thumb situated just at the margin of the anus, covered with skin on the outside and mucous membrane on the inside and containing pus. If left to itself, such an abscess will often discharge on both the mucous and cutaneous aspects, the two openings being free and close to each other, and the cavity will close spontaneously. An incision on the cutaneous surface, though it will relieve pain and evacuate pus, may yet not prevent a spontaneous opening on the mucous surface. When the two openings have formed, the result is a subcutaneous fistula at the verge of the anus, but one which in its results is a very trivial affair, and which, if it does not heal spontaneously, can easily be laid open in the surgeon's office, and dressed with lint from the bottom.

The other abscess is a much more serious matter, and I have no doubt that it can be produced, and in some cases has been, by an improper use of the acid. I refer to a deep abscess of the cellular tissue in the ischio-rectal fossa. Such cases have been described and are quoted as the chief objection to this method of treatment. They are due to the injection of too strong a solution, or of the undiluted acid, either into a small tumor or into the cellular tissue entirely beneath the tumor. The pure acid may be inserted *into* a large hæmorrhoid and cause a limited slough which will result in a perfect cure. The same injection given *below* a small tumor is pretty likely to cause a considerable cellulitis. It is in this way that I explain this unfortunate accident, which is rare at the most, is a result of the im-

proper employment of the means at the operator's command, and ought not to be considered a valid objection to the plan of treatment.

I have said that the injection of hæmorrhoids reached the dignity of a surgical operation, and should be judged in comparison with other operations for accomplishing the same end. This will almost certainly be found to be the case in any extended experience. The suffering is not always trifling; the nervous strain of submitting to any plan of treatment is not inconsiderable; the affection itself is sometimes a serious one, and, as I have already said, the operator should surround himself with all the safeguards within his reach. During the past summer I was called upon to treat an old gentleman, the mayor of a small town in Ohio, living in a high, cool, country region, but much depressed with business losses and worry. He came to New York in the middle of the hot season and submitted to treatment. The hæmorrhoids were the worst which up to that time I had ever treated by this method. The sphincter was much relaxed; the tumors had been down for twenty-five years without being replaced, and were very large and vascular. There were three distinct masses, each of about the size of a hen's egg. The case was not an attractive one, considering the age and condition of the patient and the hot weather, but I undertook it. Into the largest of the three tumors I injected five drops of a fifty-per-cent. solution. It was followed by a good deal of pain and loss of sleep for two nights, with some constitutional disturbance. On the third day, the pain of the first injection having somewhat subsided, I injected five drops of pure acid into the second tumor, and had much less trouble than with the fifty-per-cent. solution in the former case. After three days more I again injected the same amount of pure acid into the third tumor. Both of these last applications caused a distinct slough with resulting ulcerated surface and free discharge of bloody matter. After a few days more I returned to the first tumor, which had not sloughed but simply become indurated, and injected five drops of pure acid into that. The applications were all made within the space of two weeks. During this period the patient allowed his bowels to become constipated, and I had to clean them out with repeated copious enemata. There was at one time some vesical irritation and decrease in the amount of urine, whether from direct absorption of carbolic acid or from reflex irritation I do not know, and at the end of the treatment the patient was considerably reduced in strength—so much so that I put him upon the most nourishing regimen with bark and whisky. Just as he seemed on the point of rallying I discovered a small abscess in the perinæum, which was opened, and healed kindly, having no connection with the rectum. After recovering from this and gaining a considerable degree of health he went to his home in Ohio, and was immediately brought to bed with a second, larger abscess on the buttock. From this he also made a good recovery, and has ever since been perfectly well, the hæmorrhoids causing no disturbance whatever.

This was a bad case, and for that reason I am willing to consider it as a test one. The hæmorrhoids were the largest I have ever seen operated upon by this or any other operation. The patient was seventy years old, and, though free from organic disease, was not in good general condition. The piles were cured by four injections of carbolic acid. It is true he suffered pain, he had some vesical irritation, and he had two abscesses due to his general enfeebled condition, but having no connection with the rectum. Taking the case as it stands, the operation will compare very favorably with either Allingham's or Smith's. The man was not confined to his bed at any time, and, moreover, would not submit to either of the other operations under any circumstances. Being one of the *worst* cases I have ever had with carbolic acid, I am still willing to place it in comparison with the *average* case of operation by the ligature, looking at both in the light of surgical procedures of considerable magnitude and importance.

The objections to and possible complications of this method of treatment are, therefore, easily enumerated. They are, 1, pain; 2, vesical irritation where strong solutions are used; 3, marginal abscess; 4, deep cellulitis. *In the majority of cases the patient will escape them all.* Deep cellulitis I should suppose to be about as frequent after this operation as pyæmia after the ligature. Marginal abscesses may occur at any time, but are easily treated. The vesical symptoms never follow any but the more powerful injections, and the pain is very variable and can not be predicted from the strength of the solution used. I have injected five minims of pure acid into a large tumor without the patient either knowing when it was done or appreciating the slightest sensation afterward. I have injected a fifteen-per-cent. solution into a small tumor and caused considerable suffering. Speaking in a general way, I do not expect much pain from a weak solution, but, nevertheless, it is sometimes met with, and I have ceased to predict its presence or absence. If it comes with any solution I am not surprised, and if it does not come I am pleased. It is, however, an exception to meet with it to any marked degree.

As far as I have been able to reduce this treatment to a matter of rule the results are as follows:

1. Use only the purest crystallized carbolic acid, the purest glycerin, and distilled water in the preparation of the solutions. Each, when prepared, should be perfectly colorless and clear, the acid being in perfect solution. The glycerin is added to the solution of carbolic acid in water in just sufficient quantity to make a clear fluid, and the amount is not important. As soon as a solution begins to assume a yellowish tint it should be replaced by a fresh one.

2. Use only the finest and most perfect hypodermic needles and a perfectly working, clean syringe with side-handles. After each injection when the syringe is put away, clean it thoroughly, to be ready for the next time.

3. The treatment may be applied to every variety of internal hæmorrhoids, no matter what their size. It is not applicable to external hæmorrhoids, either of the cutaneous or the vascular variety, both of which may be treated by better means.

4. Before making an application give an enema of hot water, and let the patient strain the tumors as much into

view as possible. Then select the largest and deposit five drops of the solution as near the center of the tumor as possible, taking care not to go too deep so as to perforate the wall of the rectum and inject the surrounding cellular tissue. The needle should be entered at the most prominent point of the tumor. If the hæmorrhoid does not protrude from the anus, a tenaculum may be used to draw it into view. After the injection has been made the parts should be replaced, and the patient kept under observation for a few minutes to see that there is no unusual pain. The injection will cause some immediate smarting if it is made near the verge of the anus; if made above the external sphincter, the patient may not feel the puncture or the injection for several minutes, when a sense of pressure and smarting will be appreciated. In some cases no pain will be felt for half an hour, but then there will be considerable soreness, subsiding after a few hours. If it increases, instead of disappearing, and on the following day there is considerable suffering, which may not perhaps be sufficient to keep the patient on his back, but is still enough to make him decidedly uncomfortable, it is a pretty good indication that a slough is about to form. For the reason that it is impossible to tell absolutely what the effect of an injection is to be until at least twenty-four hours have passed, it is better to make but one at a visit and to wait till the full effect of each one is seen before making another. If on the second day there is no pain or soreness, another tumor may be attacked, and this will often be the case.

5. The strength of the solution must be regulated by the nature of the case, and in my own practice varies from five per cent. to pure crystallized acid. In a large, vascular, prolapsing tumor, which is well defined and somewhat pedunculated, five drops of pure acid may be used with the expectation of producing a circumscribed slough which will result in a radical cure. A thirty-three-per-cent. solution under the same conditions will probably produce consolidation and shrinkage without a slough, but the injections will have to be repeated several times. A small tumor which protrudes but slightly, is not pedunculated, and can be seen and felt as a mere prominence on the mucous membrane, may be cured by a single injection of a five-per-cent. solution, which will cause it to become hard and decidedly reduce its size, while an injection of a fifty-per-cent. solution might make considerable trouble, the remedy being too powerful for the disease. Guided by this principle, some experience will soon determine the choice of the solution. There is no arbitrary rule which can be applied to every case. As in any other surgical operation, some cases will be more satisfactory than others, and an occasional accident must be expected; but, on the whole, it seems to be the best method of treatment yet devised.

25 Madison Avenue.

The New York Academy of Medicine.—The Section in Practice of Medicine will hold a meeting on Tuesday evening of next week, in the Academy's parlors. Dr. R. C. M. Page will read a paper on "Bright's Disease," and the discussion of the subject will be participated in by Dr. E. G. Janeway and Dr. Francis Delafield. A discussion on the question "Is Croupous Pneumonia an Inflammation or a Fever?" will be opened by Dr. William H. Draper.

Clinical Reports.

ROOSEVELT HOSPITAL.

Clinical Remarks by Dr. Henry B. Sands.

Abscess of the Knee.—Osteitis of the Tibia.—Excision of the Knee Joint.

We have before us, gentlemen, two cases of strumous disease of the knee:

Case I.—The first patient is a man, twenty-three years old, who has had disease of the left knee joint for four years. I will postpone giving you a complete history of his case until some future occasion, when he will probably undergo the operation of excision of the joint. To-day I intend simply to evacuate a large abscess which has formed since the patient entered the hospital five weeks ago. At that time the character of the disease was evident. The knee joint was semiflexed, painful, and swollen, its circumference being two inches and a half greater than that of the sound one. The swelling was fusiform, and did not fluctuate. The patella was in contact with the femur, and was not adherent. Pain was felt on pressing together the articular surfaces, and also on making flexion or rotation, which was accompanied with the crepitus characteristic of erosion of the articular cartilages. Further evidence of disorganization was found in the existence of a fistulous opening on the outer side of the knee, and in a partial luxation backward of the tibia.

I considered the case a proper one for excision; but, in consequence of the recent development of an abscess of considerable size on the inner aspect of the joint, I have decided to defer this operation until the abscess has been opened and its walls have been allowed to contract. It is doubtful whether the abscess communicates with the cavity of the joint, because the latter is not at all distended, and because firm pressure upon the abscess fails to displace its fluid contents. In any case, however, incision is the proper remedy.

Having now opened the abscess, and permitted the discharge of several ounces of well-formed pus, I am unable to discover any communication with the joint cavity. A probe introduced through the sinus on the outer side of the knee also fails to enter the joint. I will conclude the operation by irrigating the abscess with a solution of mercuric bichloride, 1 to 1,000, inserting a drainage-tube dusted with iodoform, and applying a wood-wool dressing.

Case II.—C. R., twenty-four years of age, was sent into the wards from the Out-door Department, March 2d. Family history good. The patient is a healthy-looking woman, who denies syphilis. She states that eleven years ago there occurred spontaneously a painful swelling of the right tibia near its middle and upon its inner surface. This swelling has never disappeared, and has usually been painful. She has taken iodide of potassium at various times, and is now recovering from the effects of mercurial treatment, which has failed to afford relief.

On examination, there is found a painful, hard swelling over the right tibia at the junction of its lower and middle thirds on its inner surface. The swelling is apparently connected with the bone and periosteum. It is quite firm, and shows no point of fluctuation.

The prominent features of the case are the long duration of the disease and the mildness of the symptoms, which are those of chronic osteitis or periostitis. Occasionally, as has happened in the present instance, internal remedies prove to be useless, and in these circumstances relief may often be afforded by freely incising the periosteum. I shall resort to this expedient now,

and shall, perhaps, also trephine the thickened bone, so that I may be able to explore the medullary canal and liberate any inflammatory products that may be found there.

Having divided the soft parts down to the bone, and removed a disc of the latter by means of a trephine, I can discover nothing besides an inflammatory thickening and condensation of the affected parts, no signs existing of caries, necrosis, or abscess. An iodoform dressing will be applied, and the wound allowed to heal by granulation. Some benefit to the patient may be anticipated from the operation.*

Case III.—This is one that requires excision of the knee. The patient is a German, twenty-nine years old, whose mother died of pulmonary consumption, and who, fourteen years ago, had symptoms of phthisis, which, however, were of short duration. In 1875 the distal phalanx of his right index-finger was amputated for what seems to have been a tuberculous affection of the neighboring joint, accompanied with cheesy abscesses near the elbow and in the axilla, which remained open for eight months. About the same time a cold abscess formed below his right knee. This was incised, and healed three months afterward. Two years ago the knee joint began to swell and became somewhat painful. Gradually the disease grew worse, and the patient found it difficult to walk, chiefly on account of flexion of the knee, for which, he says, he was treated last winter by tenotomy of the hamstrings. When he entered the hospital, December 10, 1883, his right knee was swollen, partly in consequence of a moderate effusion of fluid in the joint cavity, and also on account of a thickening of the capsule and other deep soft tissues. The circumference of the knee over the patella was sixteen inches, that of the sound knee being fourteen. The patella was movable. Flexion could be made to nearly a right angle, and extension to nearly a right line, without causing pain or crepitus. Deep fluctuation could be felt across the joint above the patella. In addition to the joint-disease, a large cold abscess occupied the upper third of the leg on its inner and posterior aspects, fluctuation being distinguishable as high as the flexure of the knee. This was freely opened, on December 15th, by my house surgeon, who made two incisions at opposite points, evacuated the abscess as thoroughly as possible, washed it out with a solution of mercuric bichloride, inserted rubber drains, and applied a peat dressing. On January 15, 1884, three weeks ago, I opened and drained the knee joint, making an incision about one inch in length on each side above the patella. During this operation I discovered that the articular cartilages were extensively destroyed, leaving the bone exposed, and I should have performed excision at once had I obtained the man's consent. At present, however, his condition is very favorable for the operation, and it is doubtful whether anything has been lost by the delay. The knee may be said to be neither better nor worse; it is slightly reduced in size, yet we shall find abundant evidence of disorganization when the joint is exposed to view. But, meanwhile, the large cold abscess referred to has undergone a remarkable change, having shrunk to the dimensions of a narrow sinus, which will not interfere with the success of excision.

Regarding the propriety of undertaking an operation I think there can be no doubt. The diagnosis of tubercular or strumous arthritis is made sufficiently evident by the clinical history, and has been corroborated by the discovery of tubercle bacilli in the fluid obtained from the joint, which was examined microscopically by Dr. Hall. The duration of the disease and the existence of suppuration render recovery, even by ankylosis, extremely improbable, and the only point to be decided is whether to perform excision or amputation. The patient's own preference for the former operation, the fact that he is an adult, his good general health, the absence of extensive sinuses communicating with the joint, the slow progress of the disease, the probability that the bony tissue has not been extensively destroyed, the increased chances of success afforded nowadays by antiseptic methods of operation—these are mainly the circumstances which induce me to make an attempt to save the limb by resorting to excision.

Having now completed the operation, I will briefly remind you of its principal points of interest. A broad antero-lateral flap, the lower margin of which corresponded with the level of the tubercle of the tibia, was reflected upward, and the joint exposed by cutting through the ligamentum patellæ. Many other forms of incision have been adopted, but this one I prefer as being convenient and as affording ample space for the removal of the diseased parts. After dividing the lateral, capsular, and crucial ligaments, the interior of the joint was thoroughly exposed to view, and it was then discovered that, as we had anticipated, the degenerative changes were most striking in the soft parts, the synovial membrane being everywhere greatly thickened and covered with exuberant, pulpy granulation tissue. Partly by the use of a sharp spoon, but chiefly with the aid of scissors, the diseased synovial membrane was completely removed. This step of the operation is tedious, but important, as there is reason to believe that failure often results from neglecting to perform it thoroughly. The synovial pouch, or *cul-de-sac*, which lies behind the quadriceps extensor, is somewhat difficult of access, as well as the synovial membrane at the back part of the joint, which can be efficiently dealt with only after removal of the articular extremities of the femur and tibia. The cartilages were extensively diseased, and at some points had disappeared, leaving the bone bare and soft. A thin slice of bone was sawed from the tibia and an inch removed from the femur. The patella was extirpated, and a small carious cavity in the head of the tibia scraped out with a gouge. The sinus in the leg was also explored and well scraped with a sharp spoon. It did not seem to communicate with the joint. To secure accurate contact of the sawed bony surfaces, three steel nails were driven into the femur and tibia, two from above downward through the condyles into the head of the tibia, and one from below upward in the median line. These nails perforated the skin, beyond which they were allowed to project about an inch. Bone-drains were inserted into the wound at four different points, and a rubber drain was introduced into the sinus of the leg. The wound was closed with a continuous catgut suture, and covered with bichloride gauze and a bag of wood-wool. Finally, the limb was firmly secured in a long posterior metal splint provided with a foot-piece. Such a splint gives adequate support to the limb, and is preferable, in my judgment, to the more complicated kinds of apparatus which have been invented for the same purpose. One object of the operation being to cause a fusion of the sawed bony surfaces, motion of the limb will be carefully avoided, and the dressings changed as seldom as possible.

* Pain diminished immediately after the operation, and disappeared entirely on the fifth day. It had not returned when the patient left the hospital, on the seventeenth day, the wound at that time being nearly healed.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

The Medical Student's Essentials of Physics. By Condict W. Cutler, M. D., late House Physician, Bellevue Hospital, etc. New York: J. H. Vail & Co., 1884. Pp. 192.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co.
Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, NOVEMBER 14, 1885.

THE BOARD OF HEALTH'S ESTIMATE.

MR. JAMES GALLATIN has written a letter to the Board of Estimate and Apportionment, in which he protests against certain items in the Health Department's estimate of the funds it will require for the year 1886. In the first place, as to the allowance of $12,200 for the attorney's and counsel's office, he thinks that a young attorney, at $1,200 a year, would be fully competent to write "lawyer's letters" for the board, and that any other further legal assistance required in carrying out the present policy of the board could be readily obtained by an occasional detail from the Corporation Counsel's office. As to the allowance of $24,000 for twenty additional sanitary inspectors, Mr. Gallatin says that, if these additional inspectors are needed, it is only because the time and the energies of the present inspectors are wasted in repeated inspections of nuisances, the board having failed to secure the prompt abatement of these nuisances by inflicting the penalties prescribed by the law. The expenditure of the $2,000 allowed for marshal's fees is, he thinks, in great part a scandalous waste of the city's funds; and, to substantiate this criticism, he remarks that, instead of compelling unsuccessful defendants in civil suits to pay the fees, the board very obligingly pays the fees for them. Finally, he protests in general terms against any increase of the appropriation for the department, on the grounds of wastefulness in its expenditures and inefficiency in its management; and he expresses the opinion that a considerable reduction of the appropriation would not be accompanied with any injury to the public interests.

This is a scathing arraignment of the Board of Health, but it must be confessed that, in the pamphlet issued by Mr. Gallatin, he accompanies his letter with sundry citations, including that of the recent action taken by the Grand Jury, that go far to show that a strict and prompt enforcement of the penalties which the board is empowered by law to impose would result in a great saving of funds, and do away with the assumed need of additional sanitary inspectors. On the other hand, it should not be forgotten that much is left to the board's discretion in this matter, and that, inasmuch as sanitary requirements are almost always fraught with hardship, and are very generally regarded as odious, the board's leniency should not be too harshly criticised so long as it can be shown to be impartial. The truth seems to be that penalties should be prescribed for infractions of a sanitary code to be made by the Legislature itself, and not by the Board of Health, and that the enforcement of these penalties should then be made mandatory upon the board—the code, of course, to include only the minimum of requirements. We should then be in favor of the most ample appropriation, the remuneration of the present inspectors to be increased, however, rather than their number to be added to. As regards the legal expenses estimated by the board, they do seem unnecessarily large.

LIFE INSURANCE AND THE FAMILY PHYSICIAN.

THE question of the value of the family physician's certificate as to the condition and health-history of any given individual whose life is proposed to be insured is one that has often been discussed more or less fully, and one that is doubtless correctly appreciated in the main by the life insurance companies. It has lately been made the subject of public consideration in some of the German journals, particularly the "Deutsche Medizinal-Zeitung" and the "Allgemeine Versicherungs-Presse." From what we have seen in those journals, we fail to perceive that any particularly new light has been shed upon the matter, but it is one that will bear consideration from time to time.

From the family physician's standpoint, it is no doubt a nuisance to be required to furnish a sworn statement in which for a trifling fee, if indeed for any at all, he is expected by the "risk" (who in many cases has never really been his patient) to furnish a clean bill of health, without any ifs or ands, and by the company to communicate without reserve anything that he may know, or infer, or surmise, bearing in the contrary direction. On the other hand, the company's medical officer naturally gets to have an overweening confidence in his own powers of physical exploration, and in his capabilities for making a retrospective diagnosis; and is, hence, apt to chafe under the implied obligation to take a *tertium quid* into consideration. In view of these two embarrassing circumstances, it may well be doubted if the family physician's certificate often throws much light on the real state of the case. Nevertheless, life insurance is in some sense the right of anybody who can pay for it, and who can not be shown beyond reasonable doubt to be a proper subject for it. It is undeniable that in certain cases the family physician can conscientiously add information which will put a new color to the facts and statements elicited in the company's examination—sometimes to the applicant's just advantage, and sometimes in furtherance of the company's safety. Hence, the family physician's certificate can scarcely be denied to be occasionally an important factor in leading to an equitable decision.

APOTHECARIES' WEIGHT AND MEASURE.

ON more than one occasion we have pointed out the shortcomings of the metric system as applied to prescription-writing. Its peculiarities satisfy little else than a sentiment, while one of them—the decimal point—is so much of a stumbling-block in actual practice that probably in not a few instances mistakes involving loss of life have been due to it. Only last week we alluded to a dispenser's error that was attributed by him in part to the confusion into which he was thrown by a prescription written according to the metric system. We have nothing to say against the use of the system in strictly laboratory work, even of a pharmaceutical nature, but we can not conjure up a

valid argument against dropping it once for all in the matter of prescriptions. It is, therefore, with the greatest satisfaction that we have read an article in the current number of the "Pharmacist," contributed by Mr. Oscar Oldberg, whose name deservedly carries with it great weight in regard to such questions. As Mr. Oldberg states, he has for several years been an earnest advocate of the adoption of the metric system in this country for medical and pharmaceutical purposes, and it is very much to his credit that he now frankly abandons his former position, especially as he gives the most cogent reasons for so doing.

While he rejects the metric system, Mr. Oldberg thinks it desirable to connect our system with it, and he shows how this could be done by modifications of our apothecaries' weight and measure that would be so trifling as scarcely to affect their present value in prescription-writing. There is no reason, he says, why we should not modify a system that has come down to us from colonial times, especially as it is no longer adhered to in Great Britain. The minim has shown itself to be a most useful unit of measure, its great practical advantage being its approximation to the drop of most liquids at ordinary temperatures. For convenience in dividing the fluidrachm, he proposes that it should consist of sixty-four minims instead of sixty, in which case we should be able to write one half, one quarter, one eighth, one sixteenth, and one thirty-second of a fluidrachm, each of which quantities would represent a certain number of whole minims. The new fluidounce, which would contain eight of these fluidrachms, might be made equal to thirty-two cubic centimetres, and therein would be found a convenient point of connection between the proposed system and the metric system. As the present fluidounce is equal to 29·573 cubic centimetres, it will be seen that the change required would be practically unimportant as concerns doses, the strength of solutions, and the like. For the details proposed by Mr. Oldberg we would refer our readers to his article in the "Pharmacist," a careful reading of which we would commend to them.

MINOR PARAGRAPHS.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The volume of "Transactions" for the current year has reached us, and we find that it includes many papers and discussions of more than transitory interest. The volume bears a Syracuse imprint, and the typography seems to us an improvement on that of most of the volumes of the series. The appendix, although brief, is particularly valuable, since it gives, either in full or in abstract, such of the Acts of the Legislature of 1885 as are of interest to the medical profession. The lists of the members of the society, and of the medical societies of the counties, are published in a separate volume. The secretary, Dr. William Manlius Smith, of Syracuse, is to be congratulated upon the creditable appearance of the volume.

It appears that the delegations from eighteen constituencies will become vacant February 1, 1886, and should be filled in time for the delegates to attend the next annual meeting. These constituencies are the medical societies of the counties of Chenango, Clinton, Columbia, Cortlandt, Erie, Hamilton, Herkimer, Kings, Madison, St. Lawrence, Suffolk, Ulster, Washington, Wayne, and Westchester, the medical department of the University of the City of New York, the New York Academy of Medicine, and Bellevue Hospital Medical College.

THE SMALL-POX IN MONTREAL.

Neither the small-pox itself nor the unpleasant incidents of its outbreak can be said to have shown any amelioration in Montreal. The Mayor of the city, having been intemperately accused in one of the newspapers of barbarous and inhuman conduct in enforcing the ordinance under which a certain child was forcibly taken from its home, in spite of its father's resistance, and carried to the hospital, that officer has brought suit for libel against the newspaper. While it may conscientiously be questioned how far, in the absence of a criminal charge, the sanitary interests of a community justify a forcible violation of the sanctity of the household, it is certainly unfair to hold an official up to abuse, and virtually egg on popular vengeance upon him, for simply executing the law. The sympathy of every right-minded person, therefore, whatever he may think of the abstract right of the matter, will certainly be with Mayor Beaugrand in this affair.

"THE DOCTOR'S LOST WATCH."

Under this heading one of the New York newspapers—one, too, that is generally careful not to offend against decency—publishes what purports to be a detective's story of his having tracked a thief who stole a watch from a well-known New York surgeon. Although no names are mentioned, hundreds of New Yorkers must have had no difficulty in recognizing the personality of the doctor, who, we may well believe, must resent this sort of notoriety. But, worse than that, the story plainly indicates to almost as many people who the culprit was, and thus, without the formality of a judicial investigation, consigns him to disgrace, and wantonly exposes the family affairs of his father, a most worthy citizen.

PUBLIC VACCINATION IN NEW HAVEN.

The Selectmen of New Haven, having taken in charge the business of providing for public vaccination, are reported to have determined upon doing so on what they term "business principles," *i. e.*, buying the cheapest vaccine and hiring the cheapest doctors to use it. The physicians of the city very properly resent this sort of action, and certainly nothing but downright luck can prevent its proving disastrous. It is well to remember that anything that is worth doing at all is worth doing well.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 10, 1885:

DISEASES.	Week ending Nov. 3.		Week ending Nov. 10.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	39	9	23	6
Scarlet fever	34	5	20	5
Cerebro-spinal meningitis	4	5	1	1
Measles	5	1	5	1
Diphtheria	51	18	56	25
Small-pox	2	0	8	2

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, November 4th: *Montreal, Canada.*

—For the week ending November 4th: 233 deaths from small-pox in the city, and 89 in adjoining municipalities. *Kingston, Canada*, October 30th: Free from epidemic diseases. *Toronto, Canada.*—For the week ending October 28th: 1 death from small-pox; the first that has occurred in the city. *Havana, Cuba.*—For the week ending October 31st: 25 cases and 12 deaths from yellow fever. *Matanzas, Cuba*, October 28th: Free from epidemic diseases. *Acapulco, Mexico.*—For the week ending October 18th: No deaths from contagious diseases reported. *Callao, Peru.*—For the week ending September 19th: 1 case and 1 death from yellow fever and 1 death from small-pox. *London, England.*—For the week ending October 17th: No deaths from small-pox, it being the first week since November, 1883, in which no deaths from the disease were reported. At the end of the week 111 cases remained in hospital. *Glasgow, Scotland.*—For the week ending October 17th: 1 death from small-pox. *Edinburgh, Scotland.*—For the week ending October 3d: 1 case of small-pox reported. *Paris, France.*—For the week ending October 17th: 5 deaths from small-pox: 40 cases under treatment in hospital. *Bordeaux, France.*—For the week ending October 17th: No deaths reported from contagious diseases. *Antwerp, Belgium.*—For the week ending October 17th: 3 cases and 3 deaths from small-pox. *Cadiz, Spain*, October 17th: No cases of cholera reported since October 14th. During the week new cases were reported at *St. Mary's* and *Seville. Barcelona, Spain.*—For the week ending October 10th: 340 cases and 126 deaths from cholera. The disease is abating and becoming milder in form. *Tarragona* and *Valencia* reported free from cholera since October 1st, and it is expected that these ports will be declared clean at an early date. *Genoa, Italy.*—For the week ending October 18th: 1 case and 1 death from small-pox. *Venice, Italy.*—From October 13th to 17th: 16 deaths from small-pox. *Prague, Bohemia.*—For the week ending October 22d: 1 death from small-pox. *Trieste, Austria.*—For the week ending October 10th: 8 cases and 2 deaths from small-pox. *Riga, Russia.*—For the month of August: 1 death from small-pox. *Bombay, India.*—From July 28th to August 18th: 35 deaths from cholera. *Shanghai, China.*—From September 4th to 18th: 7 cases and 4 deaths from cholera among the floating population. It is reported that hundreds of deaths are occurring weekly among the Chinese. *Colombo, Ceylon.*—2 cases of cholera reported since September 12th. In Italy, from September 27th to October 6th, there were 1,643 cases and 754 deaths from cholera. Of these, 1,270 cases and 58 deaths occurred in the city of Palermo. In Spain, from March 4th to October 8th, there were 271,223 cases and 100,370 deaths from cholera.

The New York County Medical Association.—At the next meeting, to be held at the Murray Hill Hotel on Monday evening, the 16th inst., Dr. Austin Flint will read a paper on "The Elements of Prognosis in Bright's Disease," Dr. J. W. S. Gouley will show photographs of pathological specimens taken while the specimens were immersed in water, and Dr. E. G. Janeway will present pathological specimens.

Medical Association of Central New York.—The eighteenth semi-annual meeting will be held in Syracuse on Tuesday, November 24th. The following papers are expected to be read:

"Remedial Gymnastics," by Dr. L. A. Weigel, of Rochester; "The Rhythm of Fever," by Dr. P. D. Carpenter, of Pittsford; "Packing in Uterine Displacements," by Dr. Streeter, of Rochester; "Pneumonia," by Dr. J. H. Jewett, of Canandaigua; "The Principle of Classification of the Chronic Insane," by Dr. E. H. Howard, Superintendent of the Monroe County Insane Asylum; "Alteration of Nutrition Due to Disease of the Spinal Cord," by Dr. Edward B. Angel, of Rochester; "An Improved Self-retaining Sims's Speculum," by Dr. C. E. Darrow, of Rochester; "Report of Several Typical Cases of Pernicious Anæmia," by Dr. J. E. Smith, of Clyde; "Pessaries, their Uses and their Abuses," by Dr. A. Dann, of Rochester; "Graves's Disease," by Dr. William C. Bailey, of Albion.

By a standing resolution, all members of the county societies in the jurisdiction of the association are invited to be present and participate in the work.

The Society of Medical Jurisprudence and State Medicine held a meeting on Thursday evening. The order of business included a paper on "Compulsory Vaccination," by Dr. J. Henry Fruitnight.

The late Dr. Armor.—On Friday evening of last week a meeting was held at the Long Island College Hospital, in memory of the late Dr. Samuel G. Armor. Addresses were made by Dr. A. J. C. Skene, Dr. Jarvis S. Wight, and Dr. Francis H. Stuart, and a memorial hymn was sung by a quartet of students of the college.

The Manhattan Hospital.—A fair in aid of this institution was opened at the University Club Theatre on Monday evening. From the large attendance it is fair to infer that this deserving institution has profited handsomely by the undertaking.

The Brooklyn Training School for Nurses.—On Monday evening a class of ten young women took their diplomas. Remarks were made by Mayor Low, the Rev. Dr. McLeod, and Dr. J. C. Hutchison.

Bequests to Charitable Institutions.—The following are mentioned as among the legatees under the will of the late Mr. John P. Howard, of Burlington, Vt.: the Association for the Relief of Respectable Aged Indigent Females, in New York; the Home for Destitute Children, in Burlington; the New York Society for the Relief of the Ruptured and Crippled; St. Luke's Hospital, New York; the New York Juvenile Asylum; the New York Children's Aid Society; and the New York Orphan Asylum. It is said that about two hundred and fifty thousand dollars are to be divided between these institutions.

The Hempstead Church Restoration Fund.—We have to acknowledge a contribution of $20.00 from Dr. W. T. Lusk, and one of $1.00 from Dr. J. Leonard Corning.

The Death of Professor William B. Carpenter, of London, is announced as having taken place on Tuesday, as the result of burns caused by the upsetting of a lamp while he was taking a vapor bath for rheumatism. Dr. Carpenter was in the seventy-third year of his age. As a physiologist he was probably better known to English-speaking people than any of his contemporaries, as his writings, which were models of clearness, were largely read by the laity. Three years ago he delivered the Lowell Institute lectures on "Human Automatism," in Boston, all but one of which were published in full in this journal. By his death, although in the fullness of years, biology loses one of its brightest ornaments, and society a noble man.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending November 7, 1885.*

KINDLEBERGER, DAVID, Medical Director. Granted leave of absence to June 30, 1886, with permission to leave the United States.

WIEBER, F. W. F., Assistant Surgeon. To remain on Receiving Ship Vermont until May 15, 1886.

Society Meetings for the Coming Week:

Monday, *November 16th:* New York County Medical Association; Medico-Chirurgical Society of German Physicians; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *November 17th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private): Medical Society of the County of Kings; Ogdensburg, N. Y., Medical Association; New York State Medical Association (first day—New York).

Wednesday, *November 18th:* Northwestern Medical and Surgical Society of New York (private); New York State Medical Association (second day); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (clinico-pathological).

Thursday, *November 19th:* New York Academy of Medicine; New York State Medical Association (third day); Roman Medical Society, New York (private); New Bedford, Mass., Society for Medical Improvement (private).

Friday, *November 20th:* New York State Medical Association (fourth day); Chicago Gynæcological Society.

Saturday, *November 21st:* Clinical Society of the New York Post-Graduate Medical School and Hospital.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of November 5, 1885.

The President, Dr. A. Jacobi, in the Chair.

A Sketch of the late Dr. James Lawrence Little was read by Dr. D. B. St. John Roosa. (See the Journal for November 7th, page 505.)

Electricity as a Therapeutic Agent in Gynæcology.—Dr. P. F. Mundé read a paper on this subject, pointing out the scarcity of the literature relating to electricity in gynæcology and the extensive use to which it might be put with benefit in various affections, many of which yielded better to this mode of treatment than to any other. One reason why he had been led to write the paper was the fact that in electricity we had an agent which could be employed by any physician with a moderate amount of skill, and which consequently offered relief to a much greater number of suffering women than methods which could be carried out only by the specialist. His experience in this manner of treating the diseases of women was based to a large extent on empiricism, as indeed was treatment by electricity in almost all affections in which it was employed. In general he had found the galvanic current of far more benefit than the faradaic. The latter had a much more restricted field of usefulness. With regard to the galvanic current, if mild it answered every therapeutic purpose, and was preferable to the powerful current which caused pain. A pleasant sensation of the skin was usually the only sensation which followed its use. The faradaic current, on the other hand, was usually beneficial in proportion to its strength. It might be taken as a rule that when the electrical current increased the pain it was doing harm, and it should be reduced in strength or discontinued. He had been unable to decide whether it made any difference, in the therapeutic results in most cases, whether the negative or the positive pole was applied externally. He had covered the pole introduced into the vagina with leather, but an electrician had told him that this made no difference; it did not offer any protection to the tissues. He usually employed the negative pole to produce an absorbent or alterative effect, using a mild current. It was well to begin with a mild galvanic current, from four to six cells, and with the faradaic current as strong as the patient could bear without discomfort, increasing the current gradually. It was well always to introduce the electrode before closing the circuit, and to diminish the strength of the current before withdrawing it, thus avoiding producing an eschar or pain. It should be borne in mind that in many cases the benefit derived from electrical treatment could only be determined after some time. An exception was where the faradaic current was employed to bring on the menstrual flow. Sittings should not take place less frequently than twice a week, and each was to be continued from fifteen to thirty minutes; it was not likely that an average of more than two patients could be treated within an hour. He could say little favorable of this means of restoring a relaxed condition of the uterine ligaments. In amenorrhœa, if there was not total absence of molimina, electricity might be found an efficient mode of treatment, and in several instances he had employed the faradaic and galvanic currents alternately with advantage. In girls, temporary absence of the menstrual flow did not necessarily call for treatment. In women who had frequently borne children, who had become plethoric, had a sluggish circulation, took little exercise, and suffered from amenorrhœa, he had found faradism, alone or alternated with galvanism, a reliable emmenagogue. Frequently several sittings were required to bring on the flow. In subinvolution and menorrhagia the faradaic current was especially indicated. In hyperplasia uteri he relied upon the galvanic current, frequently repeated and long continued, for diminishing the size and hardness of the uterus, and for relieving reflex neuroses. In "superinvolution" of the uterus, of which he saw but little, the electrical treatment would be the same as in amenorrhœa, the object being to restore the uterus and ovaries to their normal activity and growth. In pachysalpingitis electricity and other palliative methods should first be resorted to, as they would give temporary relief, and time would be given in which to decide as to the necessity for extirpation of the ovaries and tubes. In pelvic lymphangitis, chronic pelvic cellulitis, and pelvic neuralgias, local or reflex, the electrical treatment should be by the galvanic current. When these conditions were acute or subacute, electricity should not be employed, as it would be liable to excite fresh exudation. In neuralgic dysmenorrhœa, without great obstruction to the menstrual flow, he had produced benefit, after trying other means in vain, by intrauterine galvanization, employing the negative pole internally. In uterine displacements, greater improvement would probably follow the faradaic current in flexions than in versions, for electricity exerted little influence upon the elongated uterine ligaments. In fibroid tumors of the uterus electricity had a future, but, as to ovarian tumors, laparotomy was safe and reliable.

The following were some of the author's conclusions: 1. Electricity locally applied was a valuable agent in gynæcological practice, and should be more widely used. 2. It did not require great experience to be able to use it efficiently in gynæcology. 3. Correctly used, on proper occasions, it could do no harm. 4. It should be used only in chronic conditions; the galvanic current should not cause pain. 5. The faradaic current was indicated where there was deficient development or want of tone in the genital organs. The object of the faradaic current was to stimulate the organs to increased growth and activity. 6. The galvanic current was employed to promote absorption, to allay pain, to excite retarded action, and occasionally as a caustic. The use of the galvanic cautery, however, was not discussed in the paper. 7. Perseverance with the treatment was necessary to success. 8. Subacute and acute affections generally contra-indicated the employment of elec-

tricity. 9. This treatment was often successful when other forms of treatment could not be borne by the patient. Finally, in some conditions in which we could hardly hope for a cure, electricity would give great relief from pain and temporary improvement without causing danger or discomfort to the patient.

Dr. Freeman, of Brooklyn, said his experience coincided in nearly every particular with that of the author. He had employed electricity in gynæcological practice for twenty years, first using the faradaic current, then the galvanic, and during the past four years static electricity. Static electricity was much more conveniently applied, especially as it did not involve the necessity for disrobing. One of the greatest advantages of electricity was its power to allay pain; in many cases it could be substituted for opiates. In many instances patients who were suffering from pain were relieved almost immediately after occupying the insulated chair. With regard to fibroid tumors of the uterus, the author had mentioned one of his cases. In another the tumor was in front of the uterus, the needle connected with the electrode was driven into it through the abdominal wall while the patient was anæsthetized, and a current from thirty-two cells was passed during little more than half an hour. There was no severe reaction, but, owing to the delicate condition of the patient, a second application was postponed a month or longer, when the tumor was found greatly softened. There were three applications altogether, and four months after the first one the patient was able to attend to her household duties, the tumor having almost entirely disappeared. The speaker also related another case of fibroid tumor treated successfully in this manner, and said he had several others under progress at present.

Dr. A. D. Rockwell could confirm in very great part the statements made by Dr. Mundé. While electricity was not a panacea, it had a wide range of usefulness. But it needed to be employed with care. He supposed that in subinvolution of the uterus the galvanic current would be more serviceable than the faradaic. He could not see how any gynæcologist could get along without electricity in the treatment of pelvic cellulitis.

Dr. H. J. Garrigues could not speak from great personal experience, but he had employed electricity to a limited extent during the past thirteen years, particularly in amenorrhœa. But even here, and in cases of a functional nature only, it did not always fulfill his expectations; something which acted in merely a mechanical way would probably do as well. He had found that the galvanic current was liable to cauterize the vagina, even where no more than six cells were employed.

Dr. W. R. Birdsall, speaking from a general rather than a gynæcological experience, thought that what was said with regard to this therapeutic agent in most books was unsatisfactory, if not mystifying. Much better results would be obtained if more exact methods were employed. For instance, it was important to know the exact strength of the current passed. While most physicians might be able to employ it with advantage, it was still true that, the greater the skill and experience, the more likely would be the success. Among the contra-indications to the use of electricity were acute and subacute forms of disease. The effects of electricity, particularly of the faradaic current, were transient, and the applications should be repeated frequently.

Dr. Malcolm McLean thought electricity should be tried more thoroughly in cases supposed to call for Tait's operation. He laid stress upon this point because probably at least fifty per cent. of the so-called cures after Tait's operation were only temporary.

Dr. H. J. Boldt had effected a permanent cure by the alternate use of faradaic and galvanic electricity in two cases of metrorrhagia and subinvolution of the uterus in which trachelorrhaphy had failed.

The President remarked that the importance of a paper upon this subject was evident from the fact that the three latest works in German on diseases pertaining to women failed to mention the word electricity.

The discussion was closed by Dr. Mundé, who said that several of the points raised in the discussion had been dwelt upon in the paper, but the lateness of the hour had induced him to pass them by.

The President announced that, owing to illness, Dr. Janeway would be unable to read the anniversary address at the second meeting in November, and that Dr. H. D. Noyes had kindly consented to act as orator on that occasion.

NEW YORK SURGICAL SOCIETY.

Meeting of October 27, 1885.

The President, Dr. Robert F. Weir, in the Chair.

A Simple Fracture of the Patella treated by Wiring the Fragments; a Second Fracture treated by Suturing the Fragments with Catgut.—Dr. L. A. Stimson presented a man, twenty-one years of age, in whom he had had the opportunity of observing the condition of the knee joint two months and a half after the patella had been wired for a simple fracture. The patient came to Bellevue Hospital last June with simple fracture of the patella, and was treated by one of Dr. Stimson's colleagues by making a transverse incision and wiring the bone with silver wire, two sutures being inserted. The case did perfectly well, and the patient recovered without any elevation of temperature or manifestation of trouble in the joint. When Dr. Stimson first saw him, two months and a half after the operation, the fragments were closely united, without independent mobility, and the patient was walking about the wards with a condition of the knee which allowed the joint to move through the arc of a circle of about 20°. About one week afterward, while descending the stairs without falling, stepping down with the sound leg forward, he fractured the patella which had been broken. Previous to the accident Dr. Stimson had noticed what seemed to be one of the wire sutures which could be felt under the skin, and the patient had felt a slight pricking pain at that point throughout the progress of the case. In the second fracture the old cicatrix was torn open. Dr. Stimson enlarged the wound, and found that the second fracture had taken place exactly in the line of the first; one wire was entirely, the other almost entirely, loose in the wound, and the site of each was marked by small cavities in the fragments. The surfaces of fracture were not so rough as usual, and Dr. Stimson thought that union had taken place, in part at least, by a very thin intermediate layer of fibrous tissue. On the inner corner of the upper fragment, where in the first fracture there had been a small loss of tissue, there was a distinct fibrous band, as large as his little finger. On wiping out the blood he saw a membrane of new formation underlying the patella, and entirely separating the fracture from the cavity of the joint, except at one point, where it was torn for half an inch; through this opening he was able to see false membranes within the joint connecting the condyles of the femur with the tibial head. He cleansed the wound, brought the fragments together with catgut and closed the wound, and the patient was now well. The fragments had again united, and there was some mobility in the joint. It was now two months since the second fracture. The reason Dr. Stimson reported the case was because he had seen not long ago the statement that there was no case known where any membranes of new formation had formed in the joint after wiring of the patella for simple fracture. But this joint was full of them, and they had formed without any inflammatory reaction or any symptoms indicating their formation. Again, it has been stated

that a patient with a fracture of the patella treated by wiring could be dismissed cured at the end of four weeks. Dr. Stimson did not know of any other similar fracture which was perfectly sound at the end of so short a period of time, but here was a case in which two months and a half had elapsed since the fracture, which had done well, and which, if reported two or three months ago, at the stage at which most cases had been reported, would probably have been cited as another example of the safety and value of the method of treating by wiring, and yet the union proved not to be strong enough to bear the weight of the body in descending stairs, and the joint did not allow of more than 20° or 30° of flexion.

Dr. C. K. Briddon asked if catgut had been used for this purpose before.

Dr. Stimson said he had used it several times in operations upon joints. He thought it would last probably three weeks.

Dr. W. T. Bull asked what the ultimate prospect was, so far as motion was concerned in this joint.

Dr. Stimson answered that it was poor.

Dr. Bull asked if that was not generally true in cases in which the patella was wired.

Dr. Stimson had not seen good motion in any case, but it had been reported that the operation gave good motion.

Dr. A. C. Post asked whether, if the choice was between a stiff and a weak joint, the stiff joint was not to be selected.

Dr. Bull thought it was.

The President asked if it was not true also that, after fracture treated by the ordinary method, better results were obtained than in the joint of the patient presented.

Dr. Stimson replied that a good deal better results were obtained.

Tubercular Disease of the Tarsus; Resection of the Astragalus and Scaphoid Bone.—Dr. Bull presented a young woman in order to show the result of an operation which had been performed eighteen months before. She presented herself at the New York Hospital on the 17th of March, 1884, with the history that she had been in somewhat delicate health, having had cough but no hæmoptysis. Seven weeks before admission she complained of lameness in the right foot and inability to walk without considerable pain. The motions of the ankle were nearly perfect. The only evidences of disease of the bones of the tarsus were a decided tenderness over the scaphoid and a slight swelling below the ankle, and, besides, there was atrophy of the calf upon that side, which was one inch smaller than its fellow. For seven weeks the foot was treated with a plaster-of-Paris splint and applications of oleate of mercury, Paquelin's cautery, belladonna liniment, etc., without improvement. Dr. Bull then made an incision upon either side of the ankle and removed the astragalus and the scaphoid bone. He did not detect any indications of tubercular disease of the synovial membrane, but the bones were softened. They were removed entirely with knife and scissors. The wounds healed promptly, with the exception of the sinuses left by the drainage-tubes, which were somewhat slow in closing. In about a month she was able to walk about and bear some weight upon the foot, but with considerable pain. Five months later he discovered a good deal of tenderness over the os calcis and suspected similar disease of that bone, and, although the motions at the ankle joint were quite good, he introduced a drill by means of the dental engine into both malleoli, and also into the os calcis. In the former he found no evidence of disease, but in the latter he found a soft spot, which he drilled out and treated with iodoform, and it healed promptly. This operation was performed eight months after the first one, and since that time the pain in the ankle and foot had gradually disappeared. Now the functions of the foot seemed to be perfectly performed, and the only deformity was a shortening of the foot by about one inch. The calf of the leg had increased in size until it was only half an inch smaller than the other. Unfortunately, as regarded a positive diagnosis, the bones were lost and therefore not examined for micro-organisms, but, although they did not present to the naked eye any of the characteristic appearances of tubercular lesion, Dr. Bull felt warranted in believing that the disease was of that nature. It might be remembered that at a meeting of the society last spring he had presented a patient, an Italian, from whom he had removed the entire tarsus for tubercular osteitis. The result had not seemed to be satisfactory, as the man experienced some pain in walking. His condition had improved materially since that time, and he was able to do all sorts of active work without discomfort.

Dr. H. B. Sands thought that the results in cases of excision of the tarsal bones were usually better than might be anticipated; and the observation made by Dr. Bull, that the patients continued to improve for a considerable period after the operation, accorded with his own experience. In cases of tubercular disease of the joints in which operations for the removal of a diseased bone were performed by means of a sharp spoon he supposed that frequently a sufficient amount of periosteum was left to reproduce, to a considerable extent, the bone removed, and in this manner to contribute to the stability of the foot. He had repeatedly noticed, after thus dealing with the tarsal bones, and also after removal of the carpal bones, that, although a large portion of osseous tissue was removed, after the lapse of six months or a year the parts became so firm that one could hardly believe that such an amount of bone had been taken away.

Dr. C. T. Poore said that, in cases occurring in children where he had endeavored to remove the os calcis and leave a portion of the bone with the periosteum, he had subsequently been obliged to remove the entire bone because of non-closure of the wound, and because the disease was extending to other bones. In one case he had been certain that he left the anterior portion of the bone undisturbed. Eight or nine months after the first operation he found the cavity, as it were, of the os calcis filled with dense fibrous tissue. In children he had not been able to save any of the bone, but had removed everything, and the results had been very good.

Stricture of the Œsophagus; Internal Œsophagotomy.—Dr. Sands presented a woman, twenty-one years of age, who had come under his observation one year ago last June. She was sent by Dr. Paddock, of Dalton, Mass., on account of a stricture of the œsophagus, which was the result of the accidental swallowing of a solution of caustic potash when she was two years old. Dr. Paddock stated that he had been called to see the patient on account of dysphagia, and that she was unable to swallow solid food, and was badly nourished. He detected a close stricture through which he could pass only the smallest bougies. When she came to Dr. Sands he was able to confirm the diagnosis made by Dr. Paddock, and found a stricture situated seven inches from the incisor teeth, through which he could introduce a French catheter, No. 12. He endeavored to dilate the stricture, and succeeded in carrying the dilatation up to No. 23 French, but was unable to accomplish more. Therefore, on the 9th of July, 1884, he introduced the œsophagotome which he had already shown to the society, passed the bulb beyond the stricture, projected the blade 2·5 mm., and then withdrew it, making an incision in the posterior median line of the œsophagus. Immediately after the operation, which was performed without an anæsthetic and was attended by no hæmorrhage, he passed a No. 29 (French) bougie. Subsequently he carried the dilatation up to No. 34 (French). After the cutting operation, instruments were at first passed every second or third day, and during the summer and autumn at in-

tervals of three weeks. In December the interval between the introductions of the bougies was increased to one month, after the 1st of January to two months, and now there had been an interval of three months, without any diminution in the caliber of the œsophagus at the point where it had been divided. Soon after the operation, exploration of the œsophagus revealed the presence of another stricture, ten inches from the incisor teeth, which admitted a No. 24 (French). Dr. Sands dilated this stricture, and carried the dilatation up to No. 29, but beyond this he had been unable to dilate it. He then demonstrated the lower stricture, and showed that the upper stricture allowed a bougie No. 34 to pass, while the lower one arrested instruments larger than No. 29.

The reason why he presented the patient was because he thought it desirable to correct the common impression that all strictures of the œsophagus exhibited an invincible tendency to recontraction, and that the operation of internal division was unsatisfactory because it was not likely to produce any permanent good result. It so happened that he had received this evening a communication from the friends of a child upon whom he had performed several operations of internal œsophagotomy two years ago, for the relief of a stricture of the œsophagus, and whose case he had already reported to the society. In that instance dilatation was carried up to No. 29. The child improved in health, was able to eat solid food, and had remained well ever since. At the present time she swallowed as well as other children, yet no bougie had been passed since last May. Dr. Sands cited these facts in order to prove that internal œsophagotomy might sometimes produce results which were permanent; and that, although the œsophagus might not be restored to its normal dimensions, it did not necessarily tend to contract below such dimensions as would permit of easy deglutition. He had been led to desist from doing more in the case of the patient exhibited this evening, because she was in good health, had increased in weight from ninety-six to one hundred and nine pounds, and was able to swallow liquids without difficulty, and, with care, to swallow solids when well masticated.

Strictures of the œsophagus closely resembled strictures of the urethra, in which there were found every grade of constriction and also a vast difference in the amount of tissue which caused it. He had seen a case of stricture of the œsophagus in which the entire tube was converted into a rigid canal. Under those circumstances no operation whatever could succeed in restoring a fair amount of dilatability of the œsophagus; but he believed that, in many cases, strictures were limited to a very short part of the canal, and in those cases he imagined that internal œsophagotomy would be likely to be followed by the greatest relief with a minimum amount of risk.

Dr. Stimson asked why a further operation was not done upon the lower stricture in the patient presented.

Dr. Sands replied, only because it seemed already large enough to allow of the easy deglutition of masticated food, and also because it had not shown any tendency to contract below the caliber of No. 29. He was, moreover, inclined to refrain from cutting the lower stricture, for the reason that it was related to more important parts than the upper one; therefore any accident in the operation might be more serious in its results. He imagined that the caliber of the œsophagus might be restored to its normal size, but he did not feel warranted in doing more than seemed absolutely necessary to render deglutition easy.

Dr. Bull had had occasion to treat one patient, a lady, who entered the New York Hospital two years ago. The stricture was about ten inches from the incisor teeth, and depended, so far as could be determined, upon a severe sore throat, possibly diphtheria. It was only with great difficulty that the patient could swallow anything except water. The stricture admitted only a No. 8, possibly No. 10, French. By persistent gradual dilatation the stricture was stretched until, at the end of four months, it admitted No. 32 or No. 34, French. Dr. Bull saw the patient up to one year afterward. The bougie was passed at short intervals during four months, and at intervals of a month during the remainder of the year, at the end of which time the condition of the œsophagus was perfectly satisfactory, as the patient could eat anything which she chose.

Congenital Angioma.—Dr. Charles McBurney presented a man who had a congenital angioma of unusual size upon the right side. The tumor was five inches in breadth and four in depth, and extended from the median line in front to within three inches of the median line behind. The patient stated that during early youth and until within the last seven or eight years the tumor had bled regularly, and that he had lost large quantities of blood, sometimes as much as a quart at a time. During the last seven or eight years he had been very comfortable, with firm compression of the growth, and had had no hæmorrhages. Dr. McBurney felt inclined to advise him to continue with this treatment, and not to have any operation whatever performed. The tumor was not pulsating at any part, was venous, and was of the cutaneous and subcutaneous variety, chiefly the latter.

Epithelioma of the Tongue; Removal by Kocher's Method.—Dr. Stimson presented a specimen of epithelioma of the tongue, for which he had removed almost the entire organ by Kocher's lateral supra-hyoid method. The patient was a man sixty-eight years old; the disease extended as far back as the finger could reach through the mouth, and involved the floor of the mouth and the gum on the right side from the median line two inches backward. On the dorsum of the tongue there was a very large irregular ulcer. Tracheotomy was done, and the etherization was continued through the tube. The incision was made on the right side, and the right lingual and facial arteries were tied in the wound before their division; the left lingual was tied through the wound after its division, and this was the only ligature that was made necessary by the removal of the tongue. The entire organ, except a strip of mucous membrane at its base, was removed, as was also a portion of the submental muscles which had become involved in the disease. The area of raw surface created by the removal was diminished by drawing the adjoining mucous membrane over it so far as possible and stitching it fast. The wound was packed with iodoform gauze, and the mouth frequently cleansed with a solution of salicylic acid and borax, and the patient had been regularly fed through an œsophageal tube. The tracheotomy-tube was removed on the sixth day. The patient was now, on the sixteenth day, doing well.

Dr. Sands had within the last ten days had occasion to remove the lateral half of the tongue on account of a cancerous swelling situated on the left side of the organ, extending toward the root but not to the median line. He adopted the method known as Whitehead's. He etherized the patient, introduced Wood's mouth-gag, passed a stout ligature through the tongue upon the right side, drew it forward, divided with a pair of straight scissors its attachments to the lower jaw and to the floor of the mouth, split the tongue in the median line toward the root, then made a transverse cut, dividing the tongue and the anterior pillar of the soft palate, and completed the operation with the loss of only about eight ounces of blood. He had but little difficulty in applying a ligature to the lingual artery. He packed the wound with gauze, and used a small stomach-tube for feeding the patient during the first week. The progress of the case had been entirely satisfactory, the man was now

able to swallow, and was convalescent. Dr. Sands was very much impressed with the excellence of the method in those cases in which the disease was strictly limited to the tongue. He was sure that the operation could be safely done if the entire organ required to be removed, and he should prefer to perform this operation rather than that which included a preliminary ligation of one or both lingual arteries.

Dr. Briddon asked if the difficulty in securing the arteries would not be greater in Whitehead's operation.

Dr. Sands replied that the operation did not consist in cutting off the tongue at once, but in making short strokes and tying the arteries as they were divided. Of course the cases should be selected in which the operation was especially applicable.

The President remarked, with regard to Kocher's operation for removal of the tongue well back, that it had pleased him most on account of the thoroughness with which all diseased tissue could be removed.

Necrosis of the Os Brachii without the Formation of an Involucrum.—Dr. Post presented a specimen of necrosis of the os brachii without any attempt at the formation of an involucrum. It was removed from a boy twelve years of age, with the history that between one and two years ago he was bitten by a spider, and that the bite was followed by very severe inflammation. A number of months afterward extensive suppuration occurred about the joint, and Dr. Post performed excision of the elbow. Subsequently he found that the wound at the joint had healed, but that there was suppuration higher up, with loss of continuity in the bone of the arm nearly as high as the middle. Recently he cut down upon the bone and found that its lower extremity was necrosed to the extent of 65 mm. on one side and 35 mm. on the other. The dead bone was lying loose in the midst of granulations. The inferior extremity of the living bone above presented a jagged extremity, but was not bare to any considerable extent. He did not remember any other instance in which necrosis of a long bone of an extremity had occurred without the formation of an involucrum, except in a case of necrosis of the fibula, also in a boy, in which the tibia was not involved. In that case the fibula, for its whole length except the two articular extremities, was in a state of necrosis, and there was no involucrum. The tibia formed a support for the limb, so that there was no false point of motion.

Dr. Stimson thought that something besides simple necrosis had occurred in the bone presented, as it was filled with bony deposit, and that the shell had disappeared by absorption.

Dr. Post remarked that the whole process was different from the ordinary process of necrosis, but the bone was evidently dead.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of October 6, 1885.

The President, Dr. W. R. Birdsall, in the Chair;

Dr. G. W. Jacoby, Secretary.

Dr. M. A. Starr, Dr. I. Adler, Dr. J. B. Emerson, Dr. R. M. Cramer, and Dr. R. G. Wiener were elected to membership.

A Contribution to the Pathology of Hemianopsia of Central Origin.—Dr. E. C. Seguin read a paper with this title. He first gave a brief synopsis of views, anatomical and pathological, of hemianopsia of basal or peripheral origin, recognizing the following types: 1. Horizontal hemianopsia, superior or inferior, usually due to lesions within the eye, and hence of comparatively little interest to the neurologist. 2. Vertical hemianopsia, always caused by a lesion of the basal visual apparatus or by disease in a certain limited part of the cerebrum. Its varieties were: *a*. Temporal hemianopsia, in which the temporal half of both visual fields was dark. *b*. Nasal hemianopsia, in which the nasal half of both visual fields was obscured. *c*. Lateral hemianopsia. This was often designated homonymous hemianopsia. In this variety the nasal half of one visual field and the temporal half of the other were dark, so that, with one or both eyes open, the patient saw the same half of any object placed in front of him. This variety was the one which resulted from a truly central lesion, and formed the subject of study in the paper. Varieties *a* and *b* were caused by lesions variously placed in or around the chiasm of the optic nerves.

The author proceeded to analyze the recorded observations of hemianopsia due to cerebral lesion, forty-two in number, including his own case. Of these, thirty-seven were medical and accompanied by autopsies; five surgical, followed by survival of the patient. These relatively numerous observations were classified as follows: A. Cases of lateral hemianopsia, indefinite or irrelevant, and useless for localization study, fifty-four in number; observed by Charcot and Pitres, Linnell, Wiethe, and Petrina. B. Cases of lateral hemianopsia from lesions of parts of brain not directly related to the optic apparatus, three cases; by Hirschberg, Huguenin (obs. of 1876), and Pflüger. C. Cases of lateral hemianopsia from lesions involving chiefly the thalamus opticus or corpus geniculatum laterale, six in number; by Jackson and Gowers, Pooley, Dreschfeld (three cases), and Rosenbach. D. Cases of lateral hemianopsia from lesions chiefly or exclusively involving the white substance of the occipital lobe, eleven cases; by Levick, Hosch, Baumgarten, Dmitrowsky and Lebeden, Westphal (1881), Senator, Sturger (Case vii), Wernicke and Hahn, Jany, Richter, and Schmalz. E. Cases of lateral hemianopsia of external or traumatic origin, five cases; by Keen and Thomson (re-examined by Dr. Seguin), Hughes, Schmidt-Rimpler, Heuse, and Nieden. F. Cases of lateral hemianopsia due to lesions involving the cortex of the brain and subjacent white substance, thirteen cases; by Westphal (1882), Stenger (Case viii), Förster and Wernicke, Jastrowitz (two cases), Cnrschmann, Nothnagel, Marchand, Chaillou, Haab, Huguenin (1882), Féré, and the author.

This last category being by far the most important for the study of the localization of the visual center in man, Dr. Seguin gave full abstracts of all these cases. The lesions in all were so placed as to cumulate toward the mesal aspect of the occipital lobe. This result was shown by means of a shaded chart, consisting of a diagram of the mesal and lateral views of the brain, upon which the lesions of the thirteen cases were reproduced and with one layer of India-ink. The result was striking, visible in the greatest blackness of an area upon the mesal aspect of the cerebrum, including the lower part of the cuneus and the fifth temporal gyrus (Ecker). To this locality also was limited the lesion found in the following cases: Haab's, Huguenin's, Féré's, and Seguin's. These were single lesions, and no paralysis or anæsthesia had been observed during the patient's life—only hemianopsia.

Dr. Seguin's own case was as follows: A man, aged forty-six, affected with malignant endocarditis (mitral vegetations) which proved fatal in sixteen months from first observation, in January, 1884, through repeated visceral embolisms. This patient also exhibited for many weeks an exquisite intermittent form of fever, closely imitating malarial intermittent. About December 5, 1884, Mr. D. suddenly complained of "blindness of the left eye," and slight numbness through the whole left side of the body. He strongly insisted then, and frequently thereafter, that his left eye was alone affected, because he could not see to his left. Examination showed well-defined left lateral hemianopsia, the vertical line passing a little to the left of the point of fixation. In a short time the numbness passed away, but the hemianopsia persisted until death. For many months before death Mr. D. was able to read

and write easily and attend to business outside, in spite of the hemianopsia. The lesion found at the autopsy was a large old patch of yellow softening, involving the greater part of the right cuneus (almost reaching the apex of the occipital lobe) and the fifth and fourth temporal gyri, extending also frontad into the gyrus hippocampi. This lesion was found to be due to a blockade of the occipital branch of the posterior cerebral. The white matter was involved to a depth of several millimetres. No sections were made in the fresh state of the specimen, in order to prepare it for more careful examination when hardened. Unfortunately, this process was unsuccessful in part, and only the occipital end of the brain became hard. The absence of decided motor and sensory symptoms during life, however, made it quite certain that there were no other gross lesions in the brain.

From these four cases, supported by the cumulative evidence of all the others, Dr. Seguin considered it well proved that the visual center (receiving impressions from one corresponding half of each retina) in man was in the cuneus and adjacent gray matter below it. A destruction of this part of the hemisphere inevitably produced lateral hemianopsia of the field on the opposite side of the body. As regarded those few cases in which the lesion causing lateral hemianopsia was situated upon the lateral aspect of the hemisphere, in the inferior parietal lobule and the gyrus angularis, Dr. Seguin called attention to the fact that the optic fasciculus of Gratiolet and Wernicke on its way from the primary optic centers, laterad of the posterior horn of the lateral ventricle, to the cuneus, passed close under these gyri, and a lesion which penetrated at all beneath the gray matter of their cortex must intercept the optic fibers, by pressure or by destruction. These were lesions intercepting communication between the eyes and the visual center, while lesions of the mesal aspect of the occipital lobe destroyed the center itself.

Dr. T. R. Pooley, without knowing at all the direction which Dr. Seguin's paper would take, had hastily looked over his records before coming to the meeting, and briefly abstracted five cases of hemianopsia of which he had notes. One of these cases had been referred to in the paper. The speaker felt quite incompetent to discuss the physiological and theoretical question as to the location of the lesion, and the importance of different symptoms in helping to exactly locate the lesion in the brain. He had intended to relate clinical histories somewhat in detail, but would content himself with speaking only of one case, which had recently come under his observation and in which the patient was now under treatment. It was one that he had seen a week before—that of a gentleman, aged thirty-five years, who had been under his care in 1879 for comparative blindness of his left eye, which had been found to be due to circumscribed choroidal exudation situated near the macula lutea. From his former observation of such cases, the speaker had always believed them to be due to syphilitic infection, and careful inquiry into the history of this case showed it to be due also to this poison. The patient remained for a time under treatment for this inflammatory exudation, from which he recovered with a scotoma, and enjoyed comparatively good health and freedom from all further syphilitic manifestations until a week ago, when he consulted the speaker again. On this occasion he was driving with his wife in the country when he suddenly became completely blind. This blindness lasted only a few moments. Upon recovering, he ascertained that there was dimness of vision upon the left side, which continued when he came to see the speaker. Examination showed left homonymous hemianopsia, the blind area extending almost to the point of fixation in each eye. Examination of the acuteness of vision showed that of the left eye (and this was interesting because of the previous condition of that eye) to be $\frac{22}{100}$, that of the right eye being $\frac{20}{20}$, or perfect. The optic discs were quite normal, the blood-vessels were of full size, and there was no indication of atrophy of the optic nerve by neuritis. The interesting and remarkable fact in this case was the improvement which took place within a week from the commencement of treatment. On account of the previous history of the case, the patient was given large doses of iodide of potassium. The first day after treatment had been begun the visual fields had increased in extent, and this increase had steadily continued until the present date. Unfortunately, there had been no opportunity to make measurements with the perimeter, the patient being treated at his home, but the speaker estimated that the field of vision had extended from near the point of fixation to one third the normal limits, the increase being apparently symmetrical. He would like very much to have Dr. Seguin's opinion as to whether in a case of this kind, in which there had been such marked improvement within a week, we might hope for permanent benefit.

Dr. M. A. Starr thought that the list Dr. Seguin had presented was a complete one with perhaps a single exception, that of a case reported by Demange, in the "Revue de médecine" for May, 1883. That case was referred to by Dr. Gowers in his last work on diseases of the brain in a way to lead one to suppose that it supported the assertion of Ferrier that the angular gyrus was the center for vision. The speaker had found, however, on looking up the case, that the lesion was one which coincided very largely with that of Westphal's first case, and it was very well represented by the diagram of that case shown by Dr. Seguin. It was a very large lesion, involving both parietal lobules and the occipital lobe. Gowers referred to that case as proving that a lesion upon one side of the brain might produce blindness of the opposite eye, and said it supported Ferrier's assertion of amblyopia being due to lesion of one angular gyrus. In the original report, however, it had only been stated that the patient could not see well with the left eye, and not that there had been any careful measurement of the field of vision. Therefore in all probability the patient had hemianopsia, and, as in a number of cases reported by Dr. Seguin and in a number which the speaker had collected, from lack of careful observation, the examining physician had failed to elicit the symptom which was undoubtedly present. The necessity for careful examination in all these cases had been dwelt upon by Dr. Seguin, and it ought to be emphasized, because it was evident from the histories of these cases that a patient with hemianopsia did not notice the exact field of vision, but only noticed that he was blind in one eye, and referred it to the eye of which the field of vision was the more largely implicated. The necessity for such an examination was shown in the fact that Dr. Seguin had been able to collect eight cases in addition to those which the speaker had collected, so that eight new cases had occurred since January, 1884. This great increase in the number of cases of hemianopsia was only apparent, few cases having been recorded previously because of imperfect examinations of the visual field. He would not anticipate Dr. Seguin in answering the question asked by Dr. Pooley, but he had in hand a case, published by Baer in Volkmann's "Sammlung klinischer Vorträge," which was almost identical with that related by Dr. Pooley this evening—a case of hemianopsia coming on suddenly in a syphilitic individual. A series of diagrams was given, showing the progressive improvement of the patient and his final complete recovery. The speaker's attention had first been called to this subject three years ago by seeing a case of hemianopsia in Charcot's wards, and in his lecture on that case Charcot virtually retracted his own diagram and adopted one like that shown by Dr. Seguin. So that we should cease to copy the old diagram made by Charcot, as it had been abandoned in France and Germany. The absolute necessity for such a collection of cases as Dr. Seguin had made, for settling any disputed question of localization, was perfectly evident. It was the only way in which this question

of localization could be really determined. To draw conclusions from physiological experiments was no longer warranted. We must go to carefully-made autopsies. It might be interesting to know that in October, 1858, the Pathological Society of Philadelphia discussed the subject of abscess of the brain, and that at that meeting Dr. Weir Mitchell presented a case, with the records, in which a large abscess at the posterior part of the brain, involving both occipital lobes, was attended with blindness, and the blindness seemed to be the chief *local* symptom (as we should say now) of the disease. The Pathological Society was at a loss to explain the occurrence of blindness with this lesion in the occipital lobes. It was encouraging to the general cause of clinical diagnosis that now, after the lapse of these years, we were able to explain perfectly the case which then so puzzled that society.

Dr. Seguin closed the discussion with reference to Dr. Pooley's question. He could not answer it, for want of experience. He had never seen a case of hemianopsia which was not embolic, or possibly due to a tumor, in which there was no indication for treatment.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of October 19, 1885.

The President, Dr. Charles A. Leale, in the Chair.

Fracture of the Patella.—Dr. Frederic S. Dennis read a paper in which he weighed the arguments for and against wiring of the separated parts of the fractured patella. Surgeons were divided in opinion with regard to the merits of this method of treatment, some maintaining that it was perfectly justifiable, and, under strict antiseptic precautions, free from danger. On the other hand, it had been said that, previous to 1883, two cases had terminated in death and several in ankylosis. But a study of the statistics since 1883 showed a great diminution in what was then a small mortality, and a great decrease in the number of cases which had resulted in suppuration and ankylosis. Dr. Dennis had collected about twenty-three cases since 1883, exclusive of those which had occurred in Bellevue Hospital. According to a general estimate there were as many as fifty cases, and in none, so far as could be ascertained, had death occurred after this mode of treatment if but a simple fracture existed. In three of the fifty cases suppuration occurred, but one of the three was a case of compound fracture. In this, as in all other important operations, failure would occur now and then, even in the hands of the most skilled and circumspect surgeons. Those who opposed the operation based their opposition on a supposed risk of opening the knee joint and on the assumed fact that equally good effects could be obtained by less heroic means. As to the good results alleged by those who advocated older methods of treatment, careful analysis of a large series of cases proved that, as regarded the condition of the joint and the character of the union, they were unsatisfactory; that they were much inferior to the excellent results obtained by the use of the metallic suture. During the last five years Dr. Dennis had treated sixty cases of fracture of the patella, and until recently had used old appliances, particularly plaster of Paris as it was employed by the late Dr. Little. The results in the great majority of cases had been unsatisfactory, particularly as contrasted with those obtained by wiring the fragments. That bony union was possible, however, without the suture, was evident from a specimen presented. When Sir Joseph Lister was asked why he wired the fractured patella, he said his first reason for doing the operation was that it relieved muscular spasm in the quadriceps, and the second that it permitted the escape of blood from the joint. In the debate it was asserted that tenotomy would accomplish the first object, and aspiration the second. Sir Joseph then replied that it was because he had such faith in his antiseptics. A more substantial and cogent reason would be that the operation was comparatively free from danger, and, while it relaxed muscular spasm and permitted of the escape of blood from the interior of the joint, insured in every case osseous union of the fragments, and, as a natural consequence, unrestrained movement in the joint. The reason why osseous union was not obtained when the wire was not employed was, that the aponeurotic fascia falling between the fragments prevented union. Until this fascia was removed from between the fragments, which could only be done by opening the joint, osseous union was not likely to occur. There were three arguments in favor of this operation as against other methods of treatment, which the author thought could be substantiated: 1, The absence of danger to life and limb; 2, superior results as regarded function of the limb and joint; 3, greater rapidity of repair. The mortality prior to 1883 was attributed to the fact that the operation was in its infancy. Since then improved methods of performing it had enabled the operator to conclude the operation in not more than thirty minutes. Formerly two hours were often consumed, principally in drilling the holes and passing the wire; now, with the Archimedean drill, the holes could be made in four seconds. No one questioned the superiority of the method over all others in cases of compound fracture. A patient was presented who had had compound fracture; no constitutional symptoms developed, and he was enabled to walk well within eight weeks; he could run up stairs and dance as well as before the injury. A specimen was presented which was removed from the body of a patient dead of delirium tremens and Bright's disease six days after a fractured patella had been wired. The joint was aseptic, there were no indications of suppuration, and bony union was sufficiently strong to have enabled the patient to walk without separating the fragments. Union did not take place by callus, but by primary intention, as it would in the soft parts. As regarded superiority of the results over those of other methods, there was no separation of the fragments, but bony union; no ankylosis, no pain, no crutches, no knee-cap, no posterior splint, no liability to refracture unless by direct violence, no fear of falling, no difficulty of locomotion, no synovitis, no œdema of the limb—none of the chapter of mishaps which were likely to happen under the older method of treatment. As to the greater rapidity of repair, by the older method nearly three months were consumed in the repair of the fracture, and two years in restoration of the functions of the joint and limb. After wiring of the fragments the patient had complete use of his limb within eight weeks, and could safely move about within three weeks. Wiring of the fragments should not be performed immediately after a simple fracture, as inflammation would be liable to result. It was better to wait a few days. After compound fracture the operation should be performed right away. Strict antiseptic precautions should be observed; Dr. Dennis employed a solution of bichloride of mercury, 1 to 3,000, and kept up irrigation during the operation. The operation should not be performed by the ordinary practitioner, nor by a surgeon who had little faith in the germ theory.

Dr. Fowler, of Brooklyn, to whose cases the author had alluded, presented some patients upon whom he had wired the patella in simple and compound fractures. In one case the separation between the fragments could not be reduced to less than an inch and a quarter until after he had resorted to the method advocated by Macewen of cutting a V-shaped piece out of the quadriceps muscle, when they were approximated with ease. Regarding the ends of the twisted wires, instead of hammering them down, he bent them between the fragments. It was better, however, to use the bridge suture and remove them

when union had been completed. He had made the holes in the fragments with a shoemaker's awl, and inserted the wire through a cannula.

Cultivations of the Micro-organisms of Osteo-myelitis were demonstrated by Dr. H. M. Biggs, who showed the *Staphylococcus cerveus albus* and the *Staphylococcus pyogenes aureus.*

Dr. J. Faure, lately of the French navy, was introduced to the society, and presented a *serre nœud* which he had invented.

Nummulites from the pedestal of Cleopatra's needle were presented by the President.

Miscellany.

The International Congress.—In its November issue, the "Pacific Medical and Surgical Journal," of San Francisco, says:

"The only important events regarding the Congress that have transpired since our last issue are the publication, in the 'American Medical Journal' ['Journal of the American Medical Association'] of a historical account of all that has been done by the American Medical Association in this matter since the meeting in Washington, in May, 1884, and the declaration of independence by the Executive Committee appointed by the Committee of Arrangements at its session two months ago. In his historical account, the editor of the 'American Medical Journal' ['Journal of the American Medical Association'] argues that, as the Committee of Invitation had been appointed by the American Medical Association, therefore the association was accountable for all acts of the said committee. If we could only agree with him in this one particular point, and be convinced of the validity of the association's claim to supremacy, he would receive our most hearty co-operation in upholding the action of that body against its assailants. Unfortunately we can not acknowledge this authority.

"The invitation was presented at Copenhagen in the name of the 'profession in the United States.' We grant it must have been known in Europe that the idea originated in the American Medical Association, and that the initial steps were taken by that body; but this information only reached them indirectly, as the name of the association was not included in the invitation, and should not therefore appear on the official records of the Congress, which constitute the only laws governing that assembly. If the association never extended an invitation, we can not see what right it has to claim the position of host on this occasion; and if the crime of being a 'first cause' is to decide the matter, then the whole responsibility for the shame and disgrace which have accrued to the American medical profession in connection with this subject must be laid at the door of that unfortunate being who first agitated it among his medical brethren. Further: According to the custom of the Congress, the gentlemen presenting the invitation for the next place of meeting have been regarded as their committee for making the necessary arrangements, and hence Dr. Billings and his *confrères*, so soon as their invitation was accepted, ceased to be the ambassadors of the 'profession in the United States'; they even, in the eyes of the Congress, laid aside their character as national representatives, and became the servants of that body, intrusted with the duty of making the necessary arrangements for the meeting of 1887, and selected for this purpose only because they were resident in the country where that meeting is (or was) to be held. We have already given the testimony of Sir James Paget and other prominent members of the Congress in support of these statements, which prove beyond a doubt that Dr. Billings's committee, after discharging their duty of presenting the invitation intrusted to them by the profession in the United States, became responsible to the Congress alone for their future actions in the matter.

"It may be objected that the duties of the committee did not end with presenting the invitation, because they had full powers *from the association* to make all preliminary arrangements. This is just the point where the American Medical Association overstepped its own authority, and interfered in a matter with which it had no business. The Congress has its own committee for making its arrangements, and the fact that the association, either through ignorance or presumption, endeavored to control this committee, does not by any means transfer the power from one to the other. This is of much importance, for the point at issue is: Has the Congress the power of making arrangements for its own meetings, or does that power lie in the hands of the American Medical Association? The Arrangement Committee is answerable to either one of these bodies, but not to both; and the one to which it is answerable has full power to approve or disapprove of its action. We have shown that hitherto this power remained in the hands of the Congress. We hoped that the committee would have recognized this fact at its meeting in September last, and courteously retired from the false position which they now hold. It is no disgrace for any one to admit that he has made a mistake, and this certainly would have brought 'peace with honor.'

"We have given this historical account of the working of the Congress to show our readers that this triennial medical convention antedates the meeting of the American Medical Association at New Orleans in 1884, and has, therefore, some laws and precedents to regulate its actions. Probably the most startling event in the whole history of this miserably-bungled affair is the following resolution, passed by the Executive Committee appointed by the Committee of Arrangements two months ago: '*Resolved*, That this Executive Committee enters upon the management of the affairs of the Ninth International Congress with the understanding that, in accordance with Rule No. 10, its powers are not restricted, except by the rules and regulations adopted September 3, 1885, by the Committee of Arrangements appointed by the American Medical Association, in April, 1885; and that the actions of this Executive Committee are final, not being subject to revision, amendment, or alteration, by either the Committee of Arrangements or the American Medical Association.' We certainly admire this bold piece of policy on the part of the Executive Committee, but hardly find it consistent with the opinion which the American Medical Association obtained from Ex-Speaker Randall, and with which they sought to justify their action at New Orleans: '. . . The theory that a select committee, created by a body with certain defined powers and duties, gives any *vested rights*, so to speak, which place it above or beyond the power of the creating body to review or regulate, is one not only without precedent in parliamentary law, but is untenable on any ground of parliamentary principle.'

"We have always been in accord with the sentiments expressed in Mr. Randall's opinion, and never imagined that Dr. Billings and his associates constituted an irresponsible committee; we only held that they were answerable to the Congress, and not to the national association, and that any instructions regarding the arrangements issued by the association were invalid, as the Congress has always made its arrangements through its own committee. But here we have a committee declaring itself to be irresponsible, a servant without a master. This combination calmly asserts that it is going to do the work, and that the Congress and profession generally will accept and approve of that work, whether they like it or not. Out in California we have had some experience of vigilance committees in troublous times, who were invested by the citizens with full powers to use all means to quell the disturbance, and this is the only irresponsible committee known in this State. Possibly this Executive Committee is of that nature, and has been appointed to carry out the purposes of Dr. King, of Missouri, who, when Dr. Billings's report was up for discussion at New Orleans, so eloquently advocated that 'the specialists of the new-code persuasion should be taken by the top of the head, and their throats cut at once.' We write in the greatest trepidation, lest from New York the wail of widows and orphans confirm our worst suspicions."

The "Medical Times and Gazette" says:

"Those of our English readers who have followed with painful interest the course of the struggle now in process in America with regard to the Washington Medical Congress of 1887 will be amused to hear that the new Executive Committee of the Congress have resolved that their actions '*are final, not being subject to revision, amendment, or alteration by either the Committee of Arrangements or the American Medical Association.*" The astuteness of that resolution is as remarkable as the irony of it is delicious. If the original committee had only been wise enough, before the event, to have adopted such a decision,

there would have been none of the dissensions which have so terribly distracted the American profession. The resolution is at once a slap in the face to the American Medical Association and a sneer at the original committee of eight, as if to say, 'Why, what idiots you were, not to have thought of this!' And yet it is at the same time a score to the original committee and its supporters in that it is a justification of their action in resenting the interference of the association with their decisions. Meanwhile we hear affairs are *in statu quo*. The resignation of Dr. Dalton, the chairman of the physiological section, which has happened since we last wrote on the subject, leaves the organization of the Congress without a single really scientific representative if we except the Flints and Dr. N. S. Davis. If the meeting is held, the sections of anatomy, physiology, and pathology will not be attended by any of the American workers in those fields. There is, we fear, little hope now of an arrangement. All the prominent American men of science have withdrawn, and will not return unless very considerable concessions are made, of which there appears no hope. The 'Berliner klinische Wochenschrift' this week roundly states that hardly a single 'medical personage' will be found to undertake the voyage from Germany for the privilege of sitting under the presidency of Dr. Shoemaker. It makes, however, a strong appeal to the American Medical Association to approach the subject in a more wise and generous spirit when its next spring assembly takes place, and to re-arrange its propositions in such a manner that the services of the leaders who were nominated in the first instance may still be made available. In the absence of such a re-arrangement, our Berlin contemporary expresses a decided opinion, which we can heartily indorse, that the Congress of 1887 will be foredoomed to dismal failure. The whole thing is a bad business. It is an awkward position, for it must be remembered that the Washington Congress will have to make arrangements for the succeeding meeting. Suppose Dr. Shoemaker and his friends decide that the Congress of 1890 shall be held in Texas!"

The Charity Organization Society.—Mr. Kellogg, the organizing secretary of the society, asks us to give notice that, in compliance with many requests from officers in charge of medical institutions, the society invites the medical staffs and the boards of managers of the several hospitals and dispensaries of New York to meet at the Hall of the Academy of Medicine on Friday evening, November 20th, at 8 o'clock, to confer together concerning the existing abuses and misapplication of medical charity, and to consider how these abuses may be remedied through the registration system and other facilities of the Charity Organization Society.

The Health of Michigan.—It appears by a summary for the four weeks ending October 31st, issued by Dr. Henry B. Baker, the secretary of the State Board of Health, that diphtheria was reported from fifty-nine places, scarlet fever from forty-one, typhoid fever from thirty-six, and measles from three.

THERAPEUTICAL NOTES.

The Treatment of Expulsive Gingivitis and Osteo-periostitis.—The frequency with which physicians practicing in small communities, where the services of a dentist are not always to be had, are called upon to treat recession of the gums, and the accompanying osteo-periostitis, has led a French journal styled "L'Odontalgie" (quoted in the "Gaz. hebdom. de méd. et de chir.") to summarize the treatment recommended by Dr. Mailhol, of the Argentine Republic. That gentleman employs treatment preparatory to medication with iodine, after having freed the teeth from tartar, especially by means of a collutory made after the following formula:

Boric acid in fine powder	75 grains;
Saturated chloroform-water	3 ounces.

Dissolve the boric acid, and add:

Distilled anise-water	3 ounces;
Distilled water	6 "

Shake and filter.

For the treatment of alveolo-dental osteo-periostitis, the author formerly used chromic acid, as advised by M. Magitot, but now he agrees with Dr. Harlan ("Dental Cosmos") in preferring iodide of zinc. The cavities are first washed out with the collutory, by means of a syringe, and then filled with cotton medicated with chloral, glycerin, and a solution of iodoform in its own weight of chloroform. The pain having been allayed, and the swelling having disappeared, the affected alveolar border is removed, and an injection is thrown into the cavity of a few drops of a solution of iodide of zinc in distilled water (1 to 40 at first, gradually increased in strength to 3 to 40).

An Ointment for Syphilitic Psoriasis.—The "Union médicale" attributes the following formula to Mauriac:

Oil of cade, Mercurial ointment, each	1 part;
Vaseline	15 parts.

To be used by inunction, morning and evening, for syphilitic psoriasis of the palms and soles.

The Treatment of Rheumatic Purulent Conjunctivitis.—In cases which show the clinical features and the gravity of gonorrhœal conjunctivitis, but in which the articular manifestations, the history, hereditary influence, and the absence of any urethral discharge have established the diagnosis, M. Perrin (*Ibid.*) advises, in addition to cauterizations with a fifty-per-cent. solution of nitrate of silver, the frequent use of a mixture of one part of alcohol to three parts of water, either as a lotion or in the form of spray. At the same time, antirheumatic medicines should be given internally, especially salicylate of sodium.

Huchard's Hæmostatic Pills.—The same journal gives the following formula:

Ergotin, Sulphate of quinine, each	30 grains;
Powdered digitalis, Extract of hyoscyamus, each	3 "

Divide into twenty pills. Five, eight, or ten are to be given daily, for various forms of hæmorrhage, such as metrorrhagia, epistaxis, and hæmoptysis.

Copaiba in the Treatment of Elytritis.—For various forms of inflammation of the vagina, whether due to a specific virus, to local irritation, or to a constitutional condition, M. Baratier ("Thèse de Paris"; "Bull. gén. de thérap.") recommends the following treatment, which he has often seen Professor Ball employ: Every second day a suppository made after the following formula is placed in the vagina, where it is allowed to remain for twelve hours:

Solidified copaiba, Cocoa butter, each	75 grains;
Extract of opium	¾ grain.

This mode of using copaiba is said not to produce unpleasant results. The cure is complete in about twenty days.

The Treatment of Contraction of the Palmar Fascia without Operation.—M. Costilhes ("Jour de méd. et de chir. prat."; "Lyon méd.") has collected many instances of the success of Vulpian's treatment, which consists in the prolonged use of this ointment:

Lard or vaseline	20 parts;
Iodide of potassium	10 "
Tincture of iodine	2 "

The ointment should be applied abundantly to the whole surface of the palm, and the hand should be covered with a thick layer of cotton, over which several turns of a bandage are applied. The dressing should be renewed every day until complete desquamation of the palm is produced. Sometimes the results are very rapid, great improvement being manifested at the end of a fortnight. Iodide of potassium may be given internally at the same time, and massage employed.

Lactic Acid in the Treatment of Laryngeal Tuberculosis.—In view of the general failure of other therapeutical measures, Dr. H. Krause (Berlin. klin. Wchnschr."; "Ctrlbl. f. klin. Med.") has taken a hint from von Mosetig-Moorhof's use of lactic acid for lupus, fungous caries, etc., and treated laryngeal phthisis with this agent, using solutions of from twenty-five to eighty per cent. He reports a decrease of the swelling and infiltration, the formation of healthy granulations on the ulcerated surfaces, the disappearance of the papillary excrescences, the contraction and gradual cicatrization of the ulcers, and an improvement in the subjective condition of the patients.

Original Communications.

MEMBRANOUS DYSMENORRHŒA.*

BY ALEXANDER J. C. SKENE, M. D., BROOKLYN,
PROFESSOR OF THE MEDICAL AND SURGICAL DISEASES OF WOMEN IN THE LONG ISLAND COLLEGE HOSPITAL.

MEMBRANOUS DYSMENORRHŒA is an affection which, although rather rare, commands very urgently the attention of the gynæcologist, because of the dreadful suffering which it gives rise to, and the obstinacy with which it has heretofore resisted treatment. There is a marked uniformity about this disease. In its pathology and clinical history it varies but little in different cases. A number of affections resemble this one to a limited extent, but it stands out well defined, and is easily detected by the experienced diagnostician.

Membranous dysmenorrhœa is an exfoliation in mass of the mucous membrane of the cavity of the body of the uterus at the menstrual period. Microscopically, the mass presents all the histological elements of the true mucous membrane of the uterus, including the utricular glands, unchanged by any new or abnormal elements. When it is expelled entire, it represents a complete cast of the cavity of the uterus, and is triangular, with an irregular opening at each of the angles, the one representing the internal os uteri, and the other corresponding to the ostia of the Fallopian tubes. This membrane is rather ragged on the outer surface, but smooth on the inner, and looks exactly as the lining membrane of the uterus does when in position. The size is usually about an inch long and less than that in width, and is generally somewhat larger than the normal proportions of the cavity of the uterus; but this is not always the case. In this respect it is apparently like the decidua of pregnancy; in fact, in general appearance it closely resembles the decidua vera, but there is a decided difference in its microscopic elements, sufficient at least to differentiate. This similarity of the two membranes has led to their being called the decidua gravida and the decidua menstrualis, the former being the mucous membrane as seen in abortion at a very early stage of gestation, the other the membrane as thrown off at menstruation in this morbid form.

Comparing the behavior of the mucous membrane in membranous dysmenorrhœa with its changes in normal menstruation, the difference is as follows: In normal menstruation, if we accept the views of Dr. Williams, of London, the whole mucous membrane undergoes fatty degeneration, disintegration, and elimination, whereas in membranous dysmenorrhœa the mucous membrane becomes separated from the walls of the uterus without being changed or disintegrated; exfoliation and expulsion simply occur. The way in which the separation of the mucous membrane takes place is not positively known. It is presumed, however, that fatty degeneration in the deeper structures of the membrane takes place, and thereby it becomes detached from the uterus. It is possible, also, that the capillary hæmorrhage, instead of occurring on the free surface of the membrane, takes place in the deeper structures, and in that way dissects off the membrane. This, however, is hypothetical, and needs confirmation. Sometimes the membrane is expelled in shreds, which suggests that the exfoliation either occurs in spots or sections, or else that the membrane is completely separated from the uterus, but becomes broken up either during expulsion or in handling it afterward. It is much more probable that it is completely exfoliated and broken up subsequently than that it is separated in circumscribed patches. All these facts lead to the conclusion that the affection is a perversion of nutrition and function rather than an organic disease, inflammatory or otherwise, which gives rise to this peculiar behavior of the mucous membrane at menstruation. It is clearly evident that there is nothing pathological in the condition of the mucous membrane itself, but that the whole morbid process consists in the separation of the membrane in mass, in place of disintegration, which is the normal behavior of the mucous membrane in menstruation. There are other views regarding the pathology of this affection: one, that it is the result of gestation, which is arrested at a very early stage, and the membrane thrown off is really a decidua vera. That this theory is fallacious will be seen when we come to discuss the physical signs of this affection.

The idea that it is an inflammatory affection can not be sustained. No such product or result of inflammation is found elsewhere in the mucous membrane of the body, nor is it necessary that inflammation of any part of the uterus should be present in order to produce membranous dysmenorrhœa.

Associated with this membranous dysmenorrhœa we occasionally find inflammatory conditions, but not of the mucous membrane of the cavity of the body. There may be, and often is, a general hyperæmia of the uterus and vagina, but usually it is not greater than that which is seen in normal menstruation.

There is occasionally, in cases of long standing, cervical endometritis, but this does not extend to the body of the uterus. In fact, I believe that a well-defined endometritis can not occur at the same time as membranous dysmenorrhœa. This affection, then, is certainly *sui generis*, and is not the result of inflammation in any form or any stage of the inflammatory process; neither is it a utero-gestation ending in abortion at a very early stage of pregnancy, as some have maintained; neither does the membrane partake of the nature of any of the morbid neoplasms which occur in mucous membranes elsewhere in the body.

The mucous membrane in this affection is developed in the natural way after each menstruation, and the gross appearances and histological composition of this structure show that it is normal, and differs in no way from the mucous membrane of the uterus up to the time when the menstrual flow is about to begin. Perhaps there is, in some cases, an increase in the quantity of the membrane, but only to a very limited extent, if at all. In short, the only pathological lesion in this affection is in the manner in which the membrane is thrown off.

* Read before the Medical Society of the County of Kings, September 15, 1885.

Symptoms.—This affection occurs in single and married women—about as often in one class as the other, perhaps. It also occurs in those who have borne children, but in most of the cases that I have seen in married women the patients have been sterile. The recurrence of the menstruation is generally regular; sometimes it is delayed, and sometimes there is a sense of pelvic discomfort before the menstrual flow, but not always. The chief symptom is the pain which comes on usually during the first day, sometimes later, and increases in severity and is somewhat intermittent in character until the membrane is expelled, when it rather abruptly subsides.

The flow sometimes is scanty previous to the expulsion of the membrane, and after that it is generally quite free; at times abnormally so, and occasionally small clots are passed.

Sometimes there is a leucorrhœal discharge succeeding the menstrual flow, the discharge being occasionally tinged with blood. In other cases the menstrual flow subsides after the expulsion of the membrane, and no leucorrhœa of any account occurs afterward.

There is really nothing in the clinical history of this affection by which it can be positively distinguished from dysmenorrhœa due to other causes. Hence the diagnosis must always depend upon the physical signs.

Physical Signs.—In order to make a diagnosis, it is absolutely necessary that the membrane expelled should be preserved and examined. The gross appearances of the specimen are usually all that is necessary to satisfy the diagnostician regarding the nature of the affection, but in cases where there is a doubt the microscope must be called in to aid in the diagnosis.

The morbid materials expelled from the uterus which simulate the membrane produced in this affection are the decidua expelled in abortion in the earliest stages of pregnancy; the masses of fibrin which have formed in the uterus in menorrhagia; very dense masses of secretion from the cervix; and the membranous-looking shreds expelled from the cervix and vagina after astringent or caustic applications.

The decidua in early abortion is most difficult to distinguish from the menstrual membrane. In the early abortion the membrane expelled is usually larger and more ovoid or round, and not so markedly triangular as the decidua of menstruation, and is also thicker, and usually is accompanied with villi of the chorion. If there is still a doubt, the microscope reveals that the menstrual membrane shows only small cells, while those of the decidua-vera membrane are so great as to be easily distinguished. There is a decided microscopic difference in the epithelium, the tubes, and the inter-glandular tissue. This difference between the two membranes is not only in the decidua of early abortion, but also in the decidua of extra-uterine pregnancy. In being thus able to distinguish between the decidua of pregnancy and the membrane of menstruation, the only great difficulty in the diagnosis is overcome.

The shreds of fibrin expelled from the uterus sometimes look membranous in form, but have none of the structure of the mucous membrane, and hence can be detected on cursory examination. The same may be said of the masses of unusually dense secretion of the cervix. The membranous shreds that come from the cervix and the vagina as the result of astringent and caustic applications resemble at first sight the menstrual membrane. The most perfect of these exfoliations from the vagina I have seen after the use of the persulphate of iron; these specimens, however, are much thinner and differ entirely in structure, being made up mostly of epithelium, and therefore need not be mistaken for the menstrual membrane.

With due attention to the membrane expelled, the diagnosis can be made with great certainty.

Causation.—Discarding the current views regarding membranous dysmenorrhœa—that is, that it is due to inflammation, or else the result of gestation—one is left without any very rational views to offer regarding the causation of this disease. While it is not, perhaps, the part of wisdom to discredit the accepted views on any question in medicine until one has something more reliable to offer, still, if the causes assigned can be readily shown to be incorrect, it is infinitely better and safer to be entirely in ignorance of the causes of things than to attribute them to the wrong causes. Fortunately, however, while I find myself at variance with most of the recent authorities regarding the cause of this affection, I am in perfect harmony with the views of Dr. Oldham, who was the first to discover dysmenorrhœa membranacea.

Dr. Oldham distinctly pointed out the characteristics of this affection and stated that the membrane was formed under the ovarian stimulus, and I am fully satisfied that he was not only the discoverer of the disease, but also conceived the true idea regarding the cause of it—viz., some undue or abnormal ovarian influence or sexual excitation. In other words, it would appear to be some derangement of innervation and nutrition.

Taking this view of the causation, I expect to find myself in harmony with the neurologists at least. This class of specialists manifest a willingness to trace many diseases originally to some derangement of the nervous system, when they find anything like good reasons for so doing. Hence, I expect their support in choosing, as I do, to believe that the starting-point in the pathology of this affection must be some derangement of innervation produced by disease of some associated organs like the ovaries. We might find confirmation of this view regarding the cause of membranous dysmenorrhœa in studying the agencies which give rise to other morbid states of the uterus, like the fibroid growth for example, which in its anatomical elements does not differ especially from the tissues of the uterus from which it springs; and, if we could find the cause of this deviation from healthy nutrition, it might be applicable to the disease under discussion. But, unfortunately, the causes of fibroid tumors given in our literature are unsatisfactory and by no means well sustained.

From the fact that uterine fibroids are more common in sterile women than in others, it would appear that sterility predisposes to their development, and perhaps no better explanation of the cause of these growths has ever been given than that of my somewhat humorous friend, who said that

"the uterus, being prepared for normal work and not finding it to do, took up the development of fibroids as a sort of outlet to its formative powers." May it not, then, be that a well-defined predisposition to reproduction, uncalled for by gestation, excites this morbid action on the part of the uterus which leads to this abnormal exfoliation of its mucous membrane? This view might at least be entertained, because in other cases, when we are unable to detect the cause of a disease in something that is tangible, we usually attribute it to deranged innervation and consequent malnutrition. This view of the causation is, to some extent, sustained by the effects of medicines upon the lesions. This affection has always been recognized as one that is often difficult to cure, many times incurable, in the hands of the most competent physicians and surgeons. This possibly may have been due to misapprehension of the nature and cause of the disease, and hence fallacious therapeutics, rather than to the incurable character of the disease.

In favor of this line of thought I may state that the patients whom I have treated in years past, on the theory that the cause was inflammatory, have derived little benefit, while those who were treated for deranged innervation, malnutrition, and undue ovarian excitation, have made very much better progress. I am inclined to attribute most of the trouble to ovarian influence, the condition of the ovaries being that of an undue nerve excitation and possible congestion. I have been led to this belief by two facts: that the majority of the patients that I have seen have been subjects of a highly nervous organization, and in most of them there has been tenderness of the ovaries, and pain at times in them, without there being any evidence of their having ovaritis.

The rheumatic diathesis is said to favor this affection, and it is possible that that may be so, although I am unable to recall any of my patients as being rheumatic; neither have I been able to trace this to the tubercular or strumous diathesis, nor to syphilis. It is certain, however, that, if either of those conditions existed, they would have their influence in helping to keep up the uterine trouble, and every effort should be made to relieve them by treatment.

Treatment.—The treatment of this affection is necessarily both palliative and curative. While the patient is suffering during the expulsion of the membrane, it is very necessary to relieve the pain as far as possible. This, of course, can be most promptly done by the use of opium, which should be avoided if possible, however, because of its after-effects.

Chloral hydrate answers fairly well in some cases. I was induced to try this agent by the accounts given of its effects in relieving the pains of the first stage of labor. I am not sure that it has any advantages over chloroform, camphor and belladonna, or conium and *Cannabis indica;* in fact, in the majority of cases, one has an opportunity to try several agents, and, of course, the patient will decide which gives most relief. Indications for general treatment are to quiet all nervous disturbance and to improve the general nutrition of the mucous membrane. It so happens that when the first part is attended to the latter will follow in due order.

To quiet the nervous irritation and disturbance there is nothing that equals the bromide of sodium. This should be given in twenty- or thirty-grain doses three times a day for ten days or two weeks before the menstrual period. And, if the pain is not severe enough to require the addition of some of the remedies already named to relieve pain, it may be continued throughout the menstrual period and several days after. From this it would appear that the bromide is to be used continuously; but one or two weeks in each month it can be omitted. When the bromide has been employed for some time, and it seems desirable to give it up, conium may be given in moderate doses combined with camphor, if the patient is weak. If there is any evidence of the rheumatic diathesis, the bromide of lithium should be given. Next to quieting the nervous system, any debility that may exist should be overcome by nerve tonics. Undue nervous excitation so often goes hand in hand with nervous depression that in many cases it is necessary to combine the tonic and sedative treatment. All the remedies which may be used need not be here mentioned. In regard to the modification of nutrition, it need only be said here that any accompanying derangements of the digestive organs that may be found should receive careful attention; but this hardly need be mentioned in this connection.

My rule of treatment has been, after subduing all nervous disturbances, to put the patient upon the iodide of sodium in case she is in fair strength and inclined to flesh. If there is anæmia, I prefer the iodide of iron. If these did not accomplish the object, I have employed mercury, giving it in small doses, never continued long enough to produce salivation, carefully watching to avoid this. In cases of anæmia, where I have feared the debilitating effect of this alterative, I have given the bichloride of mercury with iron. After keeping them upon this treatment until I could see some evidence of its effects, I have then put them upon iodine and arsenic.

In regard to local treatment, I have been entirely guided by the views of pathology expressed above, and have therefore employed alteratives and sedatives almost exclusively. Of these I have found iodoform most effectual. I have also used iodine and mercury with advantage. In cases where I have found any complications I have carefully attended to them, restoring displacements and correcting flexions, and so on. When the canal of the cervix has been at all constricted I have enlarged it by incision and dilatation.

When the congestion which occurs at the menstrual period does not subside in a few days, I have employed the warm-water douche. After this, I have applied to the cavity of the uterus small bougies of cocoa-butter with as much iodoform as it would take up. Three or four grains of iodoform mixed with vaseline that has been liquefied by heat, and introduced through the pipette, is perhaps the best method of applying it. These have been introduced once a week or once every five days. When there has been much tenderness, and the use of the pencils has caused pain, I formerly used aconite and opium and iodine; this I have introduced into the cavity of the uterus. I am now trying cocaine to subdue the tenderness as a preparatory

means to the use of the iodoform. But so far this new remedy has not been a perfect success.

In cases where this has failed and the uterus was not especially sensitive to intra-uterine medication, I have instilled into the uterine cavity a few drops of a five-per-cent. solution of carbolic acid, making one application a few days after the menstrual flow and not repeating it until the next period. In the interval I have used the iodoform. I have also used the fluid extract of conium and *Hydrastis canadensis;* but this I have found gives more pain than any of the other applications that I have used; and so of late I have used an infusion of the hydrastis alone, which appears to answer as well and gives less pain.

Case I.—*Membranous Dysmenorrhœa in a Married Lady who was never Pregnant.*—This patient was forty-one years of age, of good constitution, and had been married eight years. She began to menstruate at thirteen, and continued to do so regularly and normally until she was twenty-one; then she began to have occasional pain, about the menstrual period, in the region of the ovaries. About a year after this she began to have severe uterine pains during the menses, and states that she occasionally passed masses that looked like membrane from the uterus; they were small, however, and did not occur at each period.

After her marriage the pain at the menstrual periods became worse, and almost every month she passed a membranous cast of the uterus. The usual history of each menstruation is that the flow begins not very free, and, after continuing for about five hours, the pain becomes very intense and lasts from three to eight hours, when she expels the membrane and the pain subsides, the flow continuing for a day or a day and a half after the membrane has been expelled.

The flow, taken altogether, is not profuse, and only lasts from two to two and a half days, while formerly—that is, before her dysmenorrhœa began—it used to continue from four to five days. When first seen, her general health was good, but she was rather hysterical and nervous, and was somewhat depressed and disappointed because she had not had children.

She described her suffering at her menstrual periods as something unbearable, although it did not last more than a few hours at a time. She was first examined midway between the menstrual periods. The uterus was then found to be normal in size and in good position. The internal os was rather sensitive and appeared to be slightly contracted; there was also an extended Nabothian gland in the middle third of the cervical canal, but the uterus presented a normal appearance in every other respect. There was no congestion; in fact, at this time the mucous membrane appeared rather anæmic.

The diagnosis was left an open question until the next menstrual period, when I obtained the membrane expelled and had it examined by my friend, Professor Frank Ferguson. His report stated that the specimen was uterine mucous membrane unchanged in its histological composition. This settled the question of diagnosis.

Careful inquiry elicited the fact that she had never been pregnant, so far as I could rely upon her testimony, which I believe to be accurate because of her great desire to have children. I also learned that on several occasions she had lived apart from her husband, who was of necessity absent on business for several months at a time, and that she suffered just the same, and at each month there was an expulsion of membrane, showing conclusively that there was no possibility of mistaking this affection for pregnancy and abortion.

The treatment consisted, first, in placing her upon the following mixture: Half a grain of the bichloride of mercury, one drachm of the solution of the chloride of arsenic, three drachms of the tincture of iron in a three-ounce mixture of syrup and water. A teaspoonful of this was given, well diluted, after each meal. At the same time the internal os was incised superficially in three places, dividing equally the circumference of the canal, and the distended Nabothian follicle was punctured and evacuated.

A week after this a sound was introduced of full size, and there was less tenderness; the tincture of iodine was then applied from just within the internal os downward. At the next menstrual period she had less pain, but it lasted just as long, and she passed a membrane unchanged, except it did not appear so thick as formerly.

From this onward the local treatment consisted in passing a full sized sound just beyond the internal os right after the menstrual period, and again in two weeks, and in nearly every six days about two grains of iodoform mixed with vaseline was passed into the cavity of the uterus, well up toward the fundus. This local treatment was continued without interruption for three months, and the first prescription, after it had been taken for two weeks, was followed by the iodide of iron, a grain and a half three times a day.

After the second month, and at her third menstrual period from the time that treatment began, she had no pain and passed no membrane. At the next period she passed several shreds, but nothing like a complete cast of the uterus.

The constitutional treatment, that is, alternating between the first prescription of mercury and arsenic and the iodide of iron, giving the first one for two weeks, and then the other, was continued for two months longer. The application of the iodoform was continued for one month longer, once every week, and once after her menstruation, at the end of the fourth month of the treatment. Since that time she has had no further trouble; her menses are regular, lasting about three days and entirely without pain or any discharge of membrane.

That was her record at least one year after she gave up treatment, since which time I have not heard from her.

Case II.—*Membranous Dysmenorrhœa occurring after Treatment for Anteflexion and One Miscarriage.*—A lady of very high culture and over-refinement, of a well-marked nervous temperament, but otherwise of good constitution, came under my observation when twenty-eight years of age; she had then been married a year and a half. She menstruated first at fourteen years, and continued to do so regularly, but with pain from the very beginning. The pain usually began a day or so before the flow and gradually diminished after. Her suffering at each period gradually increased until her marriage, when it became more severe. This, and the fact that she remained sterile, induced her to seek advice. I found her suffering from anteflexion of the body of the uterus and cervical endometritis; there was also tenderness of the left ovary on pressure. She was treated for the flexion and completely recovered. The dysmenorrhœa was entirely relieved and she became pregnant. During her pregnancy she suffered very much from morning sickness, and at the end of the third month began to show some signs of septicæmia; she then miscarried, and the ovum was found to be macerated, and probably had been dead *in utero* for two weeks. She recovered from this and was quite well for about a year, when her dysmenorrhœa returned; she then returned to be treated for what she supposed to be a recurrence of her former trouble, but I found no evidence of the former flexion. But, on inquiry, I found that she passed at each period a membranous cast of the uterus. The patient thought little of this, because, in former years while suffering from the dysmenorrhœa caused by flexion, she occasionally passed small clots which looked some-

what membranous in character, but no doubt were simply blood-clots.

She was placed upon treatment similar to that employed in the first case reported, except that there was no necessity for enlarging the internal os as in the former case, the only difference in the local treatment being that I used iodine in place of iodoform during the last two months of the treatment; and once, immediately after her menstrual period, I applied a mild solution of carbolic acid to the uterine cavity.

She did not again pass any membrane after the third month of treatment, and her pain from menstruation entirely disappeared.

She was dismissed at the end of four months, and two months afterward reported that she was pregnant. Three months after that time she was examined and found to be so, and was progressing well. Since that time I have not seen her, but heard that she gave birth to a healthy child.

Case III.—*Membranous Dysmenorrhœa treated by Dr. Fordyce Barker, of New York; Complete Recovery.*—I give the history of the following case for two reasons: First, to show that iodoform was employed in the local treatment, and that the patient's recovery was complete; and also to take the opportunity of stating that I believe that Dr. Barker was the first to employ this agent.

The history is not altogether complete, because I obtained it from the patient herself, who was unable to tell all that was done for her; but I know positively that she suffered from dysmenorrhœa, and that she entirely recovered under the care of Dr. Barker, and has remained well for a number of years.

This was an educated lady of a well-marked nervous temperament; she began to menstruate at thirteen, and continued to do so normally until she was twenty-six years of age. At that time she was said to have had an acute attack of ovaritis, and after recovering from that she had dysmenorrhœa.

The character of the pain at her menstrual periods then appeared to be ovarian. After suffering in this manner for about four or five years she noticed the expulsion of membranous casts of the uterus at the menstrual periods. During this time and for a year afterward she was regularly treated by her family physician, but without relief. She then consulted Dr. Barker for her general ill-health, but did not call his attention to her derangement of the menstrual function. She improved in her general condition under his care, but found no relief from the membranous menstruation. She consulted him again and called his attention to the uterine trouble, and he immediately placed her under treatment.

The constitutional remedies employed I do not know, but the local treatment consisted in dilatation of the cervical canal and the application of iodoform to the uterine cavity.

She continued to pass membrane for several months; then the trouble ceased and has not returned. She now menstruates regularly and naturally, and has done so for over two years.

Several other cases might be added, some showing failure of treatment, and others where the patients were really made worse by being treated for inflammation of the uterus which was supposed to be the cause of the trouble, but undoubtedly was not. Other cases might be given, also, in which recovery took place, and after several months or years the trouble returned, but they would add nothing to the views already given regarding the pathology and treatment of this affection.

The Charcow Ophthalmological Clinic, according to the "St. Petersburger medicinische Wochenschrift," has lately received a legacy of 12,000 roubles, the interest of which is to be applied to the maintenance of additional free beds.

NOTES ON HOSPITAL OBSTETRICS.*

By CHARLES JEWETT, A. M., M. D., Brooklyn,
PROFESSOR OF OBSTETRICS IN THE LONG ISLAND COLLEGE HOSPITAL.

One hundred consecutive confinements at the Long Island College Hospital furnish the material for the greater part of these rambling observations. Seven cases of abortion, however, scattered through the same period, are of some interest, and, before entering upon the study of the term labors, I will state in brief detail the treatment pursued in abortions. All fell in the second or third month. All were treated by immediate removal of the secundines. Of the seven patients, three had high temperatures on admission, with putrid secundines. Another was extremely anæmic from hæmorrhage, and her condition was further complicated with delirium tremens. In all the uterus was immediately evacuated substantially as follows:

The patient was placed in the latero-prone position and the cervix exposed by means of Sims's speculum, and steadied with a volsella. First the vagina and then the uterus were thoroughly cleansed with a douche of the bichloride solution, 1 to 1,000. The secundines, if separated, were then removed with a uterine dressing forceps, and the cavity was curetted with the small dull curette. If the ovum was still partially adherent, it was first detached with the curette. The cavity of the uterus was finally irrigated a second time with bichloride solution and a soft iodoform pencil deposited therein. In the febrile cases the temperature promptly declined, and all pursued a favorable course, the patients being discharged in from five to ten days.

Sims's speculum has few more important uses than in the treatment of abortion. The detached ovum is extracted by the above-described method with almost as much ease as it could be picked up from the floor. The facility of removal is in striking contrast with the painful and awkward digital method of extraction.

The immediate evacuation of the uterus is demanded in the event of sepsis or much hæmorrhage. Even in the absence of these conditions I have generally preferred the immediate operation, including separation with the curette, when the ovum had clearly become a foreign body. I have seen no evil results from this course, while delay may expose the patient to a sepsis which later evacuation is powerless to arrest, to say nothing of the evils of hæmorrhage. The ordinary small dull curette answers the purpose, and has the advantage that but little dilatation is required. I have rarely used any other. The important point, when interference is practiced, is to operate if possible while the tissues of the ovum are still fresh, and to leave the uterus completely empty and aseptic. The radical treatment of abortion and the use of the Sims speculum were advocated several years ago by Dr. Skene.

The one hundred term-confinements were conducted in surroundings involving more or less septic exposure. The obstetric wards were in the oldest portion of the building and in immediate proximity with the surgical wards of the hospital. The obstetric interne was also on general medi-

* Read before the Medical Society of the County of Kings, September 15, 1885.

cal duty, and a certain number of students and nurses were admitted to witness the labors. Despite the unfavorable circumstances, no epidemic of fever prevailed. No two consecutive confinements were followed with serious fever, and the total number of cases that could be classed as uncomplicated puerperal septicæmia were only seven. In this number there were three deaths.

In several cases circumstances pointed clearly to the belief that the poison was conveyed by the attendants on the labor, and not by the atmosphere. Atmospheric infection, I am disposed to think, is the exception and not the rule. In the majority of cases puerperal sepsis must be attributed to the physician or nurse in attendance during the labor. Cleanly surroundings, however, are of course indispensable to the cleanly conduct of the labor.

Our antiseptic practices of the last year have been somewhat simplified. They consist mainly of measures addressed to the scrupulous cleanliness of everything that is brought in contact or proximity with the passages, particularly during labor. Antiseptics are often indispensable to this end, especially to the aseptic cleanliness of hands and instruments. Vaginal injections are not used in puerperal patients for prophylactic purposes, except when specially indicated. The usual lochial guard, however, is kept wet with the biehloride solution for the purpose of promoting an aseptic condition of the external genitals.

The lying-in department has within a few weeks been transferred to new quarters in the wing recently erected. It is wholly cut off from direct communication with other portions of the hospital buildings. It is accessible therefrom only through the open air. The wards are ranged on either side of a central corridor, and are provided with ample ventilation. In the convalescent wards and waiting-room pure air is admitted by a double system of flues, one for heated and one for cold air. The foul air is removed by flues communicating with a central upcast shaft, in which a strong draft is maintained the year round by means of a steam stack. Transom-windows add still further to the ventilating appliances, and all the incoming currents are regulated with reference to proper distribution so as to break up the entire volume of air in the room. A room for the isolation of fever patients is located in a remote portion of the wing.

All the wards have been constructed with a view to make them proof against the accumulation of hospital miasm. The walls and ceilings are finished with Keen's cement, and the floors are of concrete, painted. The woodwork is of the plainest kind, and the grain well filled. Since the walls and floors are like stone, in addition to the usual means of disinfection the wards may be flushed with a hose. A steam cylinder, which can be charged from the engine-boiler, is provided for disinfecting the bedding by high temperature.

Passing now to the analysis of the term confinements, the nationalities of the mothers were chiefly Irish, Swedish, and Americans of foreign extraction. The number of single women was forty. Fifty-six women were confined for the first time, forty-four were multiparæ. The youngest mother was seventeen years old. Of aged primiparæ there were six of ages ranging from twenty-nine to thirty-eight. All were delivered without artificial interference, and the average duration of their labors was a little below the average in the younger primiparæ. These cases prove only that dystocia does not always befall this class of parturients.

An unusually large proportion of maternal abnormities was encountered. There was one case of simple flattened pelvis, one of funnel-shaped or male pelvis, one kyphotic pelvis, and two cases of cancer of the cervix.

As there was one twin birth, one hundred and one children were born. Of this number, ninety-three presented by the vertex. There were four breech cases, two cross births, one head and hand, one head, hand, and funis presentation.

The proportion of vertex presentations conforms nearly to the usual average, which is generally stated at about ninety-six per cent. Only fourteen per cent. of the vertex cases are recorded as occipito-posterior positions. Since nearly one half of the patients, however, were more or less advanced in labor on admission, the records of position are inexact.

Seventy-seven labors were accomplished solely by the natural powers. There were thirteen forceps deliveries, three manual extractions in breech births, three cases of podalic version, one delivery with the blunt hook (a breech case, the child dead), one by craniotomy (child dead, deformed pelvis), one Cæsarean section, one laparo-elytrotomy. (The laparotomies will be found elsewhere reported.) The average weight of the children in the forceps cases was nearly eight pounds. Thus the child was an element in the dystocia.

In forceps operations the aim has been to deliver with a minimum amount of force. Probably in none of the above-mentioned cases did the traction force exceed fifty pounds. To deliver with the least possible force, three things are necessary:

1. Time. It is often possible to coax the head along very slowly with moderate traction when a rapid delivery would involve a great expenditure of strength and much violence to the mother. It is a law of mechanics that the resistance which a moving body meets with increases as the square of the velocity. This law is not wholly inapplicable in the forceps operation.

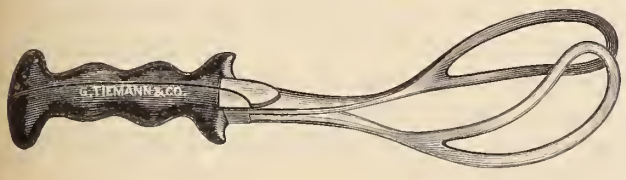
2. The previous correction, when possible, of malpositions of the head. This is not always possible.

3. Axis traction—in other words, the application of the force in the axis of the passages. Misdirection not only wastes force, but, worse than this, the waste force is expended in doing harm. The axis-traction forceps of Tarnier and its modifications offer great advantage in many cases of high operation. In these instruments the extracting force is applied in the axis of the forceps blades, and the axis of the blades lies constantly parallel with the axis of the passages as the head descends. The ordinary forceps should do the same thing. This can not be accomplished by mere traction upon the handles, certainly not with forceps having a marked pelvic curve. It may be done by conjoining with traction, applied at the handles by

one hand, a downward pressure with the other hand upon the shanks near the lock.

The operator is often in doubt as to the precise direction of the pelvic axis. I am not sure to whom I am indebted for the following useful hints for solving this difficulty and guiding the line of traction. The symphysis pubis is substantially parallel with the axis of the brim. The direction of the symphysis may be readily determined by laying the finger along its internal surface or by placing the finger-tips externally over the extremities of the symphysis. This affords a guide to the line of traction, which deviates but little from the axis of the inlet till the occipital pole approaches the pelvic floor. As the head glides along on the floor of the pelvis the forceps handles should sweep forward rapidly enough to make the anterior margins of the blades hug the ischio-pubic rami as closely as possible without crushing the intervening soft parts. These rules serve for general guidance in the use of forceps, but may of course require modification in individual cases.

In connection with this subject I submit a forceps which has been made for me by the Messrs. Tiemann & Co. It is designed to meet the requirements of modern obstetrics in the matter of cleanliness. The only important new feature is the construction of the handles. The handles are of hard rubber, smoothly polished, and they wholly envelop the metal. As the rubber is vulcanized upon the metal, there are no crevices for the lodgment of filth. With the exception of the handles, the general model of the instrument is similar to the Elliot forceps, but the shanks are stronger and the lock is a half Smellie.



In the seven breech extractions none of the children were lost except one, which was dead for two or three days before the admission of the mother. The method followed in breech deliveries is as follows: A forceps is always within reach of the hand. An assistant stands ready to apply pressure over the fundus at the critical moment—the delivery of the head. Anæsthetics are generally withheld to secure the full use of the expelling forces of the mother. In order to the full dilatation of the passages preparatory to the delivery of the after-coming head, the pelvic extremity of the fœtal ovoid is left intact—in other words, the extremities are, if practicable, allowed to remain flexed upon the abdomen, and the descent of the breech is not usually hastened by traction. Another reason for avoiding traction is the fact that the head and arms are liable to become extended if the trunk is dragged down. When traction becomes necessary in case of delayed or impacted breech, the attempt is made to maintain the flexion of the head by means of external pressure applied over the abdomen by the assistant. In the expulsion of the trunk much depends on the prompt delivery of the arms. If manual extraction of the after-coming head is not readily accomplished with moderate force, the trunk of the child is carried up over the abdomen of the mother and the forceps applied to the head. Great reliance is placed on the forceps in difficult delivery of the after-coming head. The application is easy, and, once applied, failure is practically impossible where a living child is possible by any method of extraction. On the other hand, manual methods in difficult cases frequently fail, and, when successful, are liable to inflict fatal injury upon the spinal cord.

Episiotomy was done in one case. In rare instances this procedure is believed to be good practice in rigid perinæum where extensive rupture of the perineal muscles would otherwise be inevitable. At the moment when the equator of the head is about to escape from the vagina, a narrow-bladed, blunt-pointed knife is laid flatwise between the head and the cord-like constricting ring just within the vaginal outlet. The incisions are made an inch or more from the median line, and should not much exceed half an inch in length and an eighth to a quarter of an inch in depth. I prefer to make the incisions during a pain, since they can be more readily managed while the ring is tense.

The compress and T-bandage suggested by Dr. Skene for support of the pelvic floor after labor, in certain perineal injuries, will be found useful after episiotomy. It should be understood that this operation is not advisable except where other measures are inadequate.

With the use of Credé's method the placenta was in the majority of cases expelled in from fifteen to twenty minutes after the birth of the child. The longest placental stage recorded was forty-five minutes. In delayed third stage, injection of the placenta through the cord has been found a useful measure, though by no means invariably successful. This practice is not new, having been advocated by various writers since the early part of the present century. I use a small hard-rubber cannula attached to the syringe, though a common quill toothpick will answer the purpose. Cold water is injected through the umbilical vein, care being used to avoid injection of air. The effect of the cold water, when successful, is to provoke a vigorous contraction, usually attended with prompt expulsion of the placenta. Manual extraction in retained placenta is avoided if possible, though little danger is to be apprehended if the hand is aseptic.

Lacerations at the vaginal orifice of some grade occurred in thirty-six cases. This number includes wounds of every degree beyond mere nicking of the hymeneal orifice or of the fourchette that could be detected on critical examination. All but three occurred in first labors. Eleven of this number were not of sufficient extent to involve the muscular structures of the perinæum; none extended through the sphincter ani. The proportion of perineal injuries may seem large, yet I am disposed to think it is little larger than would be found in general practice were the same opportunity afforded for careful examination. The number was no doubt increased by the fact that in a certain proportion of emergency cases brought on the ambulance the head was rapidly expelled before aid could be rendered. The methods practiced for the protection of the perinæum are chiefly preliminary dilatation, delay, and delivery of the head by its smallest circumference.

All except the most superficial rents were immediately closed with sutures. The single suture of Alloway was tried in two or three cases, but was unsatisfactory and was abandoned. No method can meet the indications which does not hold the sundered muscular structures in apposition throughout.

One perineal laceration extending into the sphincter ani united without sutures, forming a thick and firm muscular body. This patient was delivered fourteen hours before admission. On examination after she entered the hospital, the torn surfaces of the perinæum were found cemented together, and therefore no sutures were applied. The case is of interest because very exceptional, and is not referred to as affording a guide for the management of perineal ruptures.

Of fifteen multiparæ submitted to critical examination before labor, old perineal injuries sufficient to impair the function of the pelvic floor in some degree were found in nine. In four the damage to the muscular structures was out of proportion to the apparent injury, the mucous membrane and skin having remained nearly or quite intact, while the muscles had been more or less extensively sundered.

In twenty-eight primiparæ in whom the condition of the cervix at the date of discharge was recorded, lacerations were found in eighteen. All but seven of this number were of slight extent. These examinations, however, were made about ten days after labor, and probably all but the deepest fissures became insignificant by the time involution was complete.

In the one hundred mothers there were six deaths. One woman died of peritonitis and exhaustion three or four hours after delivery. She had been brought in after four days' labor with epithelioma of the cervix and a laceration opening into Douglas's pouch. The child was dead, and the breech, which presented, was fixed in the grip of the unyielding cervix. Another patient with cancer of the cervix died of peritonitis after Cæsarean section. This case has been elsewhere reported.

One death occurred from prolonged labor with deformed pelvis. This woman was admitted in a state of collapse, with a pulse of 180, after being about four days in labor, the head arrested at the pelvic outlet. The child was dead and putrid. Delivery was accomplished by craniotomy. The thorax and abdomen required to be punctured before the trunk could be delivered, owing to distension from putrefactive gases. The right vaginal wall was the seat of an extensive slough from long-continued pressure of the fœtal head. The woman died soon after delivery. The remaining three deaths were due to puerperal fever.

In fifty-six patients the temperature did not reach 100° during the post-partum week. There were four with moderate septic fever who recovered. The recoveries were due in large measure to antiseptic irrigation of the passages, a sharp decline of the temperature invariably following the douche, while in the three fatal cases of fever the douche made no impression on the temperature.

The remaining abnormal temperatures were due in some cases to pre-existing disease, as rheumatism, phthisis, etc.; in others to malarial poisoning, to mastitis; in several instances to emotional disturbance, and doubtless in a number of cases to slight transient absorption of decomposing lochia.

A case of labor in a diabetic subject is worthy of special mention. The woman was single and pregnant for the first time. She was delivered by the high forceps operation after twenty-six hours of ineffectual labor, the child weighing eight pounds and eight ounces. Chloroform was badly borne. She went into partial collapse after delivery, and was rallied with difficulty.

This patient had more or less fever for two weeks after labor, the temperature several times mounting to 103°. A partial laceration of the perinæum, which had been closed with sutures, failed of union, sloughs occurring on both sides of the rent. She had phlebitis of the superficial veins of the lower extremities. The seat of the punctures on the thigh, where fluid extract of ergot and dilute ammonia-water had been injected hypodermically, formed phlegmons, in two or three of which sloughs separated, exposing the muscular structures.

Dr. Dickinson, suspecting diabetes from the appearance of the wounds, confirmed the diagnosis on examining the urine for sugar. This case affords a good example of the dangers to which a diabetic woman is exposed in parturition. Sugar occurs physiologically in the urine of most women during the latter weeks of pregnancy and during lactation. Blot found it in half the cases examined during pregnancy. Dr. Angus Macdonald ("Ed. Med. Journal," August, 1881) examined the urine for sugar in thirty-four puerperal women and found from one to eight per cent. in all. This physiological glycosuria is intimately associated with lactation.

De Sinéty showed that the amount of sugar in the urine of puerperal women could be increased at will by abruptly suppressing the flow of milk. Barnes says the sugar disappears from the urine when the production and yield of milk are evenly balanced.

Diabetes as a complication of pregnancy and labor is rarely mentioned in the text-books. Dr. Matthews Duncan ("Obs. Trans.," London, 1882, p. 256), in a paper cited by Playfair, relates several cases. A large proportion of the children die before birth. Hydramnios is more frequent than in other gravidæ. But the principal dangers to this class of parturients are those of collapse after labor and their inability to bear well the traumatism of parturition.

Of the children, all but one were single births. Of the one hundred and one children, forty-five were females and fifty-six males. The relation of the fœtal pulse-rate to the sex was by no means constant, but in a large proportion of cases where the fœtal pulse before birth was much above 140, the child was a girl or a feeble male; where much below 140, the sex was generally male.

Ninety-four children were believed to be strictly full-time births. Of these, the average weight was seven pounds and one third, excluding the twins. The largest child weighed eleven pounds. The average length of the full-time children was a fraction less than nineteen inches. The length of the new-born child affords a convenient means for estimating the stage of development. The measurement may be roughly determined, even *in utero*, as a ready meth-

od of estimating the stage of gestation. The length of the fœtal ovoid can generally be readily measured. Double this measurement gives very nearly the total length of the fœtus.

A limited number of observations were made upon the temperature of the new-born child. The average rectal temperature in twenty infants at birth was 96·4°. On the second day the average was 98·5°, on the third 98·7°. The lowest temperatures occurred in puny and in partially asphyxiated children. The lowest noted at birth was 94°.

Four children were still-born, all dead before the admission of the mothers. One died from prolonged labor obstructed by cancer of the cervix, one from prolapsus funis, one from ante-partum hæmorrhage, and one child was dead and putrid from prolonged labor with narrow pelvis.

But one fœtal abnormity occurred. This was a case of atresia ani. The obstruction was a membranous septum which was punctured and the opening dilated by tearing. Subsequent dilatation was maintained by the mother's finger used as a bougie. The child was thriving when it left the hospital. A small glass speculum was found of great service in determining the extent of the occlusion and in puncturing the membrane without injury to surrounding structures. The speculum was improvised by cutting off an inch from the open end of a test-tube and rounding the cut edges in the flame of a spirit lamp.

A modified Credé's treatment has been for some time in use for the prevention of ophthalmia of the new-born infant. A few drops of a five-grain solution of nitrate of silver are instilled into the eyes of every child immediately after birth. No cases of ophthalmia have occurred since the adoption of this practice, while they were not wanting before.

In conclusion, my acknowledgments are due the house staff for intelligent and untiring interest in the clinic, and to Dr. R. L. Dickinson, clinical assistant to the chair of obstetrics, for valuable aid in securing accurate observations and for rare skill and judgment in directing the service.

THE GENERAL PATHOLOGY OF FEVER.*

By JOSEPH MERZBACH, M. D., Brooklyn,
gynæcologist to the southern hospital and dispensary.

Before entering upon the subject of my paper I may be allowed to make a few remarks on the physiological aspect and those modifications of temperature which we are accustomed to consider as normal.

Heat is the result of molecular motion, and temperature the expression of the velocity of this motion. The three factors on which the action of the relatively constant temperature of the human body is dependent are: the production of heat, the loss of heat, and the regulation of heat. Lavoisier was the first to pronounce the production of heat a process of oxidation—viz., a combination of oxygen in the air with the carbonic acid of the blood. All the later researches in this direction go to show that the greater part of the heat produced in the human body is brought about by this process, and that this process takes place in the tissues themselves and not in the lungs, as was believed by older physiologists. But where the amount of heat comes from not accounted for by oxidation has as yet not been determined.

This production of heat is counterbalanced by the constant loss of heat. Heat is lost by the introduction of air and food of a lower temperature than that of the body, by the evaporation of water from the surface of the lungs and skin, and by conduction and radiation of heat from the skin, as long as the temperature of the skin is higher than that of the surrounding atmosphere. Of these three agents, the skin is by far the most important, giving off eighty per cent. of the whole amount of heat produced in twenty-four hours; the lungs dispose of about eighteen per cent., while the remaining two per cent. is required for the heating of food.

This paramount position of the skin among the heat-losing organs, and its relation to the temperature of the surrounding atmosphere, ought not be lost sight of in the treatment of febrile disorders. I am very much inclined to ascribe the favorable results of out-door treatment in fevers more to the lower temperature and greater motion of the air, by which the skin is enabled to give off steadily quite a considerable amount of heat, than to the better quality of the atmosphere, although, as a matter of course, I am not prepared to deny the beneficial effect of the latter agent.

After having thus briefly touched upon the subject of production of heat and loss of heat, the question naturally arises: What is the arrangement by which the organism is enabled, even under very considerable variations of the surrounding temperature, to almost constantly maintain its own heat? There are several contrivances by which this object is accomplished, the most evident of which is probably the skin and the regulation taking place by the elasticity of the cutaneous capillaries. If the surrounding atmosphere is cold, the vessels contract, the difference between the temperature of the skin and atmosphere is lessened, and, consequently, the loss of heat is diminished. When the skin comes in contact with warm air, the cutaneous capillaries expand, the difference between the surrounding and internal temperature increases, and the loss of heat becomes greater. It must also be taken into consideration that in the first case the amount of blood exposed to the cooling influence of the air, and the action of the perspiratory glands, is less, while in the latter case it is greater, the supposition being in both cases that the temperature of the atmosphere is below that of the body.

By change of clothing the human being contributes toward regulation from the skin.

Another agent of regulation is the spontaneous increase or decrease of heat-production by change of food; the influence of this agent can not be proved for short spaces of time. In regard to longer periods, we find, as a matter of fact, that the inhabitants of colder climates not only take a larger amount of food than those of warmer regions, but also that they favor such articles of food as are likely to produce more heat. That the respiratory activity varies in

* Read before the Brooklyn Pathological Society, September 24, 1885.

different temperatures is generally conceded, while the share of the nervous system in the regulation of heat is still subject to much discussion. It is a matter of course that the nervous system, by its influence on the blood-vessels, must contribute toward regulating heat; but whether it has a more direct action is the question. The direct action undoubtedly takes place in muscles and glands; in these heat is generated on exciting their nerves, even after circulation in them is entirely stopped. But for all the other tissues of the body the influence of the nervous system could not be proved.

The existence of special caloric centers has not been experimentally demonstrated. All the experiments necessary for the removal of the nerve-centers so deeply affect the organism that the resulting changes in temperature may just as well be ascribed to the influence of the operation as to the absence of the nerve-centers. And yet there are clinical facts which, without the admission of such caloric centers, are difficult, if not impossible, of explanation. I have at present a man under observation who, four months ago, had an apoplectic stroke. The most annoying symptoms which remained therefrom till now are the following: A defect of vision on one side, slightly diminished memory, and cold feet. The symptom last mentioned can not be explained by a lesser degree of mental or muscular activity, because the man is just as energetic and active as before. It also can not be traced to a lesser amount of food, because his nourishment is of the same quantity and quality as formerly. It therefore seems rational to suppose, in this case at least, that the cerebral injury has involved special caloric centers.

After thus having called your attention to the three factors essential to the maintenance of the relatively constant temperature of the human body, let me briefly review some of the conditions which normally modify its constancy. Age produces variations in this way: that the temperature, which immediately after birth is 99·5° to 100°, falls after the first bath to 98·6°, to rise again to about 99°. It then gradually falls one per cent. up to the age of fifty. Between fifty and sixty it remains constant, to rise again, so that at the age of eighty the temperature equals that of the new-born.

Sex has no perceptible influence.

The diurnal deviations are from 97·2°, at 5 to 6 o'clock, to 98·9° between 5 and 7 o'clock P. M.

The influence of food is not considerable enough to attract our special attention. It may be said, though, that the fall of temperature as the result of cold drinks is somewhat more considerable than the rise produced by hot ingesta. Alcohol, even in moderate doses, reduces temperature, probably as the result of a greater loss of heat through changed circulation.

Muscular exercise may cause a rise of from ·5° to nearly 2°. The abnormally high temperature of tetanus is certainly not due alone to muscular work, but also to the underlying pathological condition, and possibly to a narrowing of the capillaries, by which the loss of heat is diminished.

Mental work influences temperature but slightly, at least in our climate; in tropical countries a rise of 2° has been observed. In modification of this statement I must remark that the president of this society, Dr. B. F. Westbrook, succeeded, by great mental concentration, in producing a rise of 2°; I myself was not able to increase my temperature by mental work more than 0·4°.

The surrounding atmosphere has no remarkable influence as long as the mode of living, food, and clothing are appropriate; these being defective, very low temperatures may produce a fall of heat sufficient to cause death. Very high temperatures can be borne to a remarkable degree in a dry atmosphere. The danger of sunstroke is greater, of course, in a saturated atmosphere and with muscular exertion.

Normal menstruation and pregnancy do not influence the bodily heat; the higher temperature of the pregnant uterus is partly due to the fœtal production of heat, partly to the great muscular development of the organ. After delivery, the temperature rises almost invariably, and we all know how difficult it is to fix a boundary between normal and abnormal; and it will always be necessary for the formation of a correct judgment not to rely upon the thermometer alone, but to take all the concomitant circumstances into consideration. The influence of refrigeration on the temperature of the body, in the present state of therapeutics in fever, requires mentioning. The first effect of cold applications—and an effect more marked in proportion to the extent and intensity of the application—is a slight rise of the axillary with a fall of peripheral and rectal temperature, while the continuance will change the axillary increase into a decrease, and will force still lower down the peripheral and rectal temperature. The difference of behavior between the axillary temperature and that of other regions has been explained by Liebermeister through a relation between heat-production and loss of heat. He holds, and seemingly proved by calorimetric researches, that the production of heat increases in proportion to the loss, and that, as long as the loss of heat does not take on an extent which can not be antagonized by increased heat-production, the internal temperature will be higher in proportion to the lowering of peripheral heat. This explanation was based on experiments which with other observers did not by any means yield identical results; and besides that it does not agree with the fact that the temperature in the rectum, and even in the vena cava inferior (Ackermann), declines at once as the result of refrigeration. The axillary rise has so far not found a satisfactory explanation; the most plausible theory is that the only vaso-motor nerves not subject to the irritating influence of refrigeration are those governing the muscular blood-supply, and that these, instead of producing contraction, allow their blood-vessels to expand under the increased blood-pressure; therefore the temperature of the muscular tissues which is found in the axilla rises, while the peripheral and internal temperatures decline. Whichever theory may be right, there is a general agreement about the clinical fact (and this is of paramount importance to us) that the general temperature of the body declines after a more or less continued application of external cold.

Great reduction of temperature is also brought about by considerable losses of blood and the injection of gases

into the abdominal cavity. I need not go into the *modus operandi* thereof, as the subject of my paper gives me more interest in the exploration of the causes which produce high temperature. Elevation of temperature is the only symptom which is common to all fevers, and we may therefore define fever as a general disturbance of the system, the pathognomonic sign of which is an increased temperature. Hence the Latin "febris," from "ferveo," I am warm, and the Greek "pyrexia," from πῦρ, πυρός, the fire. All the other symptoms—as dryness of the skin, increased action of the heart, change of secretions, chills, nausea, and thirst—may be absent. On the other hand, headache, pains in the back, and a feeling of fatigue, which we so commonly find in fevers, may be present in other conditions of the system which lack an elevation of temperature. Therefore I think we are justified in designating the elevation of temperature as the only sign by which we are always enabled to make the diagnosis of fever.

The pathogeny of fever has always eminently occupied the minds of medical men, as may be expected from the importance of its position among diseases; and the history of theories on fevers, like that of other diseases, teaches "the imperfection of one pathological view for the explanation of all the symptoms of a given disturbance. According to the prevailing theory of the times, fever has been explained by physical and by chemical processes—by changes in the vascular system, by derangement of the nervous system, by increase or decrease of tissue-irritability," etc.

Even philosophy and religion have been made use of for the explanation of the morbid phenomena of fever; thus I may mention, for the sake of curiosity, that Stahl, according to whom all vital processes were controlled by a single principle—the soul—defined fever as "an almost conscious motor, secretory, and excretory act for the removal of noxious matters." To discuss all the theories mentioned, to give all the arguments in favor of and against every one of them, would lead me too far. I may therefore be allowed to proceed at once to the modern views on the pathology of fever.

That there is at the root of every fever something foreign to the normal blood is generally accepted; it may come from without, as in infectious diseases, or it may be formed within the organism, as in septic processes. About the nature and character of the disturbing element there are just at present numerous theories. Bacilli, fungi, bacteria, and micrococci are discovered one day, to be mercilessly murdered the next. We may safely say that, with very few exceptions, the microscope thus far has failed to demonstrate the entity and the differential character of the modern microphytes so as to insure their general acknowledgment. We are therefore compelled to leave this question, and we now ask in what way does the disturbing element affect the system?

Is the blood but the carrier of these little organisms, which, upon their arrival in the tissues, modify metamorphosis? Or does the presence of these elements cause an intermediate product in the blood which irritates the tissues? Furthermore, does the disturbing element act on the tissues directly or by the intervention of the nervous system? And, if the nervous system is responsible, is the central nervous system directly irritated by the foreign element carried to it by the blood? Or has the disturbance primarily acted on peripheral nerves, whence the irritation is communicated to the central nervous system?

All the attempts to answer these questions have so far been resultless, and all the theories which take for their foundation either blood, or tissues, or peripheral nerves, or the central nervous system, have been refuted, notwithstanding the able advocates they found. It seems highly probable, therefore, that all these organs have their share in the primary causation of fever, and that the greater or lesser extent to which their share in a special case is limited depends on the nature and character of the disturbing element. In other words, I do believe that every attempt at the pathological generalization of fevers will be futile, and that, for the explanation of all the symptoms of a given case, it will be necessary to determine more accurately the special and differential character of the disturbing cause.

For an explanation of the most prominent phenomena we must go back to our three great factors in animal heat—viz., heat-production, loss of heat, and regulation of heat.

That heat-production is increased in fever may be admitted as generally conceded; also that the process of combustion extends more to nitrogenous than non-nitrogenous substances. Of course, this factor alone can not be held responsible for the causation of an increased temperature, because then we should have elevation of temperature in all conditions of the system where combustion is increased—for instance, after meals. That this is not the case was shown in my remarks on the normal modifications of heat. Traube's theory, by which he explained the phenomena of fever by diminished loss of heat, is opposed by the following considerations: It has not been proved that the contraction of the small arteries precedes the other phenomena of fever; it can not, therefore, be asserted that this contraction maintains a causal relation to the rise of temperature. Secondly, were the pyrexia due only to the diminished loss of heat, temperature should under all circumstances fall when the loss of heat is increased. This does not take place in acute rheumatism, puerperal, septic, and hectic fevers.

The theories which place the starting-point of the febrile phenomena in the nervous system alone—whether this be the central nervous system according to Virchow, or the sympathetic system of Claude Bernard, or the trophic nerves of Schiff—have neither been supported by clinical facts nor by experimental physiology. Mr. Teale's remarkable case, in which an injury about the upper part of the spine was followed by a temperature ranging for nine weeks from 109° to 122°, and even to 125°, with recovery, can not be taken as a proof that in all cases of fever the nervous system is at the root of the disturbance. And though I may omit the question of local myelitic inflammation as an agent in causing the febrile movement, this case, in my opinion, proves possibly just the opposite. In no other fever is there such a tolerance of an enormously high temperature, and, if in the great majority of cases even

much lower temperatures become fatal after a shorter time, this shows that there must be other factors in play.

No one of these factors, therefore, sufficiently explains by itself the pathogeny and semeiology of fever; it remains to be supposed that either two or all three of these factors are combined. The facts only justify us in the assumption that during fever heat-production is moderately and constantly increased, while there is an impaired action of the skin by which the loss of heat is diminished. The share of the nervous system has to be stated as being obscure till experimental physiology sheds a more satisfactory light on the relation between the phenomena of normal animal heat and the nervous system.

There are certain symptoms pretty constant in all fevers which require our attention. Of course, the chill is one of the most interesting of them, but, like so many other interesting phenomena in medicine, difficult of explanation. It consists of a diminution of the peripheral temperature, with a rise of the internal temperature, which occasionally attains its maximum at the termination of the chill, more frequently in the subsequent hot stage.

The fluctuations of temperature are, as is well known, of a different type in different fevers, and therefore can not be subject to general laws. The different types—as intermittent, remittent, continuous, and ephemeral, and the reasons for this nomenclature—are so well known that their enumeration may be sufficient. The division into febricula, pyrexia, and hyperpyrexia is useless, because of the difference in the subjective view of the observer.

The influence of fever on the pulse will not only vary with the degree of temperature and the time the organism is exposed to the influence of a high temperature, but also with the cause producing the fever. The pulse will nearly always be accelerated; in the beginning it is hard and full, and becomes smaller and softer in proportion to the intensity and the duration of the disease.

The blood is not altered so much during the fever as was formerly believed. The relative proportion of hæmoglobin and red blood-corpuscles to the mass of blood is only slightly diminished. In the lytic or epicritic period this diminution is considerable.

The carbonic acid given off by the lungs is increased in the proportion of eight to seven of the normal evolution. That the respirations are increased in fever is well known; in attempting to explain this fact we again meet the dilemma, Is this due only to the increased temperature, or also to nervous influence?

The urine is, during pyrexia, most frequently smaller in quantity, dark colored, and shows the following chemical changes:

The relative amount of phosphoric acid is diminished; we know that in certain conditions of chronic irritation the brain is relatively richer in mineral substances than normally; it is possible that the acutely irritated condition during fever depends on the same cause. Chlorate of potassium is present in moderate quantities, and chlorate of sodium in small amount. In opposition to former opinions, more recent researches have shown that urea is not increased to a great extent, while the uric acid and ammonia are present in greater quantities than normally. While this shows that the combustion of albuminous substances is increased, it also demonstrates that the process of disintegration is of such a nature as to prevent the formation of the normal terminal product. Albumin we only find in very intense fever, and the albuminuria may be due partly to altered conditions of the blood-pressure, partly to the parenchymatous degeneration of the kidneys, partly to an altered diffusion of albuminoids, and possibly to nervous influences.

Of other secretions, that of the salivary glands has been examined. It is diminished in quantity, sometimes absent altogether; its reaction is acid, although a free acid has not been determined as yet. In connection with the parotid gland, the suggestion of Mosler, to introduce a cannula into Stenson's duct for the removal of obstructions, is well worth mentioning, because in this way the post-febrile inflammation of the parotid may be prevented or its occurrence diminished.

There is a marked degree of dryness of the buccal and pharyngeal glands, and in almost all fevers we find a buccal and pharyngeal catarrh, by which the excessive thirst is better explained than by the so-called febrile desiccation. That there is a most intimate connection between the dryness of the buccal and pharyngeal mucous membranes and high temperature is shown by the moist state of the tongue after severe hæmorrhages and subsequent collapse in typhoid fever. The increase in thirst and consumption of water, with the diminution of the secretions, naturally lead to the question, What becomes of the water? It has been claimed that it becomes latent in the body during the fever, to be removed from it by the critical discharges. In support of this view, it has been said that the face of the patient during pyrexia looks turgid, while during the period of convalescence the countenance looks most emaciated; besides, that the blood of the fever patient was supposed to be richer in water than that of the normal system. The last point has not been demonstrated with sufficient exactness and conclusiveness to be taken as a proof. In order to settle the question satisfactorily, it will be necessary, in comparing healthy individuals with fever patients, to measure, besides the water in liquid form, the exact amount of liquid the normal individual takes in in the shape of solid food—as vegetables, etc.; furthermore, the increase in the amount of insensible perspiration and exhalation from lung and skin has to be calculated more accurately than has been done hitherto.

The anatomical changes which embrace the liver, kidney, spleen, pancreas, the heart muscle, blood-vessels, and the voluntary muscles, are only to be found after some duration of a high temperature. The parenchymatous degenerations of the liver and kidneys are easily explained by the high temperature and perverted innervation; in the kidneys the irritating character of the substances to be secreted may be of influence.

The heart muscle becomes very soft and pigmented, being filled with fat granules and brown pigment granules. The walls of the smaller blood-vessels often undergo fatty degeneration (thence tendency to capillary hæmorrhages); in the larger vessels the intima is swollen. In the voluntary

muscles we find two kinds of degeneration: the fatty and amyloid. It need hardly be mentioned that the latter does not allow of restitution. The spleen is enlarged; in the beginning it is hard and tense, while in the further course of fever it becomes softer and more friable; whether the general anæmia corresponding with the enlargement of the spleen is due to the circumstances that this organ deprives the other tissues of a great amount of blood, or whether it is due to a specific action of the spleen in the formation of blood-corpuscles, can not in the present state of physiology be decided.

The symptoms connected with the digestive tract are not always due to a gastro-enteritis, which, with some pathologists, plays such an important part. The anorexia, constipation, nausea, etc., can easily be explained by a lesser activity of the glands and by faulty innervation. Inflammation would not be so quickly removed as to allow appetite and digestive power to come back to their normal standard immediately after the cessation of the high temperature. I do not wish to assert that the influence of high temperature, unduly prolonged, may not be capable of producing inflammatory lesions of the stomach and intestines, but I do not believe in their constant presence in fever.

The functional derangements consist of a disturbance of general sensation and of psychical and motory functions. The ways in which these disturbances manifest themselves to the observer are so well known that they do not require special enumeration.

This completes the symptoms and phenomena which are more or less constant in all fevers; special lesions and their modifying influence on the course of the fever, as the intestinal lesion in typhoid fever or the skin lesion of variola, must be left to the consideration of special pathology.

COCAINE IN MINOR OPERATIONS.

By HENRY A. DU BOIS, Ph. B., M. D.,
SAN RAFAEL, CAL.

The following cases, in which this agent was used, may possess some slight interest:

A boy, aged twelve, had a flap of skin eight inches in length torn diagonally across the leg, just below the knee, by a kick from a horse. The wound was free from dirt, as the pantaloons were not torn. It was well washed with a 1-to-2,000 corrosive-sublimate solution, and a two-per-cent. cocaine solution in glycerin painted on the edges through which stitches were required. The cocaine solution was exhausted before the entire border of the wound had been coated. Twelve stitches were then taken, ten without any pain while conversing with the patient, but the last two caused great pain. The line of union was covered with subnitrate of bismuth, and a pad of absorbent cotton applied and retained by a bandage. Stitches removed on the fourth day. The wound united, except along the skin-border, which showed no union. Adhesive straps retained the flaps in position, and I saw the patient no more, but was told that the wound was fully united in less than a week.

A man, aged sixty-five, who had been partly paralyzed, asked for removal of small growth from the skin of the forearm. I had removed a similar growth several years before. The new growth was non-malignant, but started from the old one. I injected a four-per-cent. solution of cocaine under the bone by four punctures with a hypodermic syringe, and removed a piece of skin, one and a half by one inch, going down well upon the muscles. This was done during conversation, and without any sign of pain on the part of the patient. The wound was drawn together by sutures, as in the previous case, of silkworm-gut carbolized, and a bismuth and absorbent dressing applied, but the forearm was not put in a splint. The movements of the hand apparently tore out some of the stitches and more or less suppuration ensued, the wound gradually closing by granulation, but the time was upward of a month; at no time was there any pain.

I believe in both these cases the cocaine prevented union by first intention. In the first case I should have expected union of the greater portion of the skin-border in four days; in the latter, more or less adhesion between skin and subjacent tissue, although, doubtless, movements of the wrist interfered somewhat with perfect apposition—had I not used the cocaine, but simply contented myself with washing the wound with corrosive-sublimate solution and with dry bismuth dressing. In the latter case, too, the healing power was also probably deficient. In a small fistula of the anus the cocaine enabled me to lay it open and apply nitric acid without pain, and I noticed no postponement of healthy granulation.

In a case of chronic eczema of the face of fourteen years' standing, in which it became necessary to remove the beard on one side of the face, an injection of a four-per-cent. solution over the trifacial nerve, as it comes out in front of the ear, enabled me to remove every hair at two sittings and without pain. Applied to the inflamed base, or to the pustules after matter had been let out, I could detect no relief experienced from the interminable itching, which almost drove the patient wild; while a constant current of galvanism, passed from the front of the ear to the cheek and chin for ten minutes, would relieve the itching almost entirely for some eight hours.

In a case of severe neuralgia of the trifacial nerve involving the branches to the upper and lower jaw I injected one fifth of a grain of cocaine twice in front of the ear quite deep into the tissues. After each operation the woman became excited for five minutes or so, but there seemed no relief from pain, which was only afforded by opium and chloroform. In a severe case of rheumatic sciatica a hypodermic injection of one fifth of a grain afforded no relief, while the same quantity of morphine relieved pain, and a daily application of the constant current effected a permanent cure.

An application to the gum of a few drops of the two-per-cent. solution enabled a tooth to be extracted with hardly perceptible pain, while its introduction into a cavity where the nerve was supposed to be exposed seemed to afford no relief to pain. Cocaine seems to me to act through the mucous membrane and through the cellular tissue, but so far I have seen no action from a direct application to a nerve or to the skin. Even when the latter is excoriated, and when cocaine is injected into the cellular tissue or applied to the edges of a wound, it certainly seems to interfere with prompt union. I have so far made no experiments with this agent on blistered surfaces or burns. The cocaine used was procured from Dr. Squibb.

Book Notices.

The Use of the Microscope in Clinical and Pathological Examinations. By Dr. Carl Friedlaender, Privat-Docent in Pathological Anatomy at Berlin. Second Edition, Enlarged and Improved, with a Chromo-lithograph. Translated, with the permission of the Author, by Henry C. Coe, M. D., M. R. C. S., L. R. C. P. (London), Pathologist to the Woman's Hospital in the State of New York. New York: D. Appleton & Co., 1885. Pp. x–195. [Price, $1.50.]

This book is one of the most concise and comprehensive guides in *technique* which the student can obtain who undertakes microscopical examinations for clinical and pathological ends. It is divided into seven chapters, in which are described, in a plain, practical manner, the microscope and its accessories, reagents, micro-chemistry, methods of preparing specimens for examination, both of living and of dead tissues, the examination of fluids, the examination of tumors, etc.

Some beginners in microscopy are very apt to think that the work is essentially mechanical, and that if the mechanical process is perfect the desired pathological knowledge can be obtained readily; but this source of error is pointed out distinctly by the author. Another fundamental truth has also been mentioned, and that is that there are a number of minds which either never attain to a capacity for the more delicate histological examinations, or succeed only after long and painful training, and, it may be added, especially painful to the teacher. If these two ideas can become wide-spread, Dr. Coe, by his excellent translation, will have conferred a lasting benfit upon those who are interested in this department of scientific work.

The chromo-lithograph is an agreeable addition; but as one looks at the illustrations he may be led to wonder why pictures of the same objects are made to appear so different in different standard books.

A Guide to American Medical Students in Europe. By Henry Hun, M. D., Lecturer on Diseases of the Nervous System in the Albany Medical College. New York: William Wood & Co., 1883. Pp. vi–151.

This little book was received some months ago, and deserved an earlier notice. We commend it most heartily to the carefnl consideration of the class of readers for whom it is intended. We have no hesitation in saying that the author is a real benefactor to his younger medical brethren, in that he removes one of the most serious obstacles to the enjoyment and profit of a foreign trip. To know how, where, and what to study is half of the battle, and we congratulate Dr. Hun upon having so clearly and thoroughly discussed these questions. The author's introductory remarks are sensible and to the point. He discourages the student from going abroad to study until he has served his time in a hospital. Moreover, he deprecates too long a stay in foreign parts. "All of the time," he says, "that he (*i. e.*, the student) spends in Europe beyond two years is very apt to be to his disadvantage." This is an important and, as regards the average medical student, a true remark.

The statement regarding finances is judicious. We are glad to see that no attempt is made to impress the reader with the false notion that his expenses in Europe will fall far below his home expenditures. Men are frequently sadly disappointed at the unexpected demands upon their resources when they have been told that they could live abroad for "about one half" of what it costs in America.

We call particular attention to the advice as to learning German, for it is sound. The caution to students not to travel about too much from place to place, but to spend all of their time at two or three of the best medical centers, will commend itself to all who have had a practical acquaintance with foreign study. The general hints as to methods of study are worth a careful perusal.

In giving details about the different German cities, the author dwells with special care upon Vienna, Berlin, and Leipsic. Except in the matter of unimportant facts, such as vary from year to year, the information is clear and accurate. Medical study in France is not very strongly advised by the author, but he presents quite fairly the advantages which Paris offers.

In treating of the London medical schools, we can not help saying, a good deal of irrelevant matter might well have been omitted.

We are glad to read the short section upon the Dublin Rotunda Hospital, since there is a lingering feeling among some American teachers of obstetrics that the Rotunda is the *only* place in which to learn careful midwifery. We believe that this idea will be exploded, and meantime Dr. Hun is to be commended for coming boldly forward with the statement that "this hospital offers no advantages for study over those of Vienna, Prague, or Dresden, except that the English language is spoken in it."

On the whole, we believe that the "Guide" is an original book, the material is judiciously selected and arranged, and such errors as exist are not vital. It would be hardly fair to criticise too closely the literary style of a work which aims principally at clearness, rather than elegance, of expression; yet we trust that the author in his second edition (which we hope to see soon) will correct some of his awkward sentences, substitute the word "for" instead of "to" in the title, and add an index. With these slight emendations, and a condensation of the chapter on England, the little volume will challenge comparison with far more ambitious works.

System of Practical Medicine. By American Authors. Edited by William Pepper, M. D., LL. D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, assisted by Louis Starr, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Volume II. General Diseases (continued) and Diseases of the Digestive System. Philadelphia: Lea Brothers & Co., 1885. Pp. 3–19 to 1312, inclusive.

The general characteristics of this volume are analogous to those of its predecessor in the series, which it has followed with commendable punctuality. It even surpasses Volume I in size, and therein is open to criticism, for its bulk and weight are such as make it impossible to hold the book with comfort even in both hands. Another striking feature is the extent and minuteness of the index, rivaling in this respect the clinical index, so called, to Bartholow's "Materia Medica and Therapeutics," although it does not present the peculiar character which gives the special name to the latter. An index which bears to the text to which it refers the proportion of one page to ten (actually 117 to 1195) should be a remarkably good one to justify its presence in a volume already so large.

Passing to an enumeration of the individual articles, we find the opening one, on rheumatism, by Dr. R. Palmer Howard The second is by Dr. W. H. Draper, on gout, and is an example of clear and excellent English. While the discussion of the subject is full, he frankly confesses the limitations of our knowledge as to ætiology and the action of the most potent remedies. Dr. Jacobi, with an abundant citation of authorities, writes on rhachitis. Philip S. Wales, M. D., contributes two articles, the

one on scurvy, namely, and in the second part that on pseudo-membranous enteritis. In like manner Dr. I. Edmonson Atkinson writes on purpura, and on cancer and lardaceous degeneration of the intestines.

Diabetes is very satisfactorily discussed, in an article of moderate length, by Dr. Tyson, treatment, including the dietetic, hygienic, and medicinal, occupying much more space than pathology and pathogenesis. Dr. John S. Lynch writes on scrofula, and Dr. J. William White extensively on hereditary syphilis. This last author writes with the clearness of conviction so noticeable in the best American authorities on this subject, going fully and with plentiful references into the knotty question of the respective shares of father, mother, and fœtus in the transmission of the disease, including the curious theory of its latency in the maternal organism.

Under the subdivision of Diseases of the Digestive System we find a series of articles by Dr. J. Solis-Cohen on diseases of the mouth and tongue, of the tonsils, of the pharynx, and of the œsophagus, organs and regions in connection with which his name is a guarantee of thoroughness and familiarity. The functional and inflammatory diseases of the stomach are treated of by Dr. Samuel G. Armor, and his title is found to include gastralgia. Other gastric affections form the subjects of five articles by Dr. W. H. Welch, viz.: Simple Ulcer of the Stomach, Cancer of the Stomach, Hæmorrhage from the Stomach, Dilatation, and Minor Organic Affections. These articles are scholarly and enriched by copious references to literature and citations from it, while it is very gratifying to find in the matter of treatment especially so much attention given to the details and chemistry of alimentation, a remark which also applies to Dr. Tyson's article on diabetes.

Dr. W. W. Johnston writes on various affections of the intestines in six consecutive essays.

Dr. J. Lewis Smith contributes an article on the intestinal affections of children in hot weather. His views are well known, and it is particularly interesting to know his experience with the peptonized preparations which have formed such a feature of the recent management of children's diseases.

Of the remaining articles in the volume, those which will attract most attention are Dr. Hunter McGuire's on intestinal obstruction, Dr. Bartholow's treatise on diseases of the liver, and Dr. Alonzo Clark's on peritonitis. Dr. McGuire's article is much condensed, and he is forced to relegate much that is germane to his subject to surgical treatises, since it would be outside of the scope of this work.

All graduates of the College of Physicians and Surgeons will be glad to see the views of the venerable Prof. Clark thus authoritatively presented on a subject in which he felt so keen an interest. They will recognize the features which used to charm them in his lectures, the solid, slightly old-fashioned, personally characteristic style, with the quaint illustration drawn from his own experience.

Here is, then, a volume of interesting and valuable essays, which must still for the present stand chiefly upon their individual merits, for the work can not yet be looked upon as a finished whole, and its claims as a system fairly weighed. As it stands, it is very attractive, free from disfiguring pages of advertisements, and with illustrations which, if not numerous, are apposite.

Minor Surgical Gynæcology. A Treatise of Uterine Diagnosis and the Lesser Technicalities of Gynæcological Practice, including General Rules for Gynæcological Operations and the Operations for Lacerated Cervix and Perinæum and Prolapsus of Uterus and Vagina, for the Use of the Advanced Student and General Practitioner. By PAUL F. MUNDÉ, M. D., Professor of Gynæcology at the New York Polyclinic and at Dartmouth College, Gynæcologist to Mount Sinai Hospital, etc. Second Edition, Revised and Enlarged, with three hundred and twenty-one illustrations. New York: William Wood & Co., 1885. Pp. xxii–552.

(*Second Notice.*)

We hope to see the question of the "cicatricial plug" cleared up some day. If it is, it will be by the aid of the pathologist. It can not be allowed to rest entirely upon the dictum of the clinician. But it is in vain to argue upon a subject the pathology of which has been so much neglected. In the section upon the significance of cervical laceration the author summarizes his views as follows: "It thus appears that I consider only one half of all the lacerations of the cervix which occur as producing (symptoms?) and requiring treatment of any kind, and of these but one quarter, or one eighth of *all* lacerations, as absolutely requiring Emmet's operation. Surely I can not be reproached with being an advocate either of too universal pathological significance or of unconditional operative treatment of this lesion." The latter, it must be added, is rather an awkward sentence. The description of the operation leaves little to be desired. It gives the reader as clear a picture of the technique as could be drawn with the pen. Not a single practical hint or useful device is omitted. We see the operator at his work, describing each step as he goes along, beginning with an enumeration of the instruments and ending when the patient is removed to her bed. The possible dangers and complications of trachelorrhaphy are fully and squarely stated. Whatever faults Dr. Mundé's book may possess, want of frankness is not one of them. In this respect it is the true child of its author.

The subject of perinæorrhaphy receives the attention which its importance deserves. In his pathology the author leans perhaps more decidedly toward the "keystone" theory than some of his *confrères*. His recommendation of the primary operation will carry weight, and the description of its performance (page 487) is a very clever and graphic sketch, which furnishes a good example of the writer's rapid, nervous style. The details of the operation, both in partial and in complete lacerations, are exceedingly well given. It is in these practical directions that the author excels as a teacher and writer. Dissertations upon pathology are not his *forte*, but in describing gynæcological manipulations, as he has practiced them himself, he is perfectly at home. The operation proposed by Dr. Emmet, which, as Dr. Mundé remarks, is properly designed for the cure of proctocele, is duly described and figured. The author seems to have formed as clear an idea of the operation as any one has done, but we question most emphatically the statement that in passing the sutures they "are carried deep into the furrow and entirely under the raw surface, so as to pick up the separated fibers of the pelvic fascia." Even granting that the pelvic fascia has become detached (which is not by any means certain), how can the operator be sure that he is "picking it up" when he does not know where the torn fibers are? Dr. Mundé concludes that the new operation will "not supersede the old, except in comparatively slight external lacerations, where the redundancy and prolapse of the posterior wall predominates."

The various operations for the cure of cystocele, proctocele, and prolapsus are briefly described and figured. Reference is made to Emmet's "button-hole"; but it should be mentioned that urethrocele is only one of several conditions for the relief of which an artificial urethro-vaginal fistula is made by the proposer of the operation. We are glad to see that prominence has been given to Le Fort's operation for the cure of complete procidentia, for it deserves a more thorough trial in this country than it has had hitherto.

The latter part of Dr. Mundé's work bears evidences of hasty composition. After devoting ample space to trachelorrhaphy and perinæorrhaphy, he dismisses some of the other operations in a few words. The impression which the reader receives is that the author found that his book was assuming too great proportions, and resolved to condense it, even at the risk of giving it an appearance of unevenness and want of symmetry.

We have already referred to the chief excellence of the book—its practical character and the sound common sense which pervades it. The style is not always the most pleasing. While it is frequently clear and concise, it is sometimes rather involved. The author excels in descriptions; the purely didactic portions are occasionally marred by complicated sentences. The work is the product of years of experience and observation, and may be safely relied upon as being the outgrowth of the writer's own practice. He makes few statements which have not stood the test of his own judgment. Although there is much that might have been omitted without detriment either to the book or to its author's reputation as a careful writer, as it stands it will long continue a standard text-book.

Diseases of the Urinary and Male Sexual Organs. By William T. Belfield, M. D., author of "Relations of Micro-organisms to Disease"; Pathologist to the Cook County Hospital, etc. New York: William Wood & Co., 1884. Pp. vii–351.

The author states in his preface that the present work was prepared hastily and without sufficient time being allowed for revision. There are certainly but few signs of such haste, except in the last four chapters. The matter is well arranged, and prominence is given to several topics which have hitherto received but scanty notice in American treatises on urinary surgery. Following the German school, Dr. Belfield enters minutely into the anatomy of the subject, and devotes several chapters to the examination of the patient, one of which includes an admirable *résumé* of endoscopy. The physiology and pathology of the urine are as thoroughly discussed as is possible in a few pages. Chapters XVIII and XIX, on diseases of the kidney and bladder, are brief but satisfactory. We may add, with reference to that portion of the volume which is devoted to the diseases of the urinary organs, that it is excellent throughout, and the only regret in the reader's mind when he has finished it is that the book does not conclude here. The last forty pages, which treat of sexual disorders, are by no means so creditable to the author, since they bear evident marks of rapid composition and an apparent haste to finish as soon as possible.

Dr. Belfield has no reason to feel dissatisfied with his work. It is largely German in its tone, but it is in no sense either a compilation or an imitation. The author shows a personal knowledge of his subject, and many of his statements are founded upon the results of his own experiments.

It is hardly necessary to say that the reader will find in this book all of the latest ideas concerning urethral fever, as well as a clear and intelligible description of the methods of using Grünfeld's instruments, catheterizing the ureters, exploring the bladder through a perineal incision, etc. Nearly all of the woodcuts illustrate urinary sediments.

Medical German. A Manual designed to aid Physicians in their Intercourse with German Patients, and in reading Medical Works and Publications in the German Language. By Solomon Deutsch, A. M., Ph. D. New York: J. H. Vail & Co., 1884. Pp. v–336.

This will be found a most useful little book, especially for students who are contemplating a trip abroad. Written after the style of Ollendorf (though more dignified in its form), it contains just such dialogues as occur so often at the bedside and in the clinic. The first half of the volume contains a list of nearly six thousand words, such as are apt to occur in German medical works or lectures. The criticism to be made here is that the different parts of speech are bundled without regard to their relative importance or alphabetical arrangement. This fault is partly atoned for by the addition of a full English and German index at the back of the book.

The form of the dialogues is briefly this: A patient enters with bronchitis. "Where do you feel pain?" asks the physician. "I have soreness behind the breast-bone, and pain in my limbs," replies the patient, and so on.

When we remember how Americans of old were obliged to learn their medical German without special lexicons and other helps, such as the present manual, we can not be surprised at the fact that "studying abroad" was a far more formidable undertaking than it is now.

BOOKS AND PAMPHLETS RECEIVED.

A System of Practical Medicine. By American Authors. Edited by William Pepper, M. D., LL.D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania. Assisted by Louis Starr, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Volume III. Diseases of the Respiratory, Circulatory, and Hæmatopoietic Systems. Philadelphia: Lea Brothers & Co., 1885. Pp. 9–19 to 1032, inclusive.

Tratado Práctico de las Enfermedades de las Mujeres. Por el Doctor Gaillard Thomas, Profesor de Obstetricia y de Enfermedades de las Mujeres y de los Niños del "College of Physicians and Surgeons" de Nueva York, etc. Segunda Edicion Española, Corregida y Aumentada con Seis Capítulos, Ciento un Grabados Nuevos, Multitud de Notas de la Ultima Edicion Inglesa, un Prólogo, y un Apendice Terapeutico, por el Doctor Juan García Puron, Ex-Médico-Cirujano del Ejército Mexicano, etc. Nueva York: D. Appleton y Ca., 1885. Pp. xxvi–888.

Epitome of Diseases of the Skin. Being an Abstract of a Course of Lectures delivered in the University of Pennsylvania during the Session of 1883 and 1884. By Louis A. Duhring, M. D., Professor of Skin Diseases. Reported by Henry Wile, M. D., Clinical Assistant in the Department of Skin Diseases in the University Hospital. Philadelphia: J. B. Lippincott Co., 1886. Pp. iii–13 to 130, inclusive. [Price, 60 cents.]

A Guide to the New Pharmacopœia (1885). Comprising an Epitome of the Changes, and an Account of the New Preparations, their Characters, Uses, Doses, and Modes of Administration; together with a Therapeutical Commentary. By Prosser James, M. D., Lecturer on Materia Medica and Therapeutics at the London Hospital, etc. London: J. & A. Churchill, 1885. Pp. viii–108.

The External Therapeutics of Pulmonary Consumption. Third Paper. By Thomas J. Mays, M. D., Philadelphia. [Reprinted from the "Medical News."]

A Case of Traumatic Aneurysm of the Axillary Artery, etc. By L. S. McMurtry, A. M., M. D., Danville, Ky. [Reprinted from the "Journal of the American Medical Association."]

Report on the Chemical Examination of the Waters of the Public Wells of Albany, N. Y. By Willis G. Tucker, Ph. D. Transmitted to the Board of Health, July 20, 1885.

Suggestions on Some Symptoms of Renal Disease and their Management. By Charles W. Purdy, M. D., Chicago. [Reprinted from the "Journal of the American Medical Association."]

Annual Announcement of the New York Polyclinic. 1885–1886.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, NOVEMBER 21, 1885.

PASTEUR'S PREVENTIVE INOCULATION OF HYDROPHOBIA.

In another part of this issue we reproduce from the "Medical Times and Gazette," of London, a brief but very satisfactory account of M. Pasteur's system of protective inoculation of rabies. Under any circumstances, the results which M. Pasteur has been enabled to report to the *Académie de médecine* could not fail to prove of surpassing interest, but just at the present time they seem to come most opportunely, for hydrophobia is so prevalent in England as to be termed epidemic, and many cases have lately been reported in Paris.

It would be premature to settle down to the conviction, on the strength of Joseph Meister's case, that an infallible preventive had at last been found of a disease which, although, fortunately, of comparatively rare occurrence, is undoubtedly the most horrible in all our nosology, whether we regard the torturing uncertainties of its variable and often extremely protracted period of incubation, the uniformity with which it destroys life, or the terrible suffering that attends its course. But, while we would not hastily accept this comforting conclusion, on the other hand we have little patience with the pertinacious objectors who seem bent on belittling every step in Pasteur's course of investigation, and ready to attribute Meister's escape thus far to anything but the inoculations. Almost every innovation in medicine has to encounter a hand-to-hand resistance. Tantalizing as the process is, it is not wholly a disadvantage, for it guards against our falling lazily into a blind acceptance of what happens to be at the same time plausible and agreeable. In our estimate of such a matter as the Pasteur system of inoculation, we should divest ourselves alike of credulous enthusiasm and of over-skepticism.

The main considerations to be taken into account are, briefly, these: The dog that bit young Meister was not absolutely proved to have been mad. As is too often the case, it was killed before the clinical features had declared themselves unmistakably. Nevertheless, so long as it was permitted to live it showed the symptoms common to dogs in the early stage of the disease, and at the post-mortem its stomach was found stuffed with the refuse that competent observers have declared to be a conclusive sign of the depraved appetite characteristic of hydrophobia. The boy was terribly bitten, not in one place, but in many, and in portions of the body where the probability of inoculation is at its highest. The cauterization was not done until twelve hours after the bites had been inflicted; it was then done, not with a hot iron, but with carbolic acid, and we are told that some of the wounds were not cauterized at all. But, even if we admit that the cauterization protected the boy against hydrophobia as the result of the bites, we can not for a moment entertain the idea that it also rendered him proof against the fatal result that would, almost to a dead certainty, have followed M. Pasteur's inoculation of the intensified virus, except for the protective effect of the preparatory inoculations. Even the theoretical objection that the rabies of rabbits is not communicable to other than herbivorous animals fails to break the force of this last statement, for Pasteur himself has shown that it can be communicated to the *Carnivora*. Unless, as the "Gazette hebdomadaire de médecine et de chirurgie" suggests, we are content to rest our last doubt on the insufficient time that has elapsed since Meister was bitten, we must conclude, then, either that he has been saved from hydrophobia by M. Pasteur, or that he was born into the world with a most remarkable immunity. It is true that the period of incubation is sometimes very long, and that but little more than three months have elapsed since Meister was last inoculated; but in most cases the disease declares itself within that length of time, especially in the young. In view of all these considerations, we must admit that the probabilities are gratifyingly in favor of the belief that M. Pasteur has at last succeeded in furnishing us with a means of preventing this terrible disease, but, of course, time alone can confirm or overturn our expectations.

THE PROPOSED REGULATION OF MEDICAL PRACTICE IN THE STATE OF NEW YORK.

The president of the New York State Medical Association, in his address delivered before that body last Tuesday, took decided ground against State legislation intended to affect medical education. It is well known that for two or three years past the Medical Society of the State of New York—and our distant readers should bear in mind the distinction between the two societies—has been trying to obtain such legislation as would make the right to practice depend upon a State license. The prevailing idea has been that this license should be granted only after a State examination, regardless of candidates' diplomas. Legislation of this sort would, of course, have an effect upon the teaching in the medical colleges of the State, but the effect would be an indirect one, bearing scarcely more upon the New York colleges than upon others, and that it would be wholesome there can be no doubt. It certainly need not involve any interference with the curriculum of a college or with its methods of teaching.

There is no lack of honest and capable men who are opposed to such legislation, or at least distrustful of it, and it must be confessed that the questions involved in the project are by no means easy of solution, but it is somewhat disheartening to find such an issue raised in connection with it as one of those which were raised in the address alluded to—both because we think the issue irrelevant and because we think that the implied appeal to the material interests of the New York colleges is one that they themselves would scarcely feel comfortable in urging upon the attention of the Legislature.

Dr. Gray expressed his apprehension that the legislation proposed would "transfer students who came to the medical colleges of New York from all parts of the country, and from

foreign countries, to the schools of Boston, Philadelphia, and other cities." We have before heard this fear expressed in private, but never before, so far as we are aware, has it been put forward in public. We do not believe that the profession of the State would attach much weight to an argument of this sort, even if it were well founded, which it certainly is not, in our opinion; for it plainly puts self-interest above all other motives, and it is in no such temper that the Medical Society of the State of New York has taken up the question. We can not, indeed, think that the colleges are willing to put themselves publicly in the position of trying to obstruct legislation in the interest of progress simply because they think they may lose a few students.

Unless Dr. Gray's understanding of the proposed legislation differs radically from ours, he can only have had in mind the regulation of the right to practice by the State, and not any interference with the college requirements for graduation. As we view the matter, there is not the slightest danger that such legislation will work the least injury to the colleges. The question will be as to the means of obtaining a license to practice in this State, and the graduate of a New York college will not be at any disadvantage. Students who intend to practice in this State will not be enabled to slip through any more easily by having taken their college courses or their diplomas elsewhere, and those who intend to practice in some other State will in no wise be affected by the New York law. We do not believe, therefore, that the legislation in question will lead a single student away from New York.

MINOR PARAGRAPHS.

THE NEW YORK STATE MEDICAL ASSOCIATION.

As we go to press, the second annual meeting of the association is in progress at the Murray Hill Hotel, and we give a portion of the proceedings in this issue of the Journal. The necessity of holding evening sessions testifies to the amount of work that is being done, and, judging from the reports of the proceedings thus far received at this office, we feel safe in saying that the quality of the papers read is in general quite up to what was expected of this new and energetic body. A particularly commendable feature of the programme is the grouping of papers dealing with the same subject from different points of view. The attendance is large and representative of the various sections of the State, and the meeting must be said to be decidedly successful.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 17, 1885:

DISEASES.	Week ending Nov. 10.		Week ending Nov. 17.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	0	3	0
Typhoid fever	23	6	25	8
Scarlet fever	20	5	21	0
Cerebro-spinal meningitis	1	1	4	4
Measles	5	1	13	4
Diphtheria	56	25	59	28
Small-pox	8	2	7	2

The Health of Foreign Cities.—We are indebted to the secretary of the National Board of Health for the following abstract of reports from our consuls, received at his office since the date of the last bulletin, November 11th: *Montreal, Canada.*—For the week ending November 11th: 143 deaths from small-pox in the city, and 93 in adjoining municipalities as compared with 233 and 89, respectively, during the week ending November 4th. Reports received at this office indicate that the number of deaths occurring in the city from the disease is steadily declining, while the area of the infected district beyond the city limits is as steadily increasing. Twenty-nine places were reported infected November 7th. The City Auditor of Montreal reports, under date of November 5th, an expenditure of $40,799.79 in connection with the epidemic, and states that he believes the total expense to that date will reach $100,000. *Kingston, Canada*, November 13th: Free from small-pox. *Toronto, Canada*, November 7th: Free from small-pox. *Matanzas, Cuba*, November 4th: Free from epidemic diseases. *Nassau, N. P.*, October 24th: Free from epidemic diseases. *Acapulco, Mexico*, October 25th: Health of city improving. *Guaymas, Mexico.*—For the month of October: 6 deaths from yellow fever. No cases of fever have been reported at other towns in the consular district. *Buenos Ayres.*—For the month of May: 92 deaths from small-pox. *London, England.*—For the week ending October 31st: 9 deaths from small-pox. Cases in hospital, 88; admissions during the week 14, as against 11 in the preceding week. *Paris, France.*—For the week ending October 31st: 8 deaths from small-pox. *Bordeaux, France.*—From October 17th to 31st: 5 deaths from small-pox. *Antwerp, Belgium.*—From October 17th to 31st: 3 cases and 2 deaths from small-pox. *Copenhagen, Denmark.*—For the month of September: 45 deaths from small-pox. *Zurich, Switzerland.*—For the week ending October 21st: 2 deaths from small-pox. *Prague, Bohemia.*—For the week ending October 29th: 7 deaths from small-pox. *Trieste, Austria.*—From October 10th to 24th: 15 cases and 4 deaths from small-pox. *Barcelona, Spain.*—From October 10th to 20th: 169 cases and 78 deaths from cholera. October 18th to 20th, no new cases or deaths reported. *Cadiz, Spain.*—For the week ending October 31st: Cholera has disappeared, and clean bills of health are to be issued after November 1st. *Gibraltar, Spain.*—For the week ending October 25th: No new cases of cholera since October 13th. Sporadic cases still reported in neighboring Spanish villages. Dengue prevalent. *Genoa, Italy.*—From October 18th to November 1st: 20 cases and 1 death from small-pox. *Leghorn, Italy.*—For the week ending October 25th: 1 death from small-pox. *Venice, Italy.*—From October 3d to 17th: 16 cases of small-pox. *St. Petersburg, Russia.*—For the week ending October 24th: 1 death from small-pox. *Warsaw, Russia.*—From October 3d to 17th: 3 deaths from small-pox. *Calcutta, India.*—From September 19th to October 3d: 13 deaths from cholera and 1 from small-pox. *Hioga, Japan.*—For the week ending October 10th: 22 cases and 21 deaths from cholera.

Scarlet Fever in Boston.—It is reported that the disease is increasing in certain portions of the city.

The Sanitary Inspection on the Canadian Frontier.—Under date of November 10th, Surgeon H. W. Austin, of the Marine-Hospital Service, reports to Surgeon-General Hamilton as follows:

"I have the honor to report that I completed the inspection of all Vermont stations November 6th, and then returned to Burlington, Vt. Awaiting my return was a large amount of mail requiring immediate attention, and, having no clerk, it consumed considerable time to dispose of it; hence the delay in re-

porting the result of my inspection. Considerable complaint was beard that only a part of Montreal baggage was disinfected at our stations, and that it must be done at the points of destination. To satisfy local and State health officers, and in order that every possible precaution might be taken, I issued an order to all Vermont inspectors, and to the inspectors on duty at Rouse's Point, to thoroughly disinfect all Montreal baggage, and this is now being carried out. Each station has a well-equipped fumigation building, where the baggage is opened and hung up on hooks, and allowed to remain in sulphurous-acid gas for four to twelve hours, according to the nature of the articles to be disinfected. Three pounds of sulphur are burned in one thousand cubic feet of space. The baggage is then carefully put back into the trunks, which are then checked and sent on to their destination. Very few certificates of vaccination are at present accepted by our inspectors, but the arm is examined instead, and all are vaccinated when considered necessary. Large quantities of freight, consisting of household goods, are disinfected at each station. This is generally done in a freight-car which is suitable for the purpose. To illustrate the faithfulness or thoroughness with which the work is done aboard the trains, and the various ways resorted to by certain emigrants, I will cite a few incidents. At Ogdensburg, N. Y., an Indian of some Canadian tribe was met on the ferry by our inspector, and he was asked the question whether he had been vaccinated. He replied, 'Indian had not been vaccinated and not propose to be.' He was informed that he would have to return unless he allowed the inspector to vaccinate him. He reluctantly consented, and when the vessel arrived at port it was found that he had baggage that required disinfection. To this he strongly objected, but, rather than have it returned, gave it over to the inspector, who put it in the fumigation building. He waited and watched the process with great interest, and, as soon as the door was opened, plunged into the room where the smoke was so dense that nothing could be seen, but returned in a second (well fumigated), but nearly suffocated. He finally received his baggage and started. He immediately got drunk, was put in the lock-up by the city authorities, and was returned to Canada the next morning, he being without means of support.

"On one of the trains a woman slipped by the inspector and entered the water-closet. She was allowed to remain there two hours, and then a brakeman rapped for her to come out. She refused to do so, and had to be taken out by force. She was vaccinated and allowed to pass. Passengers will mutilate their own arms and produce the wound as evidence of vaccination. They have been detected in doing this, but it does not often succeed. They frequently wipe off the virus after they have been vaccinated, and always, when they are discovered, must submit to revaccination. It will be seen that over certain railroads twenty per cent. of all passengers are vaccinated. The fumigation of baggage is performed by the baggage-masters of the different roads, as they requested that they be permitted to do the work, as they were responsible for the baggage and would be obliged to oversee the work and look after checks and reshipping. This, of course, is done under the direction of the sanitary inspectors; but we are obliged to pay the men for this work, and they are subject to our orders. In this connection I would like to inform you that the railroad authorities of the Central Vermont, the Grand Trunk, the South Eastern, and the Passumpsic have given us every facility to inspect passengers, baggage, and freight, and have assisted and supported our inspectors by every means in their power, and deserve the thanks of the service and the community generally.

"The inspection of trains is a difficult work, but it is being done as thoroughly as it is possible to do it. The inspectors are doing their work well, as I believe the result will prove. I have been with each inspector in making his trip to Canada and return, and am satisfied that all understand their duties, and are doing them well and satisfactorily to all intelligent and unprejudiced persons."

The Suffolk District Medical Society.—At the regular meeting of the Gynæcological Section, held in Boston, on Wednesday, November 18th, the following papers were read: "An Unusual Case of Hydatids complicating Labor," by Dr. W. A. Dunn; a translated account of "A Successful Case of Cæsarean Section," performed on a Japanese woman by a young woman recently graduated from an American medical college, and who went to Japan as a missionary, by Dr. E. W. Cushing; "The Use of Ether during Labor," by Dr. J. P. Reynolds, who reported seven cases of difficult labor in which ether had not only relieved the suffering, but had prevented a recurrence of complications which had occurred in previous labors —notably, post-partum hæmorrhage in three of the cases. He favored the general use of ether during labor, as did the gentlemen who took part in the discussion of the paper.

The Hempstead Church Restoration Fund.—Since our last issue we have received $10 for the fund from Dr. Fordyce Barker. The total sum now subscribed amounts to $31.

The Vacant Chair at the Long Island College Hospital.—We have assurances, if any were needed, that the greatest care will be exercised in choosing a successor to the late Dr. Armor. Indeed, the charter of the institution provides safeguards in this direction such as we should be glad to see imposed upon all our medical colleges.

Death from Football having been alleged in the case of a member of the freshman class at Yale College, who lately died suddenly of cerebral hæmorrhage, Dr. W. O. Ayres and Dr. W. W. Hawkes, who made the post-mortem examination, have furnished statements which seem to set the suspicion at rest.

The New York Society for the Relief of the Ruptured and Crippled held its twenty-second annual meeting on Thursday of last week. Eight thousand three hundred and seventeen new patients were reported to have been treated during the year.

The New York State Board of Health held a meeting in New York on Monday, at which the satisfactory character of the frontier inspection, under the direction of the Marine-Hospital Service, was clearly established.

The late Dr. Alonzo T. Keyt, of Cincinnati.—Dr. Keyt died suddenly, of cardiac disease, on Monday, the 9th inst., in his fifty-eighth year. He was a native of Ohio, and had been a practitioner in Cincinnati for upward of thirty-five years, his career having been honorable and successful. He was best known for the invention of a remarkably ingenious cardio-sphygmograph. At a meeting of prominent members of the Cincinnati profession, held on the Wednesday following his death, appropriate resolutions, drawn by Dr. A. E. Jones, Dr. William Carson, and Dr. W. H. Wilder, were passed, and remarks eulogistic of the deceased were made by Dr. C. G. Comegys, the chairman of the meeting, and by Dr. Carson, Dr. Dunn, Dr. Jones, and Dr. Kemper.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 1 to November 14, 1885:*

McClellan, Ely, Major and Surgeon. Leave of absence granted in orders, Cavalry Depot, Jefferson Barracks, Missouri, Octo-

ber 30th, is extended seven days. S. O. 254, A. G. O., November 4, 1885.

Ebert, R. G., Captain and Assistant Surgeon. Ordered from Camp Grant, Riverside Park, New York city, to Fort Hamilton, New York Harbor, for duty. S. O. 237, Department of the East, November 5, 1885.

Bushnell, G. E., First Lieutenant and Assistant Surgeon. Assigned to duty at Camp Grant, Riverside Park, New York city. S. O. 237, Department of the East, November 5, 1885.

Baily, E. I., Colonel and Surgeon. Relieved from duty as Attending Surgeon, San Francisco, Cal., and ordered for duty as Medical Director, Division of the Pacific and Department of California. S. O. 260, A. G. O., November 11, 1885.

Norris, Basil, Lieutenant-Colonel and Surgeon. Ordered for duty as Medical Director, Department of the Columbia. S. O. 260, A. G. O., November 11, 1885.

McKee, J. C., Major and Surgeon. Ordered for duty as Attending Surgeon and Examiner of Recruits, Boston, Mass. S. O. 260, A. G. O., November 11, 1885.

Vollum, E. P., Lieutenant-Colonel and Surgeon. Ordered for duty as Medical Director, Department of Texas. S. O. 260, A. G. O., November 11, 1885.

Smith, J. R., Lieutenant-Colonel and Surgeon. Ordered for duty as Attending Surgeon, New York city. S. O. 260, A. G. O., November 11, 1885.

Alexander, R. H., Lieutenant-Colonel and Surgeon. Ordered for duty as Medical Director, Department of Arizona. S. O. 260, A. G. O., November 11, 1885.

Kane, John J., Captain and Assistant Surgeon. Ordered for duty as Post Surgeon, Fort Ringgold, Texas. S. O. 141, Department of Texas, November 4, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending November 14, 1885.*

Sayre, J. S., Assistant Surgeon. Detached from Naval Hospital, Mare Island, and ordered to the Omaha.

Dixon, W. S., Surgeon. Detached from Coast Survey Steamer Hassler upon reporting of his relief, Past Assistant Surgeon D. O. Lewis, and to wait orders.

Lewis, D. O., Past Assistant Surgeon. Detached from naval rendezvous, San Francisco, and ordered to relieve W. S. Dixon, Steamer Hassler.

Dungan, J. S., Medical Director. Ordered to naval rendezvous, San Francisco, to relieve Past Assistant Surgeon D. O. Lewis.

Marine-Hospital Service. — *Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ended November 14, 1885.*

Wheeler, W. A., Passed Assistant Surgeon. To proceed to Ontario, Canada, on special duty. November 11, 1885.

Urquhart, F. M., Passed Assistant Surgeon. To proceed to Baltimore, Md., with steamer Manhattan, and then rejoin station. November 12, 1885.

Society Meetings for the Coming Week:

Monday, *November 23d:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

Tuesday, *November 24th:* New York Dermatological Society; New York Surgical Society; Medical Association of Central New York (semi-annual—Syracuse); Buffalo Obstetrical Society (private); Boston Society of Medical Sciences (private).

Wednesday, *November 25th:* New York Pathological Society; American Microscopical Society of the City of New York; Philadelphia County Medical Society (conversational); Auburn City, N. Y., Medical Association; Berkshire, Mass., District Medical Society (Pittsfield).

Thursday, *November 26th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; New York Orthopædic Society; Brooklyn Pathological Society; Pathological Society of Philadelphia; Roxbury, Mass., Society for Medical Improvement (private); Cumberland County, Me., Medical Society (annual—Portland).

Friday, *November 27th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *November 28th:* New York Medical and Surgical Society.

Letters to the Editor.

THE PROPOSED NEW NATIONAL MEDICAL SOCIETY.

———, Minnesota, *November 5, 1885.*

To the Editor of the New York Medical Journal:

Sir: Regarding the discussion relating to the formation of a National Medical Academy I desire to add my mite. My suggestion is that (*a*) each subscriber of a medical journal in the United States send to the editor of his journal a list containing one hundred names who he desires shall constitute the Academy; (*b*) the editors of the medical journals in the United States vote for three deans of medical colleges, who shall constitute a canvassing board to count the votes sent in by the subscribers, announce the result, and name a date and place for a meeting and organization for the successful one hundred.

Each editor sends a ballot, on which appear the names of three college deans, to the surgeon-general of the army, who canvasses the vote, and the three receiving the highest number of votes constitute the canvassing board. The surgeon-general then names a date and place of meeting for this board to canvass the general election of the subscribers. Each editor sends the lists received from his subscribers to any member of the board, who are to meet at the place designated by the surgeon-general, and count the votes; and the one hundred receiving the highest number are to constitute the members of the Academy.

When a physician subscribes for more than one journal and sends more than one ballot, the canvassing board is to decide, by lot or otherwise, which ballot shall be counted. Each ballot is to be signed by the voter; the subscribers to vote in one month and the editors in the next month.

This plan I submit to the readers of your journal for consideration. It appears to me more simple than the one suggested by your correspondent in No. 361, and would give every member of the medical profession a voice in the formation of a body to which he will ever after point with pride. This is offered "as a labor of love" by one of those who "have no hope of becoming members of the Academy themselves."

I am, fraternally, W. H.

Proceedings of Societies.

NEW YORK STATE MEDICAL ASSOCIATION.

Second Annual Meeting, held in New York, Tuesday, Wednesday, Thursday, and Friday, November 17, 18, 19, and 20, 1885.

The President, Dr. JOHN P. GRAY, of Utica, in the Chair.

Tuesday's Proceedings.

The Report of the Council recommended that papers which were to appear in the volume of "Transactions" of the association be not published in the medical journals previously.

The Treasurer's Report showed the total receipts for the year to have been $2,461; balance in the treasury from last year, $683. Deducting disbursements for the year, there remained a balance of $193. For the library fund, the surplus from anniversary subscriptions last year was $630, $315 of which had been placed to the account of the building fund. Excluding disbursements, there remained in the library fund $31; $80 had been subscribed for a binding fund.

Dr. FERGUSON offered some amendments to the by-laws, to be acted upon at the next annual meeting. They referred chiefly to abolishing the office of corresponding and statistical secretary, the appointment of a librarian by the Council, and the striking out of certain words as to the qualifications of new members.

The President's Address: The Relations of the State to Medical Science.—The PRESIDENT then read his address, in which he reviewed the educational policy of the State of New York, which was confined principally to supervision of the common schools and of the normal schools in which teachers for the common schools were trained. The duties of the Board of Regents were briefly referred to. Law schools, medical schools, scientific schools, etc., were corporations sustained by private contributions or their earnings, and were individual enterprises, receiving no grants from the State. He then asked the question, what legislative interference was proper with this class of institutions which represented scientific education and research. Whether the State itself should undertake such education as a public measure constituted a serious question in political economy, and for this State, for the present at least, that question had been answered adversely. Legislative control over the medical schools of this State was not demanded by public interest. It was not intended to dispute the power of the Legislature to regulate medical education and declare what should constitute a doctor in medicine; but the fact was that the Legislature exercised its power only in the way of fostering, protecting, and advancing the interests of medical science up to giving the best opportunities to schools for attaining this end, and at the same time as far as possible allowing the individual entire freedom of special study and of the means for acquiring a knowledge of medical science. The State had not adopted, and could not adopt, any particular school or system of medicine as against others. It was the part of wisdom to give the widest latitude to discussion wherever matters of opinion seemed to be in conflict. The giving to the physician certain powers which the State had conferred upon him was the highest indorsement which the State could give the profession. The State had left the cultivation and development of medical science to the medical profession alone, and had granted the right to incorporate societies and associations in order to maintain its unity of work, and for its elevation and progress. With regard to the services of the medical profession to the public, little need be said. The physician's services were sought for by the people in the same way that the services of the lawyer or any other member of the community were sought for. As to the matter of granting diplomas, and the control of this power by the State, the speaker's views were adverse to any such proposed change. The State did not even attempt to regulate the compounding and sale of drugs and nostrums. As the State had nothing to do with the teaching in the schools, so it should have nothing to do with the examinations. What possible efficiency such a board of examiners as had been proposed could have in benefiting medical science, the profession, and the people, did not appear. Such a change would transfer students who came to the medical colleges of New York from all parts of the country, and from foreign countries, to the schools of Boston, Philadelphia, and other cities. The schools had done excellent work in elevating the standard of medical study, and, while there was room for further improvement, to seek it in the guardianship of the State was an error. It was true also that the preliminary education should be better, and this demand also promised to be met as soon as the advance of the times would permit.

Reports of the Different Branches of the association were then read, in which it appeared that a large number of papers on different subjects connected with medical science had been read, and other work had been performed. The president of the New York County Medical Association, Dr. C. A. Leale, also read the report of the year's work of that society.

The Address in State Medicine.—Dr. ALFRED L. CARROLL, president of the Section in State Medicine, then read his address. He briefly reviewed state medicine, or sanitary medicine, as it had existed in ancient times, and said that many excellent rules were in force among the Israelites which would be of practical utility if adopted at present. State medicine, in its comprehensive sense, included all the medical interests of the State, but, in the popular estimation, the term had a narrow significance, being applied more especially to the practical administration of sanitary science for the protection of the public health. Even with this limited definition, preventive medicine had presented its claims with greater vigor than other specialties. Modern sanitation might be defined as applied physiology. The sanitarian should be primarily an accomplished physician, but he should add to his medical knowledge some theoretical if not practical knowledge of architecture and engineering. He should know how to detect defects therein and suggest the remedies. Dr. Carroll then pointed out some of the conflicting opinions of sanitary men regarding what constituted sanitary conditions. The superstructure of public sanitation had to be built upon the laws of personal hygiene. It followed that enlightenment in this direction must originate with physicians. As was the seed sown by medical schools so would be the harvest of public health. How had these schools fulfilled this condition? He would grant that many of them furnished the opportunities, for a pupil having means and ambition to make use of them, to gain the necessary education, but what was needed was an enforced education in all important branches, not leaving their study optional with the student. He named the studies and time required for study in England, and said that, while the work seemed formidable, it would also be seen that the knowledge to be acquired was not more than every physician should have when he came to discharge his duties to the public and to private patients. In his official relations Dr. Carroll had had an opportunity of learning what were the acquirements of persons who sought positions on boards of health, and the answers by men graduated from regular medical schools had often been absurdly erroneous. Now and then there were marked exceptions, even in remote country districts. He thought a weakness in the State and local boards of New York existed in the short term of office, and in the time spent in inducting new men into strange duties. The need of a preliminary education and of a higher

and more thoroughly enforced medical education was pointed out.

Tubercular Consumption; Is it ever Hereditary?—Dr. Henry D. Didama, of Syracuse, read a paper on this subject, in which he quoted the opinions of different authors on the subject of hereditary tendency, hereditary diathesis, etc., and also the results of post-mortem examinations by various pathologists, and said that in the examinations of the bodies of hundreds and thousands of fœtuses none had been found to have tubercle, which weighed very heavily against the heredity theory. He also quoted the statistics furnished by insurance companies, by which it appeared that the majority of cases of phthisis occurred in persons whose parents had not suffered from the disease. The following were the conclusions which the author reached: 1. That tuberculous disease was not inherited. 2. That, if a special tendency to the disease was transmitted, the term liability better expressed the idea than the term tendency. 3. That many conditions, such as poor and insufficient food, damp and impure air, stinted sunlight, and certain occupations, favored the development of the disease. 4. That two conditions were almost indispensable; abundance of bacilli and an inviting asylum for their development, whether the susceptibility was inherited or acquired. An important indication was to place the newly born child of a phthisical mother under the charge of a healthy wet-nurse, who should occupy a room entirely secluded from that of the consumptive members of the family. This gave an opportunity to strengthen the feeble constitution and to eradicate a liability to the development of consumption. If a syphilitic taint existed or was suspected, the author advised antisyphilitic treatment, not only with a view to cure the syphilis, but also with a view to strengthen the constitution and guard against the development of phthisis.

Dr. Thomas F. Rochester, of Buffalo, said that some years ago he made an autopsy on an infant which died three weeks old. He found one lung crammed with miliary tubercles, and in the other there was a cavity of the size of a hickory-nut. The mother was healthy; the father had died before the baby was born. In another case, in which the father died before the birth of the child, and the mother was a healthy woman, having no tuberculosis, the child died at eighteen months of age, having had for a long time before death every indication of pulmonary phthisis, and for a short time of tuberculosis of the vertebræ. In the light of these cases he could not help believing that, sometimes at least, phthisis was hereditary. He would admit, however, that many people had phthisis whose parents had been free from the disease. The paper was further discussed by Dr. Colvin, Dr. Pomeroy, and others.

Psoitis and Peripsoitis; their Pathology and Differential Diagnosis.—Dr. Simeon T. Clark, of Niagara County, read a paper with this title, in which he first referred to the paucity of the literature of the subject, and the difficulties attending a differential diagnosis, and then proceeded to give the clinical histories of three cases which had come under his observation. In all the cases there had been a history of traumatism. In the first case the patient, a woman without children, aged forty-three, had received a blow on the abdomen, which was followed by severe pain in the supra-pubic region, two inches from the median line. A hard lump was recognized by the physician who examined her, from which the pain seemed to proceed. Nothing was discovered by a vaginal examination. Dr. Clark saw the patient afterward, and became convinced that there was suppurative inflammation of the psoas. Pus was removed, and thirty-one aspirations were made before a cure was finally effected. The pus did not contain a trace of phosphate of lime.

The second case was in a young man, whose condition originated in strains during roller-skating. When he consulted his physician, Dr. Gould, he complained of pain in the region of the hip, and had a rapid, bounding pulse, and a temperature of 105° F. Afterward copious perspiration of an acid odor, etc., led to the diagnosis of rheumatism, but finally a boggy tumor appeared in the supra-pubic region. An exploratory puncture gave exit to foul gases, followed by pus. An opportunity to make an autopsy was afforded in this case, and a psoas abscess was found, which had led to denudation of the bone beneath. There was also some softening of the vertebræ, but it was evident that the disease had originated in the muscle, and not in the vertebræ.

The third case was that of a man who first attributed his difficulty to rheumatism, from which he had been a frequent sufferer, but it was learned that he had injured himself in the region of the psoas while throwing filled sacks upon a wagon. He complained much of pain in the neighborhood of the thigh. The pain was relieved by a local anæsthetic. A supra-pubic tumor developed, which, at a time when Dr. Clark had intended to open it, burst spontaneously into the bladder, and a quart of healthy pus was evacuated *per urethram*. Another opening for the escape of pus was afterward made above Poupart's ligament. Pus then ceased to escape through the bladder, and finally through the artificial opening, and the patient went on to complete recovery.

In regard to the differential diagnosis, stress was laid on the history of traumatism, on pain in the thigh and leg, on the posture of the patient, who avoided extending and rotating the leg, on the supra-pubic tumor, and on aspiration letting out laudable pus. In each of his cases the syringing of the pus cavity had been followed by washing out with a solution of carbolic acid.

Dr. Frederick E. Hyde believed that many cases of supposed vertebral disease were really cases of the kind related by Dr. Clark, and he urged with great earnestness the importance of making a careful search in suspected cases for a history of traumatism, for a pelvic tumor, and for pus, by the repeated use of the aspirator if necessary; for the train of evils following a change of the laudable pus which was first present into unhealthy pus was too long and serious to permit of postponement, with the idea that eventually the symptoms would demonstrate the case to be one of Pott's disease. If taken in the early stage, a cure could be effected and the bones would escape implication.

Dr. J. Cronin, of Buffalo, had seen two or three cases of psoitis, and said that in diagnosis valuable aid would be found in putting the patient under the influence of chloroform, flexing the thigh, and searching for fluctuation over the region of the psoas muscle. A history of traumatism was important in diagnosticating psoitis. Let the pus escape, he said, then keep the leg in the extended position, bringing the walls of the sac together, and union would rapidly take place.

Dr. E. M. Moore, of Rochester, thought that, where it could be shown that the disease had begun with a traumatism, it was unnecessary to try to explain its occurrence on the supposition of a tubercular inflammation; an acute disease might become chronic, and, of course, when this occurred there was a good opportunity for tuberculosis to develop. But the commencement might have been in fibrous tissue, and extension have taken place thence to the bone.

Note on Two Peculiar Conditions of the Mammary Gland was the title of a paper, by Dr. S. T. Clark, read by title.

Shock and the Effects of Injuries upon the Nervous System.—Dr. Charles W. Brown opened a discussion on this subject with a short paper, in which he described the symptoms

present in shock, and referred briefly to the explanations which had been suggested of its nature. He had seen a few cases of what had been termed "insidious" shock, in which the patients did not suffer pain in proportion to the seriousness of the injury, and were of a cheerful state of mind, although there was almost a diagnostic melancholy expression upon the face, which seemed to foretell death. He also referred to individual susceptibility, and said that some persons of fleshy habit and apparent health would succumb to a minor injury to which some others of delicate habit and nervous temperament would give way less readily. Shock was less marked in persons suffering from chronic disease, but such persons were less likely to regain strength and make a complete recovery afterward than those of previous good health who might be able to withstand the first influence of the injury upon the nervous system. There were two indications in treatment: the first, to modify the effects of the shock, and the second, to control excessive inflammation. The use of heat and stimulants received some attention.

Dr. Frank H. Hamilton, of New York, continued the discussion with a short paper, read for him by Dr. Berminghan. His remarks were limited to surgical shock, which might be defined as a general paresis of the nervous system induced by external violence. One point which received his attention was what was called railroad shock. Many of the symptoms which had been described as belonging to railroad shock were seen in certain cases of shock which occurred before railroads had come into existence. But, if we admitted that the introduction of railroads had brought into existence a particular kind of shock, he thought it was due to that sort of injury to the spinal column which was likely to occur in railroad accidents, resembling the cracking of the leash of a whip. In these cases he believed that the injury was not primarily of the nature of a shock resulting from commotion of either peripheral or central nerves, but that those structures which lay external to the spinal marrow and contributed more or less to its support and protection, of which the ligaments were the chief, were those which suffered direct injury, and from which inflammation subsequently progressed to the spinal marrow itself. As to the treatment of shock, reaction should be brought about by rest; in some cases by warmth, stimulants.

Dr. Edmund S. Arnold continued the discussion with a brief paper, in which he took the view that shock was due to an impression produced upon the sympathetic nervous system, tending to stop its function, and, in doing so, stopping nutrition of vital parts over which that system of nerves presided. Sudden death would occur if such influence was sufficient to entirely destroy the function of this system of nerves or ganglia, as in case of lightning stroke. Another illustration, he thought, was in death by hydrocyanic acid. If there was an influence upon the heart in this case, he thought it was directly due to suppressed functiou of the sympathetic system, which presided over its action.

Some general discussion took place, Dr. Kneeland, Dr. French, Dr. Moore, Dr. Arnold, Dr. Van de Warker, and Dr. Hendricks participating.

Insanity following an Injury of the Head; Cerebral Cyst; Operation; Recovery.—Dr. Carlos F. McDonald read a paper with this title, the case being that of a man who received a pistol shot in the frontal region, inflicted by his own hand. The man was sent to prison, where he developed symptoms of insanity, and had to be confined in a cell. For a considerable period of time, however, he had been required, and was able, to do prison duty, but manifested a passionate temper. It was decided to trephine at the seat of the wound, which was half an inch in diameter, a fourth of an inch in depth, located over the right first frontal gyrus, corresponding to the junction of the anterior and middle third, three eighths of an inch to the right of the median line. The patient was etherized, the wound was found traversed by dense fibrous tissue, and no bone covered the dura mater. A fine hypodermic needle was introduced, and nothing was withdrawn until the fourth puncture was made, when about two drachms of serum were withdrawn. The fluid contained a few blood-corpuscles, which were accidental. Nothing more was done than to close the wound with suture and dress it antiseptically. The patient, on coming from under the influence of the anæsthetic, was in his natural mind, and was greatly pleased with the relief from pain at the seat of the injury, and shortly afterward gave a satisfactory account of his case from the beginning, excepting for a period when he was unconscious. He went on to complete recovery, with permanent relief from cerebral symptoms except for a part of a day. It was learned that the physician who saw him after the shooting had removed the pistol-ball; he found no fracture of the bone and no spiculæ.

Discussion on Pneumonia.—Dr. Austin Flint opened the discussion with a paper in which he propounded the following questions:

1. Was acute lobar pneumonia a primary local inflammatory disease, or was it an essential fever, the pulmonary affection being secondary thereto and constituting its anatomical characteristic?

Since 1877, when he read a paper in support of the doctrine that acute lobar pneumonia was not a local affection, but an essential fever, that doctrine had been gaining ground. The view was supported by the following facts: 1. Acute lobar pneumonia was characterized by an enormous exudation into the pulmonary alveoli, and this exudation might be rapidly absorbed, leaving the tissues intact. This anatomical fact, he said, had no analogy in local disease. 2. Acute lobar pneumonia never persisted and became a chronic affection. 3. It was never referable to any appreciable local condition, nor was it possible by any form of traumatic injury to produce the affection. 4. Ordinary causes of local disease were not capable of producing acute lobar pneumonia. The traditional belief that the affection might be produced by cold was without foundation, and was being abandoned even by the Germans. 5. That a special or specific influence was invariably the cause of acute lobar pneumonia was rendered probable by its occurrence at certain seasons, its greater frequency in certain climates, and its occurrence at times as an endemic disease. 6. It differed from acute primary local inflammation in that at the outset there was a pronounced chill. 7. In the course of the disease the temperature and associated febrile phenomena bore no constant relation to the local affection. 8. Experience showed that acute lobar pneumonia responded better to treatment addressed to the fever than to the local affection.

2. What facts and rational grounds, with our present knowledge, could be cited in support of the doctrine that acute lobar pneumonia depended on the presence of a specific micro-organism?

Dr. Flint left this question for discussion to Dr. Janeway, but expressed his belief in a specific micro-organism as the cause of the disease.

3. What conditions or circumstances incident to acute lobar pneumonia tended to render the disease fatal?

The present or previous existence of certain other diseases rendered the prognosis more unfavorable, and certain conditions, as empyema, pulmonary gangrene, malarial miasm, etc., were more likely to develop in one who had been reduced by pneumonia. But of special conditions, rendering danger of a fatal issue in the course of the disease greatest, the author mentioned heart-clot and heart-failure.

4. Were there known remedies or therapeutic measures capable of arresting this disease, or of exerting a curative influence by either shortening its duration or conducing in any way to a favorable termination?

Dr. Flint had reason to believe that quinine had been of benefit in shortening or exerting a favorable influence upon acute lobar pneumonia. But he could not enter fully into a discussion of the treatment.

5. Was blood-letting ever indicated in this disease, and, if so, what were the circumstances indicating and contra-indicating this measure of treatment?

Acute lobar pneumonia tended intrinsically toward recovery. Treatment in general should be for special indications. He believed there were circumstances in which blood-letting would prove of benefit, and that benefit would be most likely to manifest itself in relief of oppressed heart-action. Contra-indications to blood-letting were, previous existence of enfeebling affections and the anæmic state. A plethoric condition and a bounding pulse were among indications for this measure. The collection of cases made some years ago by Lewes, in which there were twenty-eight deaths out of a total of seventy-eight cases in which blood-letting was resorted to, showed a high mortality; but the cases were not selected.

6. Was alcohol useful in the treatment of cases of acute lobar pneumonia, and, if so, what were the indications for its use, and how was its use to be regulated as regards the quantity given, etc.?

The author regarded alcohol as indicated wherever the supporting plan of treatment was required, wherever there was a tendency to asthenia. It should be begun tentatively.

7. To what extent was it safe and useful to employ antipyretic measures of treatment in cases of acute lobar pneumonia, inclusive of the cold bath, sponging of the body, or the wet sheet?

Dr. Flint spoke specially as to his experience with the wet sheet, which he had employed in three cases, with favorable results.

8. Did relapses of acute lobar pneumonia ever occur during or shortly after convalescence, and did this disease involve any special liability to other diseases or sequels?

The first part of the question the author answered in the negative, and said this fact was in favor of the view that the disease was an essential fever, for local diseases had relapses. But one attack did not exempt against subsequent attacks.

The first question propounded was discussed in brief papers by Dr. Didama and Dr. Ross; the second by Dr. Janeway, who expressed regret at having been unable, on account of sickness, to make further personal investigations regarding the influence of a micro-organism in the causation of pneumonia. He gave a synopsis of the literature of the subject. The third question was discussed by Dr. W. H. Robb and Dr. H. M. Biggs; the fourth by Dr. T. F. Rochester and Dr. E. Van de Warker; the fifth by Dr. S. T. Clark and Dr. C. S. Wood; the sixth by Dr. John Shrady and Dr. E. D. Ferguson; the seventh by Dr. G. Griswold, Dr. C. G. Stockton, and Dr. W. S. Fuller; the eighth by Dr. J. G. Orton.

(To be concluded.)

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of September 15, 1885.

The President, Dr. J. A. McCorkle, in the Chair;

Dr. Z. T. Emery, Secretary.

Hospital Obstetrics.—Dr. Charles Jewett read a paper with this title. [See page 565.]

Dr. Stuart remarked that there were several points of special interest in the paper, first as to the very excellent remarks upon the application of the forceps, and the particular reference as to slow delivery. He had been in the habit, as some of the members of the society probably remembered, of using the forceps very frequently, and he had read a paper some years ago advocating the use of the forceps in delayed labor. He had modified his views somewhat in that respect, but he had grown more and more to see the value of what Dr. Jewett had said in regard to slow delivery when it was compatible with the safety of the patient. He was glad to know that there was not prevailing at the Long Island Hospital one form of fever which had prevailed all over the country, and which raged somewhat fiercely in New York for some time, namely, the fever of douching the vagina with antiseptic solutions, thus alarming the patient to a greater or less extent for fear there might be some germs of disease lurking about to cause her death by puerperal septicæmia. He was glad to know that the staff of the hospital did not insist upon that method of treatment. But it was important to have the forceps always ready, in case delivery by that means was found to be necessary. Referring to the treatment of abortion, he thought the reader might have made more of it. There was no procedure of more importance to the obstetrician than the clearing of the uterine cavity thoroughly under such circumstances. Midwives might attend cases of *labor* and no harm result therefrom; but they could not attend cases of abortion with impunity, and the very best physician was often at a loss how to proceed. It would be remembered that, during the first three months of utero-gestation, the union between the membranes and the uterine wall was very intimate. That was necessarily the case from the anatomical and physiological conditions existing at that time. It was for that reason, it seemed to him, that the treatment of abortion was so little understood by so many of the profession; and those who were in the habit of seeing cases of neglected abortion were those who were most aware of the fact that they were not properly treated. On account of this intimate union between the uterus and the fœtal appendages there was danger of hæmorrhage. The physician in attendance was sent for, perhaps, to find that the ovum had escaped. He found it entire in the bed, or in the vessel under the bed. He made a hasty examination of it and its appendages, and concluded that everything was satisfactory. There was no marked hæmorrhage at the time, and he went away feeling that the patient was not losing more blood than was normal under the circumstances. He came back day after day, inquired upon that point, and found that there was more or less hæmorrhage. The general practice of those who attended such cases was to go away and come again and keep on coming! There were physicians present who had had cases come to them from the hands of other physicians that had been going on for weeks after the ovum had escaped, the patients having become thoroughly bleached—losing arterial blood all the time. The only way to treat an abortion was that mentioned in the paper—by making a thorough and complete evacuation of the uterine cavity at the time the abortion occurred and by the use of the means specified. The profession was indebted to Dr. Skene, he believed, for the suggestion of the use of Sims's speculum in the performance of operations in the lying-in room. The use of Sims's speculum by Dr. Jewett showed its great advantage.

Dr. Palmer had noticed in every case, with the exception of two or three, that he had attended in his own private practice and in that of others, that there had been an elevation of temperature on the second, third, or fourth day, sometimes accompanied with a cessation of the lochial discharge, douches having been abstained from. He attributed this to retrograde metamorphosis taking place in the uterus, and an absorption of

the effete material. Again, on the third day, about the time of the establishment of the secretion of milk, he had noticed this same elevation of temperature, which subsided upon the full flow of the secretion. In the cases attended by him the douche had not been used in any way. When there had been a total disappearance of the lochia, he had simply used hot-water compresses over the vulva. In every case there had been a good recovery. He had seen no septicæmia.

In reply to a question by Dr. Thallon, Dr. JEWETT stated that the strength of the nitrate-of-silver solution used by Credé was two per cent.

Dr. CHASE asked Dr. Jewett's opinion regarding variations of temperature after labor as evidence of complications. What was the normal range of temperature in childbed?

Dr. JEWETT referred to certain observations upon this point by Dr. Napier and by Dr. Macdonald, which had appeared in the "Edinburgh Medical Journal" within a few years. He believed, with Napier, that 99·5° F. should be regarded as the physiological limit during the first four days following labor, and 99° thereafter. Higher temperatures, while they were more frequently due to trivial causes, rather than to sepsis, always demanded investigation. The thermometer afforded the most important evidence of the patient's condition.

A member asked whether it was Dr. Jewett's practice to use chloroform in normal parturition. The question had been suggested by the large percentage of lacerations. The use of chloroform he thought helped to prevent perineal injuries.

Dr. JEWETT replied that he gave chloroform as a routine practice during the second stage. He believed humanity demanded it, and that there was no scientific objection to it. Indeed, there were scientific considerations in its favor. Many physicians did not agree with him. They saw bad effects from chloroform; inertia during labor and relaxed uterus after labor. He thought the disadvantages of chloroform insignificant if it was not given too freely. His method was to allow a few whiffs during the acme of the pain, often pushing the anæsthesia nearly or quite to the surgical degree for a few moments as the head passed the vulva.

Membranous Dysmenorrhœa was the title of a paper read by Dr. ALEXANDER J. C. SKENE. [See page 561.]

Dr. ROCHESTER asked whether Dr. Skene felt as if he really had seen appreciable benefit from any mode of treatment, or whether it was a matter of some doubt if the treatment had had anything to do with it.

Dr. SKENE replied that he thought his histories of cases covered that ground, but he could answer that question more fully by stating that for a long time he had been positive that he did some harm and not much good by local or general treatment or both, employed on the theory that the trouble was inflammatory, and was sure of that point; and the next was that he did not remember a patient who got well without treatment, or in spite of treatment. When left alone they generally went on from bad to worse. There were those that recovered apparently for a time, but there was a recurrence again and again. Sometimes by a change of location or of circumstances the general health would improve and the patient would recover, and some might remain well. Since he had adopted the treatment given in his paper a large percentage recovered. Take the case treated by Dr. Barker, which was only one of a number that showed the value of the treatment. In conversation he (Dr. Barker) had told the speaker that he produced much benefit with the method of treatment which had been advocated in the paper. He had been using it for years. The speaker believed that by a mode of treatment based on true pathology much had been accomplished and many cures effected, not alone by him, but first by Dr. Barker.

Dr. ROCHESTER had had one patient suffering with membranous dysmenorrhœa whom he had treated constitutionally only, in March last, without applying local treatment. She afterward married, and had had no dysmenorrhœa since. That was the reason for his having asked the question.

Dr. SKENE asked if the patient had borne children.

Dr. ROCHESTER said she had.

Dr. SKENE would say, then, that the doctor did not cure the patient, but that she was cured by pregnancy.

Dr. ROCHESTER said that that was what he meant to imply.

Dr. SKENE did not wish to pass that point so lightly, but would like to add that patients might recover after having become pregnant.

Dr. STUART said there was a little confusion in his mind as to the point of there being ovarian irritation, and the use of local applications to the uterine cavity. If the trouble was, as the reader would hold, due to ovarian irritation, he could hardly understand the philosophy of the local applications to the uterus except for a diseased condition of the uterus that might exist. In the two or three cases that he had thought of as Dr. Skene had been reading his paper, he could not recall them fully enough to speak of them distinctly, except in one instance, and that was only a temporary trouble, lasting for but two or three menstruations. That patient recovered without local treatment. He was satisfied that this was a case of conception, and that there was an exfoliation of the decidua vera. This lady had no uterine disease whatever, and had never had any form of leucorrhœa and no disturbance of the menstrual function except these two or three attacks. Attention was given to her general health and she recovered. The cast that was thrown off at one of these periods was a perfect specimen, and would have served for the original of the reader's description in the paper. He rose simply to ask the question as to the philosophy of the local applications.

Dr. SKENE looked upon the criticism as a very pertinent one. He would simply say that, while derangement of nutrition was no doubt produced originally from the ovarian irritation, the order of pathological events simply followed the ordinary rule—that *a disease might be caused by some extrinsic disturbance, and, after the cause was entirely removed, the disease might continue.* To illustrate: We very often observed mental affections which could honestly be traced to some pelvic disease; and yet, the pelvic disease being entirely remedied, the brain trouble produced thereby continued. We saw the same thing in some forms of nervous dyspepsia—ovarian dyspepsia; after the removal of ovarian trouble the disease (dyspepsia) continued. So he believed that, even after we removed or quieted the ovarian irritation, this *habit* of irritation or brain or gastric disease might go on; and that was the occasion for the local treatment. Recent pathologists had proved that the investing membrane of the ovaries was exactly like the endometrium, the only difference being that the Graafian follicles were closed, while the utricular glands were not. (See an article by M. P. Jacobi, M. D., begun in the January number and continuing up to this time in the "American Journal of Obstetrics.")

PHILADELPHIA PATHOLOGICAL SOCIETY.

Meeting of October 22, 1885.

The President, Dr. J. C. WILSON, in the Chair;
Dr. W. E. HUGHES, Recorder.

A Comparison of the Changes in Arteries after Ligature and in the Ductus Arteriosus and Umbilical Arteries after Birth.—Dr. J. COLLINS WARREN read a paper with this title.

After the ligature of an artery in its continuity, he said, the earliest changes noted were the formation of the thrombi within the vessel, and the development of a mass of inflammatory tissue, or callus, around the point of ligature externally. No perceptible cell action could be observed in the inner wall with low powers during the first week, although, under favorable circumstances, a proliferation to a limited extent of the endothelial cells near the point of ligature could be seen with high powers, and occasionally a few wandering cells might be found to have penetrated the walls of the vessel at the same point. In the second week the bundle of fibers of the adventitia which were surrounded and held by the knot had been absorbed, and the two ends of the vessel retracted slightly from one another, leaving the ligature imbedded in and partly disintegrated by the granulation cells. The walls of each portion appeared to form a complete *cul-de-sac*, and it looked at this time as if the healing process were complete, but it could hardly be said to have more than begun, as the vessel had not yet passed through what might be considered as the first stage of healing. The beginning of the second stage was marked by an unfolding of the ends of the vessel, the walls separating somewhat after the manner of opening of a bud, which permitted the entrance of a considerable quantity of the granulation tissue. A disintegration of the thrombus followed, and there were now a fully developed external and internal callus, a small fragment of clot still protecting the latter from the current. The ligature might be totally disintegrated and absorbed, or have become encysted, or, finally, have created a small abscess about itself which had discharged the fragments of thread through a sinus opening externally. The second stage was completed when the internal growth had reached the neighborhood of a branch. After this there was an absorption of the callus, which, as in fracture, was only a provisional structure, and eventually the two ends of the vessel were found held together by a slender cord of varying length. The walls of the vessel were slightly separated at each end by a cicatrix consisting of connective tissue externally, inside of which was another layer consisting largely of unstriped muscular fiber, the surface being covered within by a new endothelium. The cicatrix was always pierced by a vessel, which terminated in a number of capillaries ramifying in the cord. Here there was a scar made up of three layers resembling closely the three coats of the vessel. In the large vessel of an amputation stump there was a somewhat different series of changes. Soon after the ligation the end of the vessel might be seen imbedded in granulation tissue, and containing a thrombus of varying length. By the second week there was a marked change in the intima, extending for some distance above the point of ligation, probably to the first large branch, or to the origin of the vessel. Examined several months later, when the healing process had been completed, the vessel was found to be preserved in the form of a cord, running from the first large branch to the cicatrix of the stump. On laying open this cord the walls of the vessel were found preserved, the interior being filled with new tissue, leaving spaces occupied by one or more vessels. There had been a process resembling that known as obliterating endarteritis, by which the caliber of the blood-channel had been narrowed to an extent to adapt it to the diminished blood-supply. In this obliterating tissue we found comparatively large vessels, with new coats consisting of an endothelium, an elastic membrane, and also a new media. An erosion preparation would best represent the condition of the arteries of the stump at this time. The main artery would, after giving off its largest branches, break into a spray of smaller vessels, no one of which would predominate. A comparison of these two modes of healing with the changes seen in the arterial system after birth showed certain resemblances in the two processes. The ductus arteriosus, about the time of birth, differed considerably from the structure of the aorta and the pulmonary artery. The media was much thicker than in either of these vessels; it was thrown into irregular folds, which were increased at the time of birth and helped to narrow its caliber. The distinctions between the different layers of its wall were less marked than in other vessels. The lamina elastica was indistinct and in places apparently wanting; the media consisted chiefly of longitudinal layers of muscular fibers, a few circular bundles existing in the innermost layer. A few weeks after birth a greater portion of the walls of the ductus underwent hyaline degeneration, the inner or circular fibers of the media alone remaining, these being re-enforced apparently by a growth from the media of the larger vessels. At this time there was an active growth of long spindle-shaped cells with staff-shaped nuclei at the edges of the media bordering on the opening into the aorta; here was also a moderate thickening of the intima. Eventually the hyaline tissue became absorbed, and was replaced by a ligamentous band of fibers, which became continuous at either end with the media of the larger vessels. At the aortic end, in a longitudinal section, we saw the media slightly separated. At the point of the cicatrix, and between them and also continuous with them, were the longitudinal fibers of the ligamentum arteriosum. In this ligamentous tissue, and between the edges of the media, were numerous new muscular cells; nearer the surface there was a layer of thickened intima, which in the aorta had not only connective tissue in it, but also a deep musculo-elastic layer; in the center of the depression marking the site of the cicatrix a small vessel was given off, which penetrated into the axis of the ligament, where it either lost itself in a capillary network, or became continuous with a similar vessel coming from the pulmonary artery. These conditions closely resembled those which had been described as existing in the cicatrix of a large artery, after ligature, in its continuity—namely, the slightly separated ends of the media, between which lay the fibers of the ligament connecting it with the pulmonary artery, a new intima and a new growth of muscular cells, and finally a central arteriole. The only point of difference was the preservation of a layer of circular muscular fibers, which formed an outer wall to the ligamentous band, a much-needed support at a point exposed to great tension. Further protection was afforded by the oblique insertion of the ductus into the aorta, diminishing the pressure upon this particular point. At birth the umbilical artery, or that usually called the hypogastric artery, the portion within the abdomen, at its origin from the internal iliac, was a vessel of considerable size, being, in fact, a continuation of that artery. At its termination in the umbilical wound it had greatly contracted and was filled with clot for a distance of about one inch. The outlines of the various walls were not so distinct as in other vessels, and the elastic lamina for the most part was wanting. No special change was seen in the elements of the walls of the vessel except a slight accumulation of endothelial cells near the apex of the thrombus. A few weeks later there was a distinct growth on the inner surface of the wall up to its point of origin, the terminal portion having undergone a hyaline degeneration and obliteration for a short distance. The vessel had greatly contracted throughout its entire length, and its caliber was further diminished by the growth in its interior. Cross-sections taken from the superior vesical artery in adult life showed the media as a wall thick out of all proportion to the size of the vessel, and consisting not only of its original wall, containing longitudinal muscular cells interspersed with elastic tissue, but also of an inner circular row of cells which was provided with a well-formed elastic lamina. It seemed probable that the greater portion of the hypogastric artery had been preserved, the liga-

mentous band, which extended to the umbilicus, consisting of the obliterated extremity of that vessel, much elongated during the process of growth. The series of changes which occurred in the hypogastric artery after birth was closely analogous to that seen in the main trunk of an amputation-stump—a slight portion of each vessel was destroyed; both retracted and were attached to the terminal cicatrix by a band of fibrous tissue; both remained as pervious vessels, with thickened coats and narrowed caliber. In both the process was not unlike that seen in the so-called obliterating or compensatory arteritis. Arteritis hardly seemed a term applicable to the changes taking place in normal arteries after birth, nor could the alterations which had been developed through the whole length of a large vessel, extending a considerable distance from the original seat of inflammation, be strictly regarded as of an inflammatory nature. Might not the obliterating growths found to exist simultaneously in terminal arteries in widely remote portions of the body of the same individual also be regarded, not as of an inflammatory nature, but rather as a secondary and formative process, closely connected with disturbances in the mechanism of nutrition, designed to adapt the vessels to a diminished blood-supply?

Dr. S. W. Gross said that, in view of the fact that Dr. Warren's teaching seemed so directly opposed to that of other observers, he would like to have some points cleared up. He would, therefore, ask if Dr. Warren held, first, that, instead of the external coat, where it was included in the ligature, sloughing and coming away with the ligature, the pressure of the ligature set up an irritation which caused the adventitia to return to its embryonic state with a reconversion, after the ligature had cut through this, to connective tissue; and, second, whether the repair of arteries was brought about by the ingrowth of the cicatricial tissue, which he likened to provisional callus, together with some proliferation of the muscular cells of the media.

Dr. Randall said that, as the result of careful study of the subject, he had always found the clot present at first, and that it was honey-combed even in the first few days by the contraction of its fibrin; through the spaces thus formed the blood seemed to be circulating. Cells, either original white cells or of endothelial origin, occupied the walls of these cavernous spaces and seemed to sheathe them. The red cells early melted down into a homogeneous mass, furnishing the frame-work upon which the reparative tissue was built. The "plastic-clot" of some observers he had not seen—the new cells being distributed throughout the old clot as well as upon the vessel-walls, and not specially collected in the immediate neighborhood of the ligature. The obliteration of the vessel was accomplished by the growth and contraction of the trabeculæ of new tissue built upon the remains of the original blood-clot. Even close to the ligature he had not found the vessel-walls greatly altered, merely showing a great increase in the nuclei and in the number and size of the vasa vasorum, the lamina elastica being distinct and, as a rule, intact. Toward the end of the first month the new tissue consisted largely of spindle-cells, but careful staining had given no suggestion of muscular tissue. But, not having carried his study beyond the first month, he had no data upon this subject, since the development of muscular tissue was asserted to occur only at a later stage.

Dr. Formad was inclined to favor the views of Dr. Randall. The observation of Dr. Warren that the new-formed connective tissue played the most important part was to him entirely novel. He thought that probably pressure upon the artery from without, with consequent diminution in its lumen, might bring about a condition more analogous to the growth of fœtal life than to inflammation.

Dr. Mears remarked that we were liable to be confused in considering this subject by the presence of the blood in the vessel. So far as the process of healing after ligature was concerned, we might consider only the structures which entered into the formation of the vessel-wall, which was complex in character and composed of connective, yellow elastic, and endothelial tissues. Dr. Warren had given a very clear demonstration of cicatrization as it occurred in these structures after application of the ligature.

Dr. Tyson said the most novel feature, to him, in Dr. Warren's observations was the part played by the muscular tissue. This apparent increase in the muscular tissue he was inclined to believe was really only a proliferation of inter-muscular connective tissue. He was becoming more and more convinced that there was only one kind of inflammation—the interstitial. He feared that he might himself mistake a proliferating connective tissue with spindle cells for muscular tissue. It was true that new-formed capillaries and arterioles had muscular walls, but the development of these seemed to him to be a slower process. He had expected to find a process of repair in the ductus arteriosus different from that in an ordinary artery. This process he had expected would be a true endarteritis, for it seemed that the conditions of closure here were rather different from those in the ligaturing of an ordinary artery and in the umbilical artery, where also ligation was practiced.

Dr. Warren, in closing, said that, in cases where there was much breaking down, with little repair, there might be a sloughing of the external coat, yet in his experiments this part of the arterial wall had not sloughed, but had simply been absorbed by the granulation tissue, as the ligature itself was in some cases. In the normal condition even the elastic lamina was not a perfectly continuous plate; he did not refer to these breaks, however, but to numbers of little ruptures incident to the pulling of an artery out of the wound in the act of ligation; however, this need not necessarily occur. He had not attempted to identify anything like muscular tissue early; this could not be recognized till a permanent cicatrix had been formed. He had carefully eliminated all sources of error, and it seemed to him that in almost all cases there was a considerable number of these muscular cells. The layer was not always so well marked as in his diagrams; especially was this true of human specimens, but these had all been in alcohol for some years; of the fresh specimens he had selected only those in which he had considered the process complete. In a specimen which he had with him, through an opening in the lamina elastica cells could be traced from the muscular layer, those in the inside resembling exactly those outside. These facts, together with the fact that normally there were a few muscular cells inside of the lamina elastica, led him to believe in the proliferation of the muscular tissue. The disintegration of the blood-clot was accomplished by granulations growing inward from the callus, there being two sets of blood-vessels—one in the granulations, the other (blood-spaces, rather) in the clot itself. These united about the end of the first or second month.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of September 24, 1885.

The President, Dr. B. F. Westbrook, in the Chair;
Dr. A. H. P. Leuf, Secretary.

Œdema of the Glottis; Tracheotomy; Death.—Dr. J. C. Bowker read the history of the case, in behalf of Dr. O. A. Gordon, who was absent.

"Thomas T., aged fifty, a laborer, strong and well nourished applied for admission to St. Mary's Hospital, September 2d, at about 5 P. M. He said he had suffered from a sore throat for

about a week and had been unable to swallow much solid food for two days. He was quite hoarse, and unable to open his mouth more than three fourths of an inch, making an examination of the larynx very difficult. There was quite a marked enlargement in the left submaxillary region. The temperature and pulse were about normal. He was sent to the ward and an external application of iodine was made. When I made the evening rounds the patient was walking about the ward in conversation with other patients. I advised him to go to bed, intending to make a more careful examination in the morning. At about 8.30 the same evening the orderly rushed into my room and said the patient was choking. I hastened to the ward and found him gasping for breath and very cyanotic. I tried to pass my finger into his larynx. Failing in that, I opened the trachea at once without dissection and dilated the opening with a forceps until the tube was inserted. Although the operation was done as quickly as possible, the man had ceased to breathe before its completion, and persistent efforts at artificial respiration failed to revive him.

"The autopsy, made by Dr. Leuf, the pathologist, revealed marked œdema of the glottis, the whole mucous membrane above the vocal bands being involved. There was quite a large abscess situated in the left tonsillar region. The heart was filled with venous blood, and the lungs were emphysematous. There was cerebral œdema. The other organs were found to be normal."

Dr. Wackerhagen asked if there had been any hæmorrhage.

Dr. Read wished to know the cause of death.

Dr. Bowker replied that death had resulted from asphyxia.

Dr. Leuf stated that he had found no blood in the trachea or bronchi.

The President desired to learn if there had been any brain symptoms.

Dr. Bowker answered that there had not been, and that the patient had been in the hospital only a few hours when he died.

Dr. Burge called attention to the difficulty of examining the throat, from fixation of the jaw on account of the swelling in the tonsillar region.

Strangulated Femoral Hernia in the Male.—Dr. A. H. P. Leuf presented a specimen that he had removed from the left side. The constricting ring was about 1·25 ctm. in diameter and adherent to the gut passing through it. About 8 ctm. of the ileum had passed the ring, remaining incarcerated behind the saphenous opening. The patient had been sick seven or eight days. His trouble began with obstipation. At first there was no pain, but afterward he complained of pain in the epigastrium, close to the ensiform cartilage. Cathartics and enemata were given, and subsequently he was dosed with opium to relieve pain. At no time did he have any uneasiness below the umbilicus. Intestinal obstruction was diagnosticated by the attending physician, Dr. Irish, and both groins were examined several times. The patient always made contemptuous objections to these investigations, because he referred all his trouble elsewhere and considered the doctor fanciful. Dr. Watt was called in consultation, confirmed the diagnosis, and recommended a continuance of the plan of treatment already adopted. Abdominal incision was not deemed advisable. There was considerable vomiting, and death was due to asthenia. There was no sign of peritonitis at the autopsy except a very few vascular injections of the peritonæum in the neighborhood of the ring. The extended gut was darker in color than the remainder, but by no means gangrenous. All the adhesions at the femoral opening were recent and easily broken down.

Dr. Leuf opened the discussion by stating that the attending physicians, had they operated, would have made the exploratory incision above the umbilicus, near the seat of pain, and he desired to know the opinion of those present about the advisability of extending the cut down to the seat of trouble, or whether it would be better to pass the hand down and free the gut by manipulating it bimanually—*i. e.*, pulling with the inner hand and pushing with the other.

Dr. Wallace thought that that would depend entirely upon the surgeon.

Dr. Wackerhagen said he would *always* make an exploratory incision below the umbilicus, regardless of the seat of pain.

The General Pathology of Fever.—Dr. Joseph Merzbach read a paper with this title. (See page 569.)

Dr. Eccles could scarcely agree with the essayist in the statement that mental work had but little effect upon bodily temperature. Ordinary thinking might show a meager effect, but intense mental excitement would cause marked elevation. In conditions of terror or apprehension, when there was a tornado of thought, it was no unusual thing for the person affected to break out in profuse perspiration. Elevated temperature meant increased oxidation or diminished radiation. A check of perspiration might give rise to elevation of temperature. The act of perspiring did not lower temperature. It was work done in evaporation at the expense of bodily heat. Conduction also aided in keeping down temperature. The irritating presence of non-excreted waste products might constitute a factor in causing fever. In most febrile conditions there was a sort of diffuse inflammation in which the whole system took part. Apart from the action of specific heat-centers, or even without nerve control, every cell might become an independent heat-producer. To the physiological psychologist attention was the subjective side of co-ordinating force, and might be expected to have some bearing upon a subject of this kind. When attention was turned upon the feeling that arose from any particular organ there were congestion and increased heat of that organ. A boy at play might forget that he had a stomach until he thought of food, when all of a sudden he became hungry. This was true of every function having a special sensation connected with it. A soldier might be severely wounded and the injured part bleed but slightly while terror and duty commanded his attention, but, so soon as these ceased and he considered the pain, profuse hæmorrhage would set in. The pain was the subjective side of the wound. Attention turned upon the pain meant that the highest nervous control of the body discharged its energy toward the source of that pain. *Dis-ease* was a disturbance of our feeling of well-being. The concentration of attention during health upon this feeling maintained it. When much of our body or the whole body became irritated from any cause, energy went forth to every disturbed part from the highest centers. Along the path whence the discomfort came the return-current would go as soon as attention was turned thither. Thus every heat-producing part might be released and a sort of physiological anarchy ensue. The essayist had made no reference to the reduction and elevation of temperature by therapeutic agents, a phase of the subject well worth considering. Antipyrine lowered temperature and the salicylates elevated it. Many other agents acted in one or other of these two ways.

Dr. Leuf had frequently noticed upon himself the effect of excitement due to overwork in causing a feverish feeling. He had never measured his temperature with a thermometer, but could give an idea of the increase of his bodily heat by stating that he had again and again taken seven to ten, or even more, goblets of ice-water during an evening, and all within two hours (from 9 till 11); and during this time he would suffer with throbbing of the temples, tension of the head and face, sometimes

tinnitus aurium, a dry, parched tongue and lips—in fact, the tongue sometimes being actually painful. These symptoms invariably followed concentrated and continued mental effort. Still he could not imagine with Dr. Eccles that mental concentration would account for all rises of bodily temperature, if only for the reason that so many imbeciles, idiots, and children had fever. In cholera, for instance, there was the greatest mental apathy, and yet a marked rise in the body-heat. The increased work done by the body in perspiring could not be adduced as a general explanation of the reduction of high temperatures, for there was in some conditions a very high degree of fever, with profuse perspiration, continuing for days. Oiling the body also lowered the temperature when it was above the normal, but not in all cases. There was a reduction resulting from a cutaneous application and without resulting evaporation. He would also object to calling a fever a "diffuse inflammation in which the whole system took part," because that would be impossible with the present use of the word inflammation. He agreed with the reader fully in the thought he had intended to express, but objected to the words used.

Dr. Ecoles replied that while children or idiots might not be able to do any complex thinking, they were subjects of terror and endurers of pain. On these simple sensations they could center their attention with considerable persistence.

The President asked if Dr. Leuf had ever reduced excessive temperature by oiling the skin?

Dr. Leuf rejoined that he had, and that too when the efficacy of the method could hardly be questioned. In these instances it had been employed either without the use of drugs or conjoined with placebos. He also replied to a previous question by the president, that he believed the efficacy of oiling was due to its lessening heat-production. This, it seemed to him, it did in two ways. It quieted the nervous system, like the chloral Dr. Read used in his cases; and it relieved the intense irritability and dryness of the skin by making it soft and pliable, and avoiding a great deal of friction. He believed that the one great, ever-essential factor in increased heat-production was a certain disturbance or varying set of disturbances in the visceral sympathetics, especially those of the abdomen. Here were located the centers of heat, and they generated this in superabundance in proportion as they increased their activity. Their activity was presided over and depended upon the visceral sympathetic. As everybody knew, the thoracico-abdominal sympathetic ganglia were connected with the outer skin by means of their numerous double connections with the spinal nerves. It seemed, then, that oiling the skin also allayed irritability of these ganglionic centers, causing them to act with more control in regulating the work of the trunk viscera—the heat centers.

Dr. J. D. Sullivan stated it as his belief that fever was a disturbance of nutrition due to the nervous system. The waste in fever must be due to an arrest of nutrition. He put the question, whether the delirium in fever was the result of increased heat, of a poison, of an arrest of nutrition, or of a condition of the brain. He believed it was caused by changed conditions of the brain. He then illustrated by citing instances from his personal experience, when during an attack of fever he had imagined occurrences which to this day seemed to him as real as anything he knew, so that he had only become convinced of his mistake upon the positive assurance from reliable sources that he was wrong.

Dr. Eccles replied that he could take no mental grip upon the words of the last speaker. To say that defective nutrition caused fever gave no idea of the *modus operandi*. If it could be shown that this defect in any way increased oxidation or retarded the elimination of heat already produced, it would be an acceptable hypothesis. As to the delirium of fever, a few simple experiments, such as he had tried, would cast much light upon its genesis. During the time our attention was centered upon the delightful feeling of comfort experienced when about to drop into sleep, if we divided that attention, delirium of a mild type might be produced artificially and studied by introspection. "Try to catch yourself going to sleep," he said, "and an *alter ego* will arise with whom most incongruous conversations may occur, and ideas quite foreign to the purely waking state will intrude themselves. While you are yet awake, absurd dreams will come up in your consciousness, and you will be quite aware of their absurdity. It is the result of divided attention—unconscious cerebration in this way pushes itself within the door of consciousness." Even in our waking state it often happened that we did and said irrational things if our attention was divided. The unfortunate occurrence that had happened to Mr. Am Ende, the Hoboken apothecary, in which morphine was substituted for quinine, was probably one of those quasi-delirious acts of a man with divided attention. It would not have been beyond possibility for such a thing to occur, and he know that a blunder was being committed, and yet feel powerless to arrest it. In the delirium of fever, currents of discomfort reached the highest nerve-centers from every direction. All these were subjectively perceived and the attention was distracted among them. Active cerebration resulted from them in the most disorderly manner. Attention allowed this chaos to intrude on consciousness.

Dr. Sullivan rejoined that, if it was possible to explain nutrition by chemical or philosophical means, he might be able to explain how its arrest caused fever.

The President remarked that Dr. Eccles and Dr. Sullivan viewed the question regarding temperature elevation from opposite standpoints. The former looked at it as a physicist, the latter as a vitalist.

Dr. H. N. Read would speak only on the influence of the nervous system on the temperature of ephemeral fevers in children. He had one case in mind that had shown this beautifully. A young infant suddenly became ill. There were no other disturbances than those common to fever. The temperature was 103° or 104° F. He gave chloral to control excessive irritability and the convulsions—*i. e.*, to reduce the nervous tension. After several hours the child was in a normal condition. Such cases were quite frequently met with, and the patients were well within from six to twenty-four hours after the administration of a nervous sedative. Often there was not even constipation. He believed that, if the proper apparatus was at hand to weigh these children before and after the attack, there would be found a diminution of weight from superoxidation. He thought that in these cases the fever was brought about by a change in metabolism due to insufficient nervous control.

Dr. Leuf remarked that the softening of viscera accompanying fever was of interest and worthy of consideration. He had noticed that the softening did not necessarily depend upon the length or severity of the fever. He had not examined these organs very often with the microscope, but they always had a fatty appearance. He thought the change in consistence was due to fatty infiltrations and degenerations, because they were always soft, pale, and greasy. In his experience, the heart had seemed most frequently affected, and after that the kidneys and liver. The kidneys were often so soft that they could easily be doubled over and made to touch end to end, and this too without cracking or fissuring, while the capsule was off. When the spleen was in that condition, it was very mushy and had a dirty pale-gray color. The capsule was, as a rule, wrinkled. The pancreas was also quite often in a similar condition, and, when so soft, had almost the same grayish color, but with a slightly

yellowish tinge. He had simply expressed himself on this point because there were many who did not consider these changes fatty, and who denied that fever was the causative agent.

Dr. Merzbach said, in answer to some of Dr. Eccles's remarks, that, as regarded the function of the skin, he had stated in his paper that it reduced the temperature in several ways, the most important of which was evaporation, then conduction, etc. The theory which gave the mind so much importance in the increase of body-heat he did not credit much. He had also seen very severe hæmorrhage from patients during anæsthesia and in other unconscious conditions, and supposed that everybody else had also. He could not see how arrest of nutrition would cause fever, but it certainly was a concomitant. It was well established that the nitrogenous elements were burned in greater proportions than other tissue elements were, as was shown in the increased amounts of urea passed through the kidneys. All of this waste was not accounted for by the burning of nitrogenous substances alone, as observation showed seven per cent. of the total decrease in twenty-four hours not accounted for. Thus the changes in the urine did not represent all the destruction. The cause of delirium might be indicated by the increased amount of phosphoric acid found in the urine. A similar condition was observed in chronic cerebral irritation or neuralgia. He did not think it necessary to suppose some foreign influence to be the cause of delirium. Hot blood might be sufficient cause. There was, for instance, a chronic excitability noticeable in peoples existing in hot climates. We all knew the excitability of the races of the tropics, whether civilized or uncivilized, and he supposed it was possibly due to the continuous irritation of the superheated atmosphere and its effects transmitted for ages from generation to generation.

The President said it was interesting that in fevers of the same height there was a great difference as to the amount or even presence of delirium—for instance, malarial and typhus fevers. Then the existence of heat-centers was of interest. Dr. Ott had recently shown quite positively that there was a heat-center just anterior to the caudate nucleus. Fever, too, was very often accompanied for days with profuse sweating, although the temperature remained very high.

Dr. Eccles asked how high the president had noticed the temperature under these conditions.

The President replied that he had seen the thermometer register 106° F. during continuous profuse perspiration, and just after marked sweating in typhoid fever he had seen it 104°; likewise in tuberculosis.

Dr. Merzbach, in closing the discussion, stated that he had alluded in his paper to the fact that high temperature alone did not always explain delirium, because in different fevers, as had already been stated, when the body-heat was the same, there was a great difference in the degree of delirium. He had not attempted to explain it, because it could not be done. The only way in which he could account for persistent high temperature during perspiration was by supposing the heat-production to be so great that the sweating could not wholly counteract it.

Miscellany.

The Cholera in Spain.—The "Gibraltar Chronicle" publishes the following: "From a letter," says the 'Times,' "which has just been published in a Swiss paper, written by the wife of a Swiss merchant settled in Spain, besides giving a vivid idea of the condition of that unfortunate country, shows how much medical men and Government officers have to contend with in their efforts to combat with the plague that is working such terrible havoc throughout the Peninsula:

"'The other day there died in a house not far from ours a widow, the mother of two daughters. She had been suffering for a long time from an affection of the chest, and, shortly before her death, a doctor was called in, who prescribed medicine and gave such directions for her treatment as he thought necessary. This was on a Saturday night, and on the following morning the poor woman breathed her last. No sooner was this known than a rumor went about that the medicine prescribed by the doctor contained poison, and was given to the widow in order that she might appear to have died of cholera. The elder daughter ran into the street like a maniac, shrieking "Scoundrel! scoundrel! where is the wretch who has poisoned my mother?" That was a terrible day for me, especially as Karl (the writer's husband) was not here. A great crowd gathered before the house of the dead and ours calling for the judge, and threatening the doctor with death. Then the body was taken into the churchyard in order that it might be opened. Just think; some of the people (as was afterward proved) killed a rabbit and said it had died after being given some of the physic prescribed for the widow. After the body was removed there came the judge, and also the druggist who had mixed the medicine, and, to show how harmless it was, the druggist took at a draught all the physic left in the bottle. The doctor also testified that it contained nothing whatever of a hurtful nature, and was really no more than a refreshing drink. When the widow's body was opened, moreover, it presented no choleraic symptoms whatever, but the lungs were very much diseased, and the cause of death was proved beyond dispute to be consumption. The excitement and uproar were, however, something terrible, particularly among the lower orders; they persisted in believing that the woman had been poisoned, and paraded the streets, declaring that they would force all the doctors to drink their own physic; and most of the patients of Dr. Antonio Espinosa (who prescribed for the widow) have thrown his medicine away, and he is bringing an action against the daughters for defamation of character. In the meanwhile the authorities have recommended the doctors to prescribe only pills, the popular belief being that pills can not be poisoned. This will give you some idea of what the people here are like.'"

A Dispensary Service for Mental Diseases.—The establishment of a service of this sort in Philadelphia, believed to be the first in this country, is thus announced by the Philadelphia "Evening Bulletin":

"At the last meeting of the managers of the Pennsylvania Hospital it was determined to add to the Out-Patient or Dispensary Department a new service for the benefit of the indigent poor who are suffering from the early symptoms of insanity, or insanity in its incipient stages. The managers have been led to create this addition to their already comprehensive service by the conviction that many persons in indigent circumstances do not receive that advice and medical treatment at a critical period when experience shows the greatest benefit from treatment may be expected. It is their observation, and that of all connected with hospitals for the insane, that, in consequence of delay from various causes, an undue proportion of cases lapse into a chronic and incurable condition, and in that state are brought to the hospitals.

"Public announcement is therefore made that the managers of the hospital have made arrangements for the commencement of the new service on Monday next, November 2d, at 3 P. M., in the Out-Patient Department, Spruce Street near Ninth, at which hour a physician will be in attendance. A physician will attend every succeeding Friday and Monday at the same hour and place until further notice. Chronic cases, and those requiring custodial care, will not, for obvious reasons, be received. The medical service will at first be rendered by the physicians connected with the Department for the Insane of the Pennsylvania Hospital. The work which is now proposed is of an experimental nature, and no conjecture can be formed as to the extent of the demand, nor whether any demand exists which will warrant the permanent establishment of a special department. If no demand for the additional service that has been provided shall, after a fair trial, be found to exist, it will be abandoned. But, if it shall appear, on the other hand, that such a department is likely to prove a great benefit to the class for which it is designed, some valuable experience may be

derived which may be suggestive hereafter. Every means for the prevention of insanity, or in the direction of a preventive measure, deserves most favorable consideration. If the measure shall appear to be a success, its friends anticipate that it may lead the way to enlarged operations in the same direction."

The Journal of Heredity is the title of a new periodical, published in Chicago, and edited by Mary Weeks Burnett, M. D., who modestly states at the outset that the journal does not "hope to solve all problems in heredity."

The Massachusetts Veterinary Association lately held its first meeting, says the "Boston Medical and Surgical Journal," and elected as officers Dr. Frank S. Billings, of the New York Polyclinic, president; Dr. L. H. Howard, of Boston, secretary and treasurer; and Dr. W. Dryden, Dr. W. T. Simmons, and Dr. J. M. Skally, all of Boston, members of the executive committee. The president read a paper on tuberculosis.

Luminous Signs for Doctors.—Speaking of an advertisement of these contrivances, the "Boston Medical and Surgical Journal" says: "As a rule, it is where the 'inward and spiritual grace' least abounds that there is the greatest ostentation of the 'outward and visible sign.'"

The Rex Disinfectant.—This is a preparation which acts by the slow disengagement of chlorine. It is the inventiou of an Ohio physician, and should not be confounded with the preservative solution termed "Rex Magnus." It consists of an earthy-looking, inodorous powder, to which commercial sulphuric acid is to be added. Chlorine fumes are at once to be recognized by the odor of the gas and by the ammonia test, but they are given off so slowly that, while efficient for purposes of disinfection, they do not render the air of the room irritating to the air-passages. Speaking from considerable experience, we have no hesitation in saying that the preparation is an excellent one for the purposes for which it is intended.

The New York Academy of Medicine.—The next meeting of the Section in Obstetrics and Diseases of Women and Children will be held on Wednesday evening, the 25th inst., instead of Thursday, the 26th, as Thanksgiving Day is appointed for the latter date. Dr. Joseph E. Winters will read a paper on "Diphtheria and its Management," which will be followed by a general discussion of the question "Are Diphtheria and Membranous Croup Distinct Diseases?"

Pasteur's Preventive Inoculation of Hydrophobia.—The Paris correspondent of the "Medical Times and Gazette," of London, states that M. Pasteur now adopts the following method. A rabbit is inoculated with a fragment of the spinal cord of a mad dog. The animal is affected with hydrophobia in the space of about a fortnight. A portion of its spinal cord is employed to inoculate a second rabbit, which also contracts the disease, but more rapidly; the spinal cord of this second rabbit serves to inoculate a third, and so on. It is observed that at each step of this process the intensity of the disease becomes greater, and the period of incubation shorter. When the spinal cord of these animals which have died of hydrophobia is suspended in a perfectly dry tube, its virulence diminishes by degrees, and at last disappears. A collection of these spinal cords, some of them entirely stale and powerless, others more fresh and active, others again quite fresh and extremely active, are always kept in readiness. To render a dog insusceptible of rabies, he is first inoculated with the stale and powerless specimens, then with fresher and more active ones, and lastly with the most powerful of all, when he becomes quite proof against the inoculation of rabies. Lately, a young boy, nine years of age, Joseph Meister, was brought by his friends to M. Pasteur's laboratory. He had been most severely lacerated by a mad dog, having fourteen bites in different parts of his body. M. Pasteur, in presence of the almost absolute certainty of death, inoculated the child according to his system; the first inoculation was made with a spinal cord fifteen days old on the 6th of July, sixty hours after the child had been bitten. Similar inoculations with virus of constantly increasing intensity were made up to the 16th of July, when the spinal cord employed was quite fresh. The child, having up to the present time, four months after the accident, exhibited no symptoms of hydrophobia, is considered by M. Pasteur as radically cured, and he has already recommenced the same method of treatment upon a young shepherd, who, in defending other boys, was cruelly bitten by a mad dog, which he killed upon the spot. The results of this new experiment will be communicated by M. Pasteur in due time to the Academy. With respect to the first patient, the writer remarks, it must be remembered —(1) That sixty per cent. of people bitten by mad dogs do not contract hydrophobia. (2) That the incubatiou of the disease is sometimes extremely long (cases have been known to occur two years after the bite). The experiment is not therefore absolutely conclusive, although it marks a great progress in the history of the disease and justifies in some measure the enthusiastic applause with which the communication was received.

The New Nomenclature of Diseases.—Referring to Circular dated July, 1874, adopting the Provisional Nomenclature of Diseases of the Royal College of Physicians of London as the official nomenclature of diseases, and to paragraph 310 of the Revised Regulations of 1885, the surgeon general of the Marine-Hospital Service, uuder date of November 7, 1885, informs the medical officers of the service that the revised edition of 1885 of said Nomenclature will be used on and after January 1, 1886, instead of former editions.

The Late Dr. Samuel G. Armor.—At a recent meeting of the Detroit Academy of Medicine the following memorial resolutions were adopted:

Whereas, It has been announced that Professor Samuel G. Armor, M. D., LL. D., an honorary member of this body, and for many years a resident of Detroit, died at his home in Brooklyn, N. Y., on the 27th ultimo, in the prime of his vigor and usefulness,

Resolved, That, while we bow in submission to the decree of Infinite Wisdom, yet we hereby express our sense of sore bereavement in his death.

Resolved, That the untiring devotion which our friend had exhibited in his chosen life-work, the large-hearted generosity which he uniformly manifested toward his brother physicians, and the delicate sense of honor that marked all his dealings with them, together with his thorough integrity and broad manhood, endeared him to the majority of our membership personally in life, and remain enshrined as his best legacy in death.

Resolved, That we extend our warmest sympathy to the great number who, in the death of Dr. Armor, mourn the loss of a friend and teacher.

Resolved, That a copy of these resolutions be sent to the family of Dr. Armor, to the Long Island College Hospital faculty, to the several medical journals of Detroit, and to the New York "Medical Record" and the "New York Medical Journal."

(Signed) Edward W. Jenks,
George P. Andrews,
J. F. Noyes,
Committee.

Dr. Kinloch on the Congress.—In a letter to the editor of the "Medical News," of Philadelphia, a member of the committee from South Carolina says:

"My attention has just been called to a criticism in the 'Association Journal,' of October 31st, by an officer of the ex-Committee of Arrangements for the International Medical Congress, of a letter of my own, which appeared in your issue of October 10th.

"The effort reminds me so much of a cobbler striving to patch with flimsy material his originally bad work, that I might complacently afford to stand in my old shoes. But, for the benefit of my professional brethren, who may, through inadvertence, be deceived, I will notice only the two points in the criticism which may seem to affect my position. My letter stands as the public record of my action in the committee.

"1. I am accused of having 'persistently endeavored to obstruct the proceedings of the committee' (at the meeting in New York on the 3d and 4th of September) 'by frittering away valuable time with trivial objections.' These objections of my own are on record, and need not be defended. No doubt they were annoying to some. But the author

of the complaint has inadvertently paid me a very great compliment, for which I am grateful. To 'obstruct proceedings' which I have shown to be irregular and prearranged by certain parties to advance their special ends, regardless of the unity, harmony, and well-being of the profession, can only be regarded by proper-thinking persons as a meritorious act.

"2. Next it is stated that I complained that 'a letter which he (I) forwarded to the temporary secretary was not read before the meeting of the committee in Chicago, or embodied in the report which was recently published.' My letter is referred to as on a par with two hundred letters received from other parties (not members of the committee), to have read all of which would have occupied the entire day The committee, it is stated, only directed that a letter from Dr. Austin Flint, Sr., should be read.

"The above is not a correct statement of facts. I was, together with Dr. Austin Flint, a member of the Committee of Arrangements, and did not, therefore, occupy the same position with two hundred persons who may also have written letters, but who were outside of the committee. I had, therefore, equal right with Dr. Flint. As a member of the committee, unable to attend the Chicago meeting, I sent my letter addressed to both the chairman and secretary, waiving the fact that they had usurped their positions. I had an equal, if not a better, right than Dr. Flint to express my views by letter. He was represented by a proxy. After this proxy took his seat in the committee, Dr. Flint was, for the time being, not a member of the committee. But, further, the proxy was there to step in as a permanent member of the committee when Dr. Flint, in accordance with previous arrangement, stepped out. Possibly, as I was not connected with this or any other previously arranged programme, my letter was unimportant, and Dr. Flint's alone was accorded a reading. Had I occupied a like distinguished position in the eyes of the managers, or been as available for promotion from the ranks of the committee to the highest office in the Congress, I might have been accorded equal rights with my illustrious friend.

"Still, I am satisfied with my present humility, and would not exchange this for the highest office bestowed by the committee."

The Health of Chicago.—By the Health Department's "Condensed Statement of Mortality" for October, it appears that the following deaths from infectious diseases were reported: 1 from small-pox, 1 from measles, 27 from scarlet fever, 81 from diphtheria, 30 from croup, 8 from whooping-cough, 1 from typhus, 33 from typhoid fever, 6 from cerebro-spinal fever, 5 from malarial fevers, and 32 from other zymotic diseases.

THERAPEUTICAL NOTES.

Digitalis as a Corrigent of the Effects of Quinine on the Heart.—Talma and van der Weyde ("Ztschr. f. klin. Med."; "Ctrlbl. f. klin. Med.") state that small doses of quinine exaggerate the diastole of both the auricles and the ventricles, without notably redneing the systole; but that large doses increase the diastole still more, and render the systole imperfect, so that suspension of the heart's action may occur in diastole. If digitalis is given in addition, however, the ventricular systole is rendered almost perfect, and the auricular distension at the same time moderated, which accounts for the good effects of digitalis in acute dilatation of the heart from quinine poisoning.

Hamamelis in the Treatment of Prostatic Enlargement and of Buccal Cancer.—Dr. Duncan J. Mackenzie writes to the "British Medical Journal," saying that irrigation of the bladder with a mixture of a drachm of tincture of hamamelis, half a drachm of carbolic acid, and about twenty-five ounces of warm water, arrested periodical hæmorrhages from the urinary passages and the rectum in a case of prostatic enlargement under his care, and so reduced the congestion as to enable him to discontinue the use of the catheter. In another case, marked palliation, including the control of a hæmorrhagic tendency, followed the internal use of hamamelis, the case being one of cancer of the tonsil and of the tongue.

Two American Species of Aconite.—In the current number of "Drugs and Medicines of North America," Dr. Roberts Bartholow, of Philadelphia, relates certain experiments with *Aconitum Fischeri* and *A. uncinatum*, and gives the conclusions that he has drawn from them. *Aconitum Fischeri* grows abundantly in the mountainous regions of the western section of the United States, and the author thinks it gives every indication of rivaling the imported drug in activity and value. There are, however, marked and fundamental differences between its physiological action and that of *A. napellus*, which may be stated as follows:

Aconitum napellus.	*Aconitum Fischeri.*
Affects sensibility and lowers the irritability of the sensory nerves.	Does not affect the tactile or pain sense, although it causes the characteristic tingling; and does not affect the irritability of the sensory nerves.
Paralyzes the end-organs of the motor nerves, the trunks, and ultimately the motor portion of the cord.	Does not affect the contractility of muscles or the irritability of the motor nerves, but paralyzes the motor centers of the cord.
Stimulates the vagus roots and slows the heart; after a brief stimulating action, paralyzes the vaso-motor center in the medulla, and greatly lessens the blood pressure.	Paralyzes the pneumogastric and increases the force and number of the cardiac pulsations; rather stimulates the vaso-motor center, and does not lower the blood pressure.

Both cause death by paralysis of respiration.

As regards *A. uncinatum*, the author thinks it is practically inert, although very large doses appeared to heighten the cutaneous and corneal reflexes a little in frogs.

Hydronaphthol as an Antiseptic.—At a recent meeting of the Philadelphia Academy of Surgery, Dr. R. J. Levis read a paper entitled "Notes on the New Antiseptics, Hydronaphthol and the Potassio-mercuric Iodide" (for proof-slips of which we are indebted to the courtesy of the "Philadelphia Medical Times"), in which he stated that his own experience with hydronaphthol in the wards of the Pennsylvania Hospital and in private surgical practice had confirmed the observations set forth by Dr. George R. Fowler, of Brooklyn, now in course of publication in this journal.

Hydroquinine as an Antipyretic.—According to Seifert ("Berlin. klin. Wchnschr."; "Union méd."), this derivative of quinine has antithermic properties resembling those of quinine and superior to those of salicylic acid and kairine, and produces neither delirium, ringing in the ears, nor headache. It appears to be rapid in its action and free from unpleasant effects, even on continued use, and it is to be recommended for children. It reduces the pulse and the temperature and causes free sweating. Its cost is about the same as that of quinine.

Thalline and Antipyrine in the Treatment of Febrile Diseases.—M. Jaccoud ("Gaz. hebdom. de méd. et de chir.") lately reported to the Paris *Académie de médecine* the results of his experience with these drugs in cases of typhoid fever, tuberculosis, pneumonia, and erysipelas, and laid particular stress on the transitory character of their effects. He believes that the course of the disease is not at all influenced by them, and that by using them we are merely playing with the surface-radiation of heat. Therefore he does not consider them solid additions to the materia medica.

Bismuth in the Treatment of Sweating Feet.—The "Union médicale" cites Viensse's recommendation of daily frictions with subnitrate of bismuth as a remedy for fœtid perspiration of the feet. The spaces between the toes should not be forgotten. The treatment is to be continued for about a fortnight. After the second or third friction, the sweating becomes less abundant, and the soreness rapidly subsides. The epidermis soon loses its white tint, and adheres more firmly to the subjacent derma, the excessive action of the sudoriparous and sebaceous glands diminishes, the perspiration becomes less irritating, and about the sixth day the skin resumes its natural look.

An Untoward Result of a Submucous Injection of Chloroform is reported by M. Blocq ("Progr. méd."; "Ctrlbl. f. chir."). Five or six drops were injected into the gum, as has been recommended for toothache, and immediately an intense and painful swelling of the face took place, followed by rather extensive sloughing of the mucous membrane of the upper lip and the gum, suppuration that lasted for months, and superficial necrosis of the maxilla.

Original Communications.

REMARKS ON EXCISION OF THE HIP.*

BY LEROY MILTON YALE, M. D.

AN apology is perhaps due to the society for again bringing up so well-worn a subject as excision of the hip. But, as it is one upon which surgical opinion is far from unanimous, its consideration must be always in order until the value of the operation is better settled than it yet is. The more recent views concerning tubercle and the rise of antiseptic surgery have stimulated the resort to excision in hip disease. Aseptic methods have now been long enough employed for considerable experience to have been accumulated as to their effect upon the ultimate results of the operation. This paper is the outcome of an attempt to ascertain from the periodical literature of the last six or seven years what this experience has been, and whether any conclusions could be drawn from it regarding the indications for resection in hip disease. Although tolerably familiar with the difficulties of the question, I confess I was somewhat surprised at the scantiness of the material which came to hand that was valuable for exact comparisons.

The grounds upon which resection of the hip is urged as preferable to non-interference are usually three:

1. That it directly saves life.

2. That it shortens treatment, and, by so doing, lessens risks both vital and functional.

3. That it gives better functional results.

There can be no manner of doubt that the operation often saves lives that otherwise must certainly have been sacrificed. Such operations *in extremis* have been aptly compared to tracheotomy in like conditions. Under such circumstances failures should not be counted. Every success should be esteemed a clear gain, and even prolongation of life and mitigation of suffering be reckoned in favor of the operation. About such resections there is probably no question. The inquiry is rather this: Comparing cases as nearly as possible similar, at what period, or under what circumstances, do the results obtained by excision become preferable to those gained by less radical measures? And it may be here remarked that a good deal that has been said regarding the relative value of early or late operations is rather beside the question, for there is little doubt as to their comparative success. The issue is between the operation at all and conservative methods, and the former is clearly indicated whenever it can be shown to give better prospects for life than the latter.

The value to be set upon resection, therefore, depends very largely upon what is held to be the natural tendency of the disease, and upon what success can be gained by conservative treatment. And right here, at the start, we find a divergence of views so wide as to go far toward explaining the unsettled condition of opinion regarding the operation. The most gloomy statements come from German authors. Thus Billroth gave the death-rate of his cases, some of which were followed after leaving the hospital, at 31¼ per cent., taking, if I understand correctly, all cases. Hueter,* from hospital records alone, gave 26¾ per cent. The two lists united give 28⅔ per cent. Nowhere else is the death-rate set so high when all stages of the disease are considered together. From reports for several years of the Orthopædic Hospital of this city, I find that the deaths and discharges on account of incurability together make an annual average of about 4¾ per cent. of all cases treated. Gibney's† statistics from the Hospital for the Ruptured and Crippled give for 288 cases a mortality from all causes of 12½ per cent. Taylor's‡ statistics, which give (deducting one case of violent death) 2 deaths in 93 cases, or 2⅙ per cent., can not be fairly quoted here, as they were drawn from a private practice among well-to-do people.

Although exsection has of late been done quite early in the disease, yet it would be obviously unfair to make any comparison between the death-rate of these collections of cases in all stages and the most favorable operative statistics. Again, although exsection is frequently done when destructive changes are recognizable in the joint, but before suppuration is evident, I know of no extended statistics of the corresponding cases treated conservatively. A few cases will be mentioned further on. But, regarding suppurative coxitis, we have more distinct expressions of the results of experience, and some statistics. Here, again, Hueter's estimates exceed others in gravity. While acknowledging the absence of exact information, he states that he should be surprised if statistics should show that more than 50 per cent. of cases that reach the "second florescence stage" (the stage of flexion, adduction, and inward rotation) ever were healed. And he further states his belief that "suppuration of the hip joint—if the cases in which a single small abscess forms and quickly closes again, and also the cases of scanty suppuration in the granulations of synovitis hyperplastica granulosa are subtracted—is a nearly absolutely fatal process."# Volkmann‖ is by no means so hopeless. Ollier△ thinks that "the greater part of the suppurative coxalgias of children may be cured by methodical expectation, aided by the resources of hygiene." Taylor lost 2 out of 24 suppurative cases, or 8⅓ per cent. This, as before stated, was in private practice. The committee of the Clinical Society of London◊ set the mortality of cases of suppurative hip disease, treated expectantly, at 33½ per cent. from all causes; or, leaving out causes unconnected with the disease, at 31·6 per cent. Cazin‡ gives the result in the cases of 80 patients treated at the hospital at Berck, sent from a Parisian hospital after they had failed to improve there. All but ten

* Read before the New York Surgical Society, November 10, 1885.

* "Klinik der Gelenkrankheiten," S. 142.

† The Strumous Element in the Ætiology of Joint Disease, "New York Medical Journal," July and August, 1877.

‡ Observations on the Mechanical Treatment of Diseases of the Hip Joint, "Boston Med. and Surg. Jour.," March 6, 1879, p. 318.

L. c., p. 641.

‖ Resectionen der Gelenke, "Samml. klin. Vortr.," No. 51, p. 2.

△ "Revue de chirurgie," 1881.

◊ "Transactions," 1881.

‡ "Bulletin et mémoires de la société de chirurgie," Paris, 1876.

of these were grave cases, and 5 per cent. were already albuminuric when received. The statistics cover five years; 55 per cent. were cured, 12½ per cent. died, 7½ per cent. were benefited, and the remaining 25 per cent. were not cured when removed. This remarkable success for cases of such severity may, perhaps, be not fairly introduced here, as the patients, although belonging to the hospital class, were at Berck under excellent hygienic influences, and were systematically treated.

Gibney,* out of 80 patients with hip disease cured without mechanical treatment, found 48 that had had abscesses. No percentage of mortality can be made here, as the total number having had abscesses that were treated is unknown; but this number of recoveries under a plan of the purest expectancy shows that suppurative coxitis can not be nearly so grave an accident as some have estimated it to be. As an offset, however, may be mentioned 19 patients recorded by Caumont,† treated conservatively, of whom 12 (63·1 per cent.) died.

From these discordant figures and opinions it seems to me fair to conclude that their disparity is not the result of the bias of different observers, but that in some communities or districts circumstances may so influence the course of the disease as to make an actual difference in the facts, as well as in the interpretation of them. To express an opinion, therefore, as to the average mortality of suppurative coxitis may be hazardous, or even presumptuous. Nevertheless, my own observations lead me to accept the more moderate estimates as the more nearly correct, and I should consider that the rate set in the Clinical Society's report was amply large; that is to say, that the death-rate would not exceed 30 per cent., even among the poor, at least as we know poverty in this great city. In private conversations, Dr. Gibney and Dr. Shaffer, of this city, both of whom have had unusual facilities for knowing the results of hip disease among the poor, expressed the opinion that the estimate I have given was very liberal, and would considerably exceed the facts.

Now, as to the death-rate of excision. Leisrink's often-quoted tables set it at 63·6 per cent.,‡ but this high figure is reached by setting aside all unhealed cases as worthless, which is a source of error, as many such cases go through the same course as unoperated cases and reach an ultimate cure, perhaps by ankylosis, after a long time. If all of Leisrink's cases had been included, his death-rate would have been 57·9 per cent. Sayre's# table gives 72 cases (two being still under treatment), with 25 deaths, or 34·7 per cent. Culbertson's tables contain 418 cases, with 174 deaths, or 41·62 per cent. If uncertain cases, 30 in number, are excluded, the percentage will be 44·84. All these collections contain cases observed for quite a long time, and this death-rate is by no means that of operation. Culbertson gives only 29 deaths as immediately resulting from the operation—that is, 6·93 per cent. of all cases. This is interesting as showing that even before the advent of antiseptic surgery the operation, as such, added but little to the general mortality from hip disease.

Many lists published since the beginning of antiseptic surgery contain cases treated in both periods, and often no attempt is made to separate them. Thus, Cowell,* in reporting 65 operations of his own, says: "I now perform the operation antiseptically," but the results are all grouped together. It does not appear that these cases were followed beyond the hospital. There were seven deaths among them, or 10·77 per cent. Three patients above eighteen years of age, all died. Of the 62 below eighteen years, only 4 died, or 6·15 per cent. Here should be placed the statistics of the Clinical Society's report, before quoted, which gave a mortality of 40 per cent., or, excluding deaths from causes unconnected with the disease, 37·7 per cent. Holmes's† list—given in his well-known Address in Surgery—of operations done in British hospitals belongs to the five years ending 1878, a period during which antiseptic precautions were coming into use. They should probably be considered as mixed operations. It does not appear how long the cases were followed, but, of 215 cases, 40, or 18·6 per cent., ended fatally, and 57, or 26·5 per cent., failed. Caumont,‡ whose statistics are commendable for the care with which patients have been traced for years after they left the hospital and carefully classified, records 42 cases, with 26 deaths, 61·9 per cent. Only 5, or 11·9 per cent., died from the operation. The remaining 50 per cent. were from progressive caries, amyloid changes, and tuberculosis. His death-rate before antisepsis was 66 per cent.; since antisepsis, 41 per cent.

Of operations entirely antiseptic, Volkmann# reports 48 with but 4 deaths, or 8⅓ per cent. Two only of these (from shock) were strictly deaths from operation; the third, after two months, was from thrombosis, and the fourth, after three months and a quarter, from hæmorrhage from ulceration of an artery, due to a suppurating scrofulous gland. Volkmann estimates that 8 or 10 would subsequently prove fatal from the progress of the disease, which would run up the death-rate to 25 or 30 per cent. Korff‖ reports 16 deaths out of 33 cases treated antiseptically (48·48 per cent.), the death-rate diminishing steadily as the methods were improved, being 75 per cent. when Lister only was used, 52·63 per cent. with a modified Lister, and 30 per cent. with a bichloride and salt gauze dressing. Grosch△ bases his statistics on 166 cases treated antiseptically; 120 of these were observed to the end, with 44 deaths, or 36·7 per cent. He divides his cases into three stages. The first contains those operated on with unruptured capsule and slight changes in the joint; the second, cases with abscess and fistulæ; the third, cases with long suppuration, extensive destruction of the joint with great debilitation. In the first class there was for children no death-rate; for the second, it was 24·1 per cent.; for the third, 67·5 per cent.

* "Medical Record," vol. xiii, p. 174.

† "Deutsche Ztschr. f. Chirurgie," Bd. xx, S. 137.

‡ Langenbeck's "Arch. f. klin. Chirurgie," Bd. xii, S. 177.

"Orthopædic Surgery," 2d ed., p. 347.

* "British Med. Journal," 1882, ii, 360.

† *Ibid.*, 1880, ii, 212.

‡ "Deutsche Zeitung f. Chirurgie," Bd. xx, 1884, Heft 3 and 4.

"Verhandl. d. deutsch. Gesellsch. f. Chirurgie," 1877, S. 59.

‖ "Deutsche Ztschr. f. Chirurgie," Bd. xxii, S. 149.

△ Inaugural Dissertation, Dorpat, 1882, Abstract in "Centralbl. f. Chirurgie," 1882, S. 228.

Further, he found that for the period 1876–'82, after antiseptic methods were well established, the death-rate was 9 per cent. less than for the period 1870–'75, in which these methods were forming. Quite recently Alexander* gives the results of 36 operations apparently all done and dressed antiseptically (chloride of zinc and Lister). One patient only died of operation (shock), 2·77 per cent.; 10 more from disease. Total death-rate, 30·55 per cent.

It will at once be seen that statistics gathered in such different ways, and to bring out different aspects of the question, can not be closely compared with hope of an exact result. But, if I have correctly apprehended the general import, it is this: that the mortality after resection of the hip joint has materially diminished since the introduction of antiseptic precautions, and that the diminution corresponds very closely to the death-rate formerly chargeable immediately to the operation itself. Take the extensive tables of Culbertson; setting aside uncertain cases, he had a total death-rate of 44·84 per cent.; deducting deaths from operation—6·93 per cent.—we have 37·91 per cent., which is very nearly the same as Grosch's—36·7 per cent. for 120 completed cases under antiseptic treatment. In other words, asepsis has almost abolished the risks from wound complications, and the death-rate is reduced very nearly to that from the uninterrupted disease when the operation has failed to arrest it.† And, as it has been shown that, in cases that heal, the period of healing is shorter than when antiseptics are not used, the danger of amyloid changes may be slightly lessened. Thus much has been gained by perfect antisepsis; in weighing the chances in any given case, we need no longer put much stress on the dangers of the operation itself, except, perhaps, the one element of shock, which the prolonged extirpation of diseased and suspected tissues, necessitated by the thoroughness of modern surgery, sometimes favors. It seems, then, fair to say that whenever the disease in its natural course assumes an aspect threatening to life, resection is indicated, provided none of the less radical operations—drainage, gouging, etc.—can remove the danger.

It has just been mentioned that very early operations, done while the changes in the joint are slight and the capsule unruptured, have given no death-rate, or almost none. But, on the other hand, the disease itself has practically no death-rate at this stage. Occasionally general or visceral tuberculosis may occur thus early, but rarely. Amyloid changes and exhaustion do not enter here as causes of death. It does not appear, then, that there is thus early any vital indication for excision. The early operation has been urged as vitally indicated in forestalling tuberculosis and the other attendant risks of morbus coxarius by cutting short the disease. If it could be proved that such prevention actually followed the operation, it would be a weighty argument. As Grosch points out, tuberculosis is still the commonest cause of death. König‡ maintains, as a result of a large experience in excision of all kinds—117 in three years and a half—that the hope for immunity from tubercular infection has not been gained by antiseptic resection. Of 25 deaths after his operations, 18 were from tuberculosis, and in addition nine patients, not yet dead, were hopelessly tuberculous; in all, 21·5 per cent. of his cases; and of 21 hip excisions, 10—47·6 per cent.—died of tuberculosis in four years. In the debate on König's paper some disagreement with his views was expressed, but Esmarch essentially confirmed them. Caumont* distinctly states that he found no preventive effect in his cases. Of 26 cases of scrofulous origin treated by expectancy, he lost 5—rather less than one fifth—from tubercular disease; of 12 resected, he lost 4, or one third. Others may have had better results, but the prophylactic effect can not be very decided if such marked exceptions occur.

Nor is it clear that destructive changes in the joint without evident suppuration often present a vital indication for excision. A vicious form of caries, characterized by great suffering and great destructiveness of tissues without much pus formation (caries sicca) is probably best met by resection. But of ordinary caries this is not true. It is a matter of common experience to find cases in which the destructive process is evidenced by the misplacement of the trochanter, which go through the whole course to recovery without any external evidence of suppuration. Caumont has taken the trouble to place such cases by themselves in his report. Of those treated expectantly, 25 per cent. died; of those exsected, 50 per cent.

It is not until suppuration has taken place that any vital indication for resec' ן appears. Even here I believe the dictum of Hueter† is ar too sweeping when he says: "I hold resection of the hip joint in coxitis to be indicated as soon as an extensive suppuration of the joint manifests itself, or as soon as the course shows that the termination in suppuration can be no longer prevented." Such a statement, however, is the natural outcome of his extremely gloomy views of the results of suppuration. If the opinion I have expressed as to the prognosis of suppurative coxalgia is anywhere near a correct one, resection is only indicated in a minority of cases. The indication comes not from the existence, but from the persistence, of suppuration. If it persists after the drainage of the abscesses and under the best hygienic resources the patient can command, particularly if fever attends the suppuration, then exploration of the joint is indicated, by incision or dilatation of existing fistulæ, with resection or a less extensive extirpation of the diseased parts, as the condition found may demand. And this should not be delayed after the system shows distinct depression from the suppurative process. To wait until the operation is the only escape from impending death is to err on the side of ultra-conservatism. I have not mentioned necrosis or sequestra in the joint, because under such circumstances some operation for the removal of the dead bone is imperative. Likewise, if perforation of the acetabulum with pelvic abscess exists, we have no resource but

* "Liverpool Med.-Chir. Journal," 1885, p. 289.

† At first sight it would seem as if more had been accomplished, but, as Grosch's statistics contain only early cases of a kind that scarcely appear in Culbertson's, the comparison is not quite upon an equal basis.

‡ Ueber die Resultate der Gelenkresektionen, etc., "Verhandl. der deutsch. Gesellsch. f. Chirurgie, IX. Kongress"; also, Die Frühresection bei tuberculoser Erkrankung der Gelenke, etc., "Archiv. f. klin. Chirurgie," Bd. xxvi, S. 822.

* *Loc. cit.* † *L. c.*, p. 653.

resection. True dislocation of the femur with suppuration of the hip joint is of very rare occurrence in ordinary hip disease, and the indication for excision often urged in this connection is rather orthopædic than vital.

A few words may be said regarding the second claim, that, namely, resection shortens the period of treatment, and that it diminishes the risks, both vital and functional. This is true of those cases that heal promptly and soundly, but only of such. Beside those that are fatal there is a long series of cases in which the patients neither die nor heal, but live years with persistent fistulæ. In Leisrink's tables 12·5 per cent. were "unhealed"; in Holmes's, 26·5 per cent. were "failures." Such cases now are often spoken of as "relapses." Asepsis favors prompt healing of the soft parts, but the union subsequently in many cases breaks down, and the old process is re-established under circumstances in no way improved. Just how frequent these "relapses" are I can not say, but they are often mentioned as "common." My own observations make them about 20 per cent. of all cases operated on. A friend who was in Kiel the past summer quotes Neuber as saying that "about half" of his cases relapsed. This refers, I understand, to the reopening of the wound, with tubercular granulations of its edges. Many of these ultimately do well after excision of the diseased parts.

Lastly, as to function. It is far from proved that resection gives better average results than a "natural" cure. In the question shortening is not the most important element. The shortening from resection is on the average greater than from natural cure, but not so very much. In a case not resected, but of such severity as to bring the operation into consideration, the growth of bone from the upper extremity will have been considerably retarded or arrested, according to the degree in which the epiphyseal cartilage has been affected. In a case resected the growth will be entirely abolished, and some bone already produced must be sacrificed. Ollier * points out that, although the total growth in length from the lower extremity of the femur amounts to about twice that from the upper, yet during the first four years of life the two ends contribute about equally, and that afterward the lower increases in activity until its work is, toward the end, about three times that of the upper. The prognosis as to length, then, will vary with the age at which excision is done, very early excision giving much the greatest ultimate shortening. The leaving of the greater trochanter does not much affect this relation, for what it contributes to growth in length is mainly above the joint and does not much increase the efficient length of the bone. The atrophy from inactivity affects the whole limb and is not materially different in cases resected from those left alone. If a resection was promptly successful, the advantage ought to be in favor of the operation, as permitting more speedy use of the limb.

Again, a useful joint in a lower extremity must be stable as well as mobile. And for most occupations security in the support of the trunk is more essential than motion at any one joint. Mobility with security at the hip after excision is only obtainable when very strong fibrous attachments exist between the pelvis and the remainder of the femur. The destruction from the disease and the necessary extirpation of affected tissues usually prevent the formation of attachments at once strong and flexible. Exceptions occasionally occur, and some very brilliant results have been obtained in which stability existed with very free motion.* Some very remarkable attempts at renovation of a hip joint have occurred, and interesting specimens have been described.† Nevertheless, as a rule, the motion, if considerable, is combined with such feebleness of support that the femur rides up and down on the pelvis in the act of walking. "Flail-joint," in the usual acceptation of the term as meaning uncontrollable motion in various directions, is rare, and I do not remember to have seen it. It is this insecurity that has led some operators (Ollier, Caumont) to urge that, if the operation is made very late, or in cases where much local damage has been done, if the patient must earn his living, it is better to strive for ankylosis rather than mobility. *A fortiori*, the ankylosis of a natural cure, the limb on the average being longer than after excision, will give for such persons a more useful limb. The compensating mobility of the spinal articulations, if the disease occurs in childhood, is often marvelous. The most striking instance I ever saw is No. 31 in Dr. Sayre's tables of excision; the motion took place in the lumbar spine, not only antero-posteriorly, but laterally, through a wide arc. Statistics (Grosch) show no better functional results for antiseptic operation than were formerly obtained. Functional reasons strengthen the indication for the substitution, whenever possible, of the simple extirpation of diseased tissues for formal excision in that they disturb less the relations of parts. These less radical performances are by the perfection of aseptic precautions rendered safe, and the large removals of bone formerly necessary to prevent accumulations of pus and septic matter seem no longer essential. In the same direction improvement of functional results may be hoped for by the employment in proper cases of the operative manœuvres in which a partial or temporary removal of the trochanter only is resorted to, the muscular attachments being little disturbed.‡

Further, it should not be forgotten that good functional results as to position and motion can only be obtained by prolonged after-treatment. Neglect in this particular constantly produces great deformity, and the care required to secure these good results quite answers the claim already alluded to—that resection is a short road to cure.

The conclusion, then, to which the foregoing brings us is, that exsection of the hip is indicated as a life-saving operation only; and that, as it has not been shown that it can save from any dangers except those consequent upon prolonged suppuration, it is, with rare exceptions, only indicated when the suppurative process has evidently reached a dangerous point, and can not be interrupted by any less serious operation.

* "Revue de chirurgie," 1881.

* See, for example, several cases figured in Sayre's "Orthopædic Surgery."

† Sayre, *l. c.*, frontispiece, 2d ed.; Küster, "Archiv f. klin. Chirurgie," Bd. xxix, 409; Israel, *Ibid.*, p. 411.

‡ Ollier, *l. c.*; König, "Centralbl. f. Chirurgie," 1882, S. 457; Neuber, *Ibid.*, 1884, Beilage, S. 75.

TYPHOID FEVER
AS WE SEE IT IN CENTRAL NEW YORK.*

By H. L. ELSNER, M. D.,
SYRACUSE.

It is not the writer's object to give you a treatise on typhoid fever—its pathology, symptoms, and everything pertaining to that disease—in the space of this essay. That has been done by others whose accurate and keen observations have been given to the profession during the last twenty years. For the typical cases of typhoid we can find no better authorities than Griesinger, Liebermeister, Lebert, Murchison, and a score of others. All physicians who have been in active practice and seen a fair number of fever patients are well aware of the fact that in central New York but few of their cases follow the train of symptoms laid down in our leading text-books on typhoid fever. The cases that do follow exactly the descriptions of our leading authorities are rather the exception than the rule. Our cases are without the characteristic or typical temperature-curve. Their symptoms do not follow each other in regular order; in fact, their course seems different from the cases collated. The object of this paper is to lay before you the result of my clinical experience with the disease mentioned, and to prove to you by my records that our cases are atypical. In central New York you will have noticed that each year our fevers show some different phase; that each endemic has its characteristic manifestations, which cause it to differ from the typhoid of the previous year. Some epidemics, or even isolated cases, are influenced by a large and powerful malarial element; others are associated with complications changing the entire course of the disease, or markedly modifying it. Let us look, first, to the prodromes of the fever as we see it. In not a few cases of pure typhoid we have found our patients presenting, with a high temperature, following a more or less severe chill without having experienced a single prodromal symptom. In these cases there was no gradual rise to a higher temperature; but without prodromes we are at once plunged into a state of affairs which we would hardly expect in typical cases before the end of the fifth or seventh day. In one case, seen with Dr. A. S. Edwards, the patient was taken suddenly, on returning from his work, with a slight chill and a temperature of 104° F., all symptoms warranting the diagnosis of typhoid. Death took place on the sixth day of the disease. On post-mortem examination we found the enlarged spleen and mesenteric glands, with the characteristic appearance of Peyer's patches. These lesions at once proved the case to be typhoid beyond a shadow of doubt. Some of the cases do have the usual prodromes well marked; but the fact is established that, in a goodly number of our cases, there is an entire absence of prodromes; that in a few cases the gradual rise of temperature does not take place, but we have at once a high temperature followed by the characteristic rise and fall of the second week of typhoid. For the confirmation of this fact I would refer you to Charts K, O, and P. In children we frequently find a prodromal stage of catarrhal symptoms showing themselves in catarrhal bronchitis or broncho-pneumonia. I will not detail the history of patient M. L., but refer you to Chart Q, where there was a pneumonia followed by catarrhal bronchitis, and finally typhoid, with alarming hæmorrhage, on the thirtieth day of his sickness. In those cases not at first burdened with some complication we are safe in saying that violent chills are rather the exception than the rule. Most frequently there are sensations of cold, as "cold shudders" or "cold streaks." These sensations continue usually during an entire day, and are accompanied with headache. Violent chills occur in those cases with an intermittent tendency. In most cases we have the usual malaise, change of disposition, and listless and disinterested manner of the patient. Gastric disturbances are found in some cases during the first days of the disease, taking the place of other early symptoms. It is often difficult in these cases to give a positive diagnosis, for we may be justified, if there are also diarrhœa and abdominal tenderness, in diagnosticating gastro-enteritis, or some other abdominal disease with like symptoms. In these cases the epistaxis and facial appearance of the patient will aid in making the diagnosis. Gastric irritability continuing into the second and third week is a serious and often unfavorable symptom. In 60 per cent. of my cases there was an early diarrhœa; 40 per cent. of the patients suffered from constipation. This constipation is often obstinate, and, before resorting to any measure directed toward its relief, we are warned by the ileo-cæcal tenderness, and the other symptoms, that the patient has enteric fever.

A small admixture of blood is sometimes found in the stools during the first days of the disease, while in two cases I have found a free discharge of blood. In the first of these cases this bloody discharge was the symptom which led the patient to seek medical advice. In the second case there was a distinct venous hæmorrhage. These early hæmorrhages were found in cases of enteric fever with marked malarial symptoms. In some of our cases the diarrhœa was superseded by an obstinate constipation. In not a single case of typhoid disease have I been unable to detect tenderness in the region of the ileo-cæcal valve at some time during its course. This ileo-cæcal tenderness is not influenced by the severity of the disease or the amount of ulceration. *It is present in all cases of typhoid fever, however mild or severe the manifestations.* To this point I have given the closest attention in the examination of my patients, and it is one which I can positively assert. In typhoid fever, as we see it, epistaxis is one of the most frequent symptoms. In some cases it is mild, in others of sufficient gravity to require surgical interference. Early profuse nose-bleed is more frequently found in the severer forms of the disease. Nose-bleed profuse after the tenth day is always to be regarded as an ominous sign. There is no characteristic appearance of the tongue in our forms of typhoid fever. Some of our cases have led to the death of the patient after severe hæmorrhage or perforation, with a moist tongue from the first to the last day of the disease. In some of the most critical cases of

* Read before the Third Branch of the New York State Medical Association, June 9, 1885. A number of temperature charts were shown at the meeting, but, in order to save space, they are not published.—EDITOR.

typhoid that I have seen there has been a moist, red-tipped tongue throughout the course of the disease. Repeatedly we find the dry, hard, cracked tongue, bleeding at its edges, with sordes on the teeth. This appearance of the tongue is found in the graver forms of the disease. We are more likely to find intestinal hæmorrhage and other intestinal symptoms in a case with the dry tongue than with the moist tongue. The pulse goes hand in hand with the temperature during the height of the disease; after severe hæmorrhage it is more rapid, and even dicrotic. If the temperature is high the pulse is correspondingly high. I hardly think that any one of us could diagnose typhoid fever from an examination of the pulse, as there is nothing characteristic in it, any more than a physician could tell the true state of a fever patient without the daily use of the thermometer. The roseolar eruption is usually present; only occasionally do we fail to find it; when I have failed I have thought that it was overlooked. In some cases the eruption is quite profuse, but in the majority it makes its appearance at the time and in the manner mentioned in the books. In most of the cases of hæmorrhage I have noticed a fall of temperature, at some time during the twenty-four or thirty-six hours preceding its appearance, externally. Some of our patients seem to mend rapidly after a single hæmorrhage, but, when oft-repeated and large, they tend to debilitate the patient, and finally death may ensue from exhaustion. There is nothing noteworthy in the behavior of the hæmorrhage, and we pass to the consideration of the question of malarial influence on our forms of typhoid. To me it does not seem possible that a patient who has typhoid germs floating in his blood can not modify the symptoms arising from that condition by the admixture of malarial poison. I have thought that our typhoids were markedly influenced by a malarial element, and am now positively convinced by clinical experience. Often we are called to attend patients with typhoid who have gone safely through all the stages of the disease, each stage marked by characteristic periodicity. After convalescence has commenced, and our patients are doing nicely, we find them suddenly with severe chill, elevation of temperature, profuse perspiration and exhaustion following. This condition, if not treated, is likely to recur at a corresponding hour in the course of a few days. Quinine, liberally administered, is sufficient to overcome this trouble. If you will study the temperature-charts closely you will find that in numerous cases the temperature is higher at periods of the disease every other day; again you will find sudden and irregular elevations of temperature, with profuse perspiration. These patients have the roseolar eruption, some of them are accompanied with active delirium, and some have profuse intestinal hæmorrhages. Though the typhoid germs are in the ascendancy, the malarial element makes a profound impression, and influences materially the symptoms and course of the disease. Many of our cases begin with the symptoms of malarial continued fever, but before many days assume a typhoid type, show abdominal symptoms, and are then true cases of enteric fever. To decide the subject of temperature-curve, I will not longer weary you with detailed histories of cases; but have taken a number of cases from my daily record, and some from the hospital records, all of which have been faithfully kept, and appended them to this paper. I could offer many more charts, but they all show that we have no characteristic temperature-curve for typhoid fever as we see it in central New York.

Are there mild cases of typhoid fever? Does our scientific or any other treatment of these cases abort them? That there have been mild cases in our midst we can not deny. In the mildest the patients in my experience have not been considered convalescent before the end of three weeks, and in some the convalescence has been very slow. Our German *confrères* do not deny the possibility of mild cases of typhoid, and Jürgensen has written an able article describing them in Volkmann's "Klinische Vorträge," No. 61. We can not accept the mere statements of those who tell us that they abort typhoid fever; if we are called to see a case of fever of any kind, and our efforts are rewarded by a fall of temperature and return to normal of the patient, we can not consider that a case of aborted typhoid. The accurate, skilled, and careful observer will be cautious how he makes a diagnosis of any fever during the first week; and yet some of our friends would have us believe that they have cured their patients before *we* have had time to make a diagnosis.

To make the diagnosis of enteric fever we must be satisfied that there are abdominal lesions; without these there can be no typhoid. During the early days when we are called to see these cases the symptoms are vague; there may or may not have been nose-bleed; we could not say that a patient had typhoid fever because he had nose-bleed and slight febrile disturbance, all of which disappeared after a day or two of most energetic and polypathic medication. Those who abort cases of typhoid must first satisfy us that they have made the proper diagnosis; must instruct us in the manner of making such diagnosis, by pointing out the features of their cases which lead them to its early recognition and ultimate abortion.

In conclusion, I would say that it has not been my object in this paper to mention all the symptoms of typhoid fever; but it has been my endeavor to attempt at least to decide, by a careful examination of my records, a few points which seem to have puzzled and upset us for some time past in the discussion of the subject under consideration. I think I am safe in concluding that we do not have as a rule in our cases of typhoid fever a schematic temperature-curve, that they are markedly influenced by a malarial element, and, finally, that we are only justified in making the diagnosis of typhoid fever after a careful examination of the patient, noting each and every symptom, including thermometric measurements daily for at least seven days, the abdominal symptoms, roseola, ileo-cæcal tenderness, epistaxis, and then, by the coupling of all these symptoms and a careful consideration of each, a diagnosis can be made.

DISCUSSION.

Dr. Higgins: Mr. President, I can not feel at liberty to let this paper pass without saying a few words and giving my testimony to the faithfulness of Dr. Elsner's description of typhoid

fever as we meet with it in this vicinity. And, after a practice of thirty-five years in an intensely malarial region, I am more and more impressed that we have few cases of disease of any character that are not to some degree influenced by malaria. The point he made I have often observed, of the malaria manifesting itself after having passed the patient through that stage which I supposed placed him beyond the need of my care. In these cases distinct chills with marked regularity, requiring active and decided anti-periodic treatment for their suppression, were the main feature of what is often called relapse. I should say, however, that these cases were generally of that class that were allowed to go on from eight to ten days at the outset without active treatment, the most important period to modify the disease.

I look upon the paper as one of the most valuable and interesting I have ever heard upon this type of fever, and it interests me greatly from the fact that in this long period to which I have alluded our fevers have very much changed in character. We do not have now, as we did thirty years ago, those positive characteristics that definitely settled the question as to their nature. We do not find even those marked and distinct cases of old-fashioned "fever and ague." We find more prostration with a commingling of types belonging to different classes. Those fevers that were termed "bilious remittent" have disappeared, or at least the name has, and the word "typhoid" has the ascendancy over all others. I find very little true typhoid fever in the vicinity in which I practice, and that, almost without exception, masked by this subtle agency. In fact, I find so much of this malarial character that I am very cautious how I use the word "typhoid," and cases of that type often require many days to distinguish their true character. But with reference to abdominal lesions, those cases that develop that form of complaint, there can of course be no question. But what I wished to speak of particularly were those peculiarly malarial influences mingling with almost every disease which comes under my notice, and that too in all seasons of the year.

I simply arose, Mr. President, to make my acknowledgments to my friend, Dr. Elsner, personally, for this very able paper, it being so faithful a delineation of the disease as it has come under my observation, and being a subject of great public as well as professional interest.

Dr. Ross: I am very much interested in the doctor's paper; and while it seems that the type of typhoid fever mentioned by him is somewhat different from that which I am accustomed to see, I think, at least in half our cases, we have a *comparatively* typical run. There was another fact brought out by the doctor which is present in almost every case—that of roseola being found between the seventh and eighth days. Almost all of my cases have been between the eighth and twelfth days. Another thing: after an extremely high temperature, often running as high as 104° at the outset, and a pulse of 110 to 130 during the first twenty-four or forty-eight hours, the temperature will drop, then gradually rise, continuing as in a well-behaved case of typhoid fever.

A great many patients, as we see them, have constipation—perhaps one third; some are so much constipated that we are obliged at times to remove portions of hardened fæcal matter from the rectum with the finger; the tongue usually assumes a comparatively typical form.

In regard to aborting cases, I have seen cases begin with every symptom of typhoid fever—epistaxis, diarrhœa, tympanites, tender abdomen, and delirium, with a gradual rise of temperature for five or six days; then suddenly, whether due to treatment or to the natural termination of the disease, the fever drops to normal, other symptoms subside, and the patient is out within a week or ten days.

I had such a case not more than a month ago—that of a physician who resided in this city and was in the hospital here, I believe. He left the hospital and went into the country, where they were having, or had recently had, typhoid fever. He came home to Elmira and remained a few days, intending to go to an adjoining town to practice. The day before his intended start he was taken with every symptom of beginning typhoid fever. He had epistaxis, tympanites, delirium, diarrhœa, and a gradual rise of temperature for about five days, followed by a gradual abatement of all the symptoms.

Within seven or eight days he was out and about the house. I have seen such cases again and again, especially when we have had a large number of typhoid fever patients on hand.

Now, whether these are cases of *simple* fever or cases of aborted *typhoid* fever I am not prepared to say; the thought often comes to me that they *might* be, and there are good, well-read practitioners who believe this to be possible.

Of course we have no authority for expecting to abort a case of typhoid fever; neither do I wish to be considered as advocating such a theory. I would like to hear on this point the opinion of other members of the association.

Dr. Brown: My idea of typhoid fever is somewhat different from that of the last speaker. I believe that typhoid fever, strictly speaking, is a specific poison; that it starts out as typhoid fever, and I have contended that the idea of breaking up typhoid fever is simply ridiculous.

I believe when it is typhoid fever it is typhoid fever from the commencement; I believe that it is typhoid fever throughout; I believe if it commences as typhoid fever it will run a course as typhoid fever, and, according to my experience in a large number of cases connected with a school in Pennsylvania several years ago, and published in the journals, where the infection was caused by drinking-water. There were sixty-two persons taken sick within three weeks. The shortest duration of the fever was thirty days, and they ranged from that to forty and forty-five days. A large majority had hæmorrhage from the bowels and the cases were typical cases of typhoid fever. There were a few persons about the building and in that vicinity, who did not drink the water, who did not have the fever, but all that drank it had the fever. It was found that the drinking-water that they used was from a well that was about forty feet from a privy-vault that had been used for ten years. We found that the contents of the privy-vault had backed around into the well. The water tasted good and had the appearance of being good water. At the place there was an Artesian well that was one hundred and forty feet deep carried into the building, but the students and some of the teachers liked the surface well so much better that they would go out from their rooms and down to this well to get the water because they liked it. The deep well was, of course, all right. I sent samples of this water to Dr. Lattimer, of Rochester University, and he examined it and reported that it was swarming with animalcula; and so I believe that the large majority of cases of typhoid are the result of drinking water that is contaminated by sewage and bad air, and that in these cases of direct infection of typhoid fever there is no such thing as aborting them. These cases of continued fever spoken of I should regard as a different disease from true typhoid fever.

Dr. Bloomer.—Mr. President and Gentlemen: If this meeting had been held a year ago Dr. Chapin would probably have been here; and if he had been here he would have, no doubt, called attention to certain mental manifestations present in cases of typhoid fever.

There is no doubt that about the third week of typhoid fever there is a mental condition short of delirium, where the patient

is restless, apathetic, indifferent to his surroundings, when the question of testamentary capacity often comes up. Dr. Chapin related last year two cases published in the "American Journal of Insanity."

In one of his cases the patient, fifty-eight years old, a farmer, lying at the point of death, called his sons to his bedside and discharged some obligations to the amount of $6,000 or $8,000. He recovered from the fever; and a year afterward his sons were very much surprised by his asking them to have this obligation discharged; and he himself was quite confounded when he learned that the instrument had already been executed.

In another case the patient made a will in which he ignored the heirs in the male line, and his signature bore such a striking resemblance to that of the lawyer who guided the pen that there was a contest over the will. The late Dr. Cook and Dr. Chapin were called in as experts, who testified that in their opinion the patient was *non compos mentis*, and not in a disposing state of mind when he made the will; but the will was, notwithstanding, admitted to probate because it was executed in due legal form; and you all know what objections lawyers raise to the setting aside of an instrument that is executed according to the legal requirements.

Dr. Elsner: I merely wish to say that possibly the title, as it appears on the programme, is a misnomer.

The cases that I have described to you on paper have been seen in this county, and my experience with typhoid fever has been limited to this county. We consider ourselves in central New York, and, as I had no better name or title to give the paper, I gave it the title that appears on the programme.

Now, in regard to roseola. I think that you will find, in looking over the temperature-chart (for I have been particular in marking the roseola), that it did usually occur between the seventh and eighth day.

Then in regard to the abortive cases, and such cases as Dr. Ross mentioned. We all see them.

We are all called to treat just such cases as the doctor has mentioned. Some of the patients have active delirium at once, and some do not. We have a gradual rise of temperature, and, for a few days, imagine that we have a well-defined case of typhoid to treat; but our treatment is rewarded with success. Now, those cases can not be considered typhoid fever. One of the points that I wish to make in my paper is this: That we are not justified in making the diagnosis of typhoid fever unless we are sure that there are abdominal lesions. The tenderness in such a case may be caused by many other things. Typhoid ulceration may cause tenderness; ulceration in the region of the valve may cause it, and many other diseases that are not typhoid at all are associated with marked abdominal disturbance, yet can not be considered cases of typhoid fever. If we speak of aborting typhoid fever, such cases must be thrown out. We can not consider those as aborting cases of typhoid.

In regard to the mental state. I did not mention that in my paper, for I simply wish to impress upon your mind the leading symptoms of typhoid as we see it.

Dr. Bloomer has mentioned the mental state in some cases between the second and third week—that apathetic condition, that condition when the patient does not care whether school keeps or not. I think the much larger proportion of our patients are just in that very condition at that stage of the disease. The patient seems to lose all interest in himself or herself, however solicitous he or she may have been before; and I think there is a stage in typhoid, though I would not make this as a positive statement, at which these patients are not responsible for what they do, however clear they may have been during the entire course of the disease. I have repeatedly asked patients who have appeared perfectly rational throughout the entire course of the disease whether they remembered any facts concerning their sickness; much the larger proportion of them have told me that the time during the entire sickness seemed as if it had been a dream.

THE ANNUAL AND SEASONAL CLIMATIC MAPS OF THE UNITED STATES;

WITH A RULE FOR THE EVEN DIVISION OF CLIMATE,

BASED UPON THE AVERAGE OF THE COMBINED ATMOSPHERIC HUMIDITIES IN THE UNITED STATES.*

By CHARLES DENISON, M. D.,
DENVER, COL.

It is not the author's intention to write a new paper for the Climatological Association this year, but simply to complete his last year's contribution by a presentation of the graphical illustration of climatic statistics and of the divisions of climate in our own country, which was an important part of his last year's report. He can thus fulfill his obligation as "Committee on Climatic Elements, etc., Acting with the Chief Signal Officer," for the maps which are presented contain the different condensations of nearly five million signal-service observations, and for temperature, rain-fall, and wind movements—all the records since the Signal-Service stations were established. The result of studying so broad an area as is included within the boundaries of the United States is very gratifying in the presentation of a variety of climates and an amplitude between the extremes of moisture and dryness such as can hardly be claimed by any other government. Indulgence is craved for the introduction of the following descriptions of these climatic maps and the data they contain:

I. The Annual Map.—The annual map and tables are intended to give all the desirable annual averages of climatic statistics, and to graphically illustrate the most important of these—*i. e.*, the cloudiness of the air, annual temperatures, rain-fall, and wind—directions as to their prevalence and their influence upon the weather.

Cloudiness.—The relative cloudiness of the sky is one of the most important facts to be determined about the climate of different sections, for it is an estimate of the humidity of the atmosphere, which is but slightly affected by local peculiarities and the unequal radiation from the earth's surface. Particularly is cloudiness little affected by those faults of temperature statistics in cities, which are due to the greater heat there, and radiation from stone buildings, paved streets, etc. Besides, it is the most accurate estimate yet obtained of *the duration of sunshine.* The Signal-Service Bureau has no other reckoning of the time the sun shines than that obtained by inference—*i. e.*, if the sky is beclouded at two given stations thirty and sixty per cent. of the time, then the sun is assumed as shining seventy and forty per cent. of the time it is above the horizon at those places respectively. The annual average of sunshine can, accordingly, be approximated at from less than forty per cent. of day-time, in the northern Central Lake

* Read before the American Climatological Association, May 27, 1885.

region of the United States, to more than seventy per cent. along the eastern slope of the Rocky Mountains and in southern Arizona. This is a reasonable conclusion, and in accordance with the testimony of many observers. The sunshine is, therefore, represented by one hundred per cent. minus the per cent. of cloudiness of any given section. The proportion of cloudiness is telegraphed daily to Washington from all signal stations at 7 A. M., 3 P. M., and 11 P. M., Washington time. From these telegrams for the year 1883 the percentages were obtained which are graphically illustrated by the color shades on the annual map. They are divided into six grades of color, and show the proportion of cloudiness to range from over sixty per cent. of the time (one hundred being continuous cloudiness) to less than thirty per cent. The exact per cents. for each of the 136 signal stations are given in the tables, on the border of the map. It is interesting to note a somewhat intimate relation between increased cloudiness and increase of rain-fall and relative humidity, a fact which strengthens the belief that cloudiness is a good index of atmospheric humidity.

Temperature.—The average annual temperatures of belts of country stretching across the United States are represented by the *solid blue lines.* These *isothermal lines* are described by the figures (Fahrenheit scale) given at their termini on either coast. They are computed, according to the plan of the Signal Service, by dividing the sum of the 7 A. M., 3 and 11 P. M. observations by three to get each daily record. These isotherms represent the average of annual means for all time since the signal stations were established (for dates of establishment see annual tables), as do also the records given in the border tables for each station. The temperatures of places between isothermal lines can be approximately determined according to their nearness to the same.

Rain-fall.—The amount of rain and melted snow is accurately measured at each signal station (see Mean Precipitation in border tables), and the average yearly totals are graphically illustrated by the *interrupted blue lines* running over the face of the annual map. The inches of rain-fall are given at the termini of each of these lines on the border of the map. The variations in rain-fall within the boundaries of the United States are remarkable, being from less than five inches in southeastern California and southwestern Arizona to over seventy inches on the coast of North Carolina.

Winds.—An important part of the climatic maps to agriculturists, and to those who wish to prognosticate the state of the weather, is the record of the winds as to what winds bring pleasant weather and what usher in rain. Besides these two important facts, the prevailing direction serves to show whether pleasant-weather winds or rain-bearing winds are most likely to blow at any given place. All these three records are given by the *groups of arrows* which are scattered over the United States, the groups representing the regions in the center of or near which they are, and each kind of wind being indicated by a distinct form of arrow. These winds are the averages for the year 1882, and they blow as the arrows fly on the map, the quarter of the earth's surface, from which the pleasant-weather or rain-bearing winds come, being pretty nearly represented by the spread of the arrow's feather. *The velocity of the wind* at every signal station is constantly determined by a self-registering anemometer, and this valuable record (since the signal stations were established) is represented in the tables at the border of the annual map by the miles per month traveled by the wind. *The comparative windiness* is further given as determined by these records. For instance, Pike's Peak (1) is the windiest and La Mesilla (132) the least windy of all the places where the records are complete for the year, while the average for Denver, rating her as the 95th, shows that there are 94 out of 132 stations which are more windy than the "City of the Plains."

Elevations.—The elevations given in the border tables are the distances in feet, above sea-level, of the observation stations of the Signal Service Bureau, and are approximately accurate as representing the cities where these stations are. On the annual map the approximate elevation of sections of country are given which are over one thousand feet above the sea.

Ranges of Temperature.—Those who make a great point, as many do, of the precise variations of temperature, will be interested in the means of maximum and minimum and daily and monthly ranges of temperature, given in the border tables. The means of the maximum and minimum temperatures for 1883 are the averages of the daily highest and daily lowest temperatures for all the stations. From these two the mean daily range of temperature is computed, which is also given. The average or annual mean of monthly ranges of temperature is the average difference between the highest and lowest records in each month, and, with the daily range, indicates the equability or variability of a given climate. Many physicians, who had hitherto recommended equable climates for the classes of consumptives which can be benefited, have lately learned that *variability* is often to be preferred, as this quality pertains particularly to stimulating, dry, cool, and elevated climates, while *equability* always accompanies enervating warmth coupled with injurious dampness of atmosphere.

Relative and Absolute Humidities.—*Relative humidity* is the per cent. of moisture the air holds to what it would contain if it were saturated with vapor. It is always expressed in hundredths (saturation being 100), and the annual averages for all the signal stations are given in the border tables. A low average of relative humidity indicates the infrequency of fogs or dews as well as the presence of other qualities, as much sunshine and little rain, which produce a dry climate.

Absolute humidity is the real humidity of the air or the weight of vapor to a given space. It is usually reckoned in grains of vapor to the cubic foot of air. In the border tables of the annual map the annual record for 1883 is given in grains and hundredths, while in the tables of the seasonal charts it is given in tenths of a grain of vapor to a cubic foot of air.

Dew Point.—This is the temperature at which the air will become more than saturated by the amount of vapor it contains. The annual mean dew point, which is that given in the border tables, is always lower than the given mean

temperature of a place. The reason is this: the air can hold moisture according to its temperature, the range being very great—*i. e.*, from about one half a grain to the cubic foot of air at zero to over nineteen grains at 100° F. Now, the annual average of relative humidity never exceeds 90 per cent., so the temperature must be lowered for dew to be deposited. The explanation is similar considered with reference to absolute humidity. A place which has four grains of vapor to the cubic foot of air and a temperature of 62° (66 per cent.) must have its temperature reduced to 49° when four grains will just exceed saturation. The greater the difference between the mean dew point and mean temperature of a place, the less frequently do fogs occur.

Vapor Tension.—This is the elastic force of vapor, and represents the expansibility of the vapor of water the air contains. The moister the air, the greater is its elasticity or pressure. This elasticity is determined by the difference between the wet- and dry-bulb thermometers, and is expressed in hundredths of English inches (see border table for annual means). This method of expression is used because the expansibility of the air, due to the vapor it contains, is determined by the depression in inches of a column of mercury when acted on by this force.

II. The Seasonal Charts.—The seasonal charts serve a special purpose in presenting all important climatic data in quarterly divisions, which method has many advantages over the annual representation. In the annual statistics we have not even approximate representations of either summer or winter, for, being on opposite sides of the mean for spring and autumn, they neutralize each other when combined, and the significance of each is lost. The seasonal division of the year is therefore necessary in order to show the contrasts between winter and summer. It aids the mind in retaining correct impressions of separate data, while a semi-annual subdivision would be rather impracticable, and monthly statements too confusing to be remembered. The study of climate by seasons is the most satisfactory and the most rational method for physicians, agriculturists, health seekers, tourists—in fact, the great majority of those interested in climate.

Combined Humidities.—An important and peculiar object of these seasonal charts is to illustrate a classification of climates which the author has originated after much deliberation. It is that which is given in the blue and red color shades, and is based upon an equitable combination of the humidity statistics of the atmosphere for 1883. The object being to rate all sections according to their records, nearly a third the rating influence is given to each of three attributes of climate, namely, *cloudiness* and *relative humidity* per cent., and *absolute humidity* in tenths of a grain of vapor to the cubic foot of air; or, perhaps, more definitely, about 35 per cent. to the first, 40 to the second, and 25 per cent. to the third, in the order named. The object of this rating is to correct the mistake of judging by any one evidence of moisture or dryness. Cloudiness is uninfluenced by the faults of temperature or absolute humidity records taken in cities, and is comparatively independent of purely local effects; yet cloudiness is somewhat of a relative quantity, since the upper strata of the atmosphere must reach saturation in order that clouds may exist. Relative humidity would be an admirable test of atmospheric humidity were it not so fickle and under the dominion of faulty temperatures and changing winds. Absolute humidity, however, is more stable. It is an actual, *real* statement of the amount of atmospheric moisture, and serves as an excellent means of correction for relative humidity. For instance, Pike's Peak for spring, with a high relative humidity of ·84, has a low absolute humidity of nine tenths of a grain of vapor because of its low temperature, 15°; while Cedar Keys, with a less relative humidity, ·73, has a high absolute humidity—five and seven tenths grains—because of its high average temperature, 70°, for the same season. So each of these factors corrects the faults of the other two, and all of them combined better represent the climate of the country than any one of them alone can do. The finally accepted method of combining these statistics was to rate every station, forward or backward, from the average, which was assumed as the middle of climate for the United States. This mean of humidity statistics for the year would be represented by the average of the dividing lines between the blue and the red shades on the four charts. It is this yearly average with which all places are compared, those of more moisture being thrown appropriately into the shades of moisture (blue), and those opposite into shades of dryness (red). Since absolute as well as relative humidity is dependent on temperature, the capacity of the air to hold moisture varying according to temperature, it became necessary to have a separate rating standard or figure for each degree of temperature. Thus the "Rating Table" and the "Rule of Moisture and Dryness" were constructed, which are given both on the summer seasonal chart and on the annual map. The rating figures represent one third the sum of the three rating factors, and with this a third of the records of every place is compared. It must be remembered that this is not a geographical mean; so it is not essential to accuracy that the moist half should exactly correspond in area to the dry half. To get a fair mean as the basis of the "Rating Table," the averages of the separate factors were determined according to methods of computation approved by those in authority to judge of this subject. These means were found to be 44½ per cent. for cloudiness, 67 per cent. for relative humidity, and 67 per cent. of saturation for absolute humidity, expressed in tenths of a grain of vapor to the cubic foot of air. By these standards combined the proper climatic rating of every locality is determined, based upon the official and unbiased records of the Signal-Service Bureau. Thus a much-needed definition is obtained of what *moisture* and *dryness* mean as applied to climates. The moist and dry halves are each divided into four equal divisions, which are respectively represented by the blue and red shades on the seasonal charts. The seasonal peculiarities of localities and the relation of seasons to each other are thus well illustrated. Instance the large area (see winter chart) in the Northwest and in the Northern Lake and Central River regions, which are thrown into the solid blue shade of the extreme of moisture by the cold of winter, and the equally

large area (see summer chart) in the Southwest that is thrown into the solid red shade of the extreme of dryness by the heat of summer. Thus the laws which govern the diffusion of heat and terrestrial radiation are at many points illustrated by these charts. It is hoped this seasonal presentation of combined humidities will be appreciated, especially by those who would avoid undesirable weather in one season by a temporary removal to a more genial clime.

(*To be concluded.*)

THE PRINCIPLES INVOLVED IN THE CONSTRUCTION OF SPRAY-TUBES.*

By ANDREW H. SMITH, M. D.

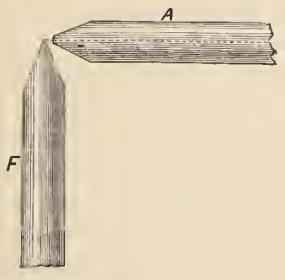
The Bergsen, or, as it is more commonly called in this country, the Sass spray-tube, having practically superseded all other forms, it is to this that attention will be confined in this paper.

The instrument consists essentially of two tubes placed one above the other, the upper one, which for brevity's sake we will designate A, carrying compressed air or steam, while the lower one, which we will call F, supplies the fluid to be atomized.

The free extremities of these tubes, greatly diminished in size, are so arranged in relation to each other that the stream of air issuing from A passes at a right angle across the tip of F. The action of the spray-tube depends upon the fact that air possesses a considerable degree of adhesiveness, the different particles adhering to each other with no little tenacity.

We are familiar with this property in viscid fluids and to a less degree in plain water, a drop of which can be drawn along a table by the finger, but we are not apt to think of it as belonging to the atmosphere or to gaseous bodies. Yet it is owing to the fact that the air or steam which escapes from A clings to and drags with it the air at the extremity of F that a vacuum is produced in F. Into this vacuum the fluid rises, and in its turn is caught by the current from A and dispersed in the form of spray.

The greater the velocity of the air-jet escaping from A, the greater will be the exhausting force exerted upon F, and therefore the greater the efficiency of the atomizer. As the velocity of the stream of air is greatest at its center,



where it is least retarded by friction, it follows that the axis of the opening of A should be exactly on a line with the extremity of F.

The pressure being the same, the character of the spray will depend upon the relative size of the openings of A and F. Increasing the former permits more air to escape and gives a larger volume of spray with a greater carrying force and more power of penetration. Increasing the latter results in a larger consumption of fluid, forming a coarser spray, and, if carried too far, results in dripping.

A large opening for A with a small one for F gives a large body of very fine spray. A small opening for A with a large one for F gives a small body of coarse spray. A successful application of spray to the throat or to the posterior nares often requires that it be effected as it were by surprise, and before there is time for reflex action of the muscles. Hence it is necessary that spray should be formed the instant the air-valve is opened; for, if the arrival of the liquid at the point of F is delayed appreciably after air begins to issue from A, reflex contraction will have been excited by the contact of the air with the mucous surface before any spray is produced. Now, no fluid will reach the point of F until all the air in F is exhausted, and the amount of air and the length of time required for its exhaustion will be in proportion to the length and the caliber of the tube. Hence these should be reduced to a minimum in spray-tubes intended for making quick applications. And, as there is nothing lost in any case by this construction, it may as well be made the general rule for all tubes.

With a properly constructed spray-tube comparatively slight air-pressure will suffice for all purposes. Increase of pressure will compensate in a measure for defective construction of tubes, but it brings with it its own inconveniences, such as mechanical irritation of the surface to which the spray is applied, waste of compressing power, etc.

The indications for the use of coarse or fine spray do not come within the scope of this paper, and will vary in accordance with the views of individual practitioners.

* Read before the American Laryngological Association, June 25, 1885.

ALCOHOL IN THE TREATMENT OF ACUTE AND CHRONIC FORMS OF ALCOHOLIC MANIA.

By LEWIS D. MASON, M. D.,
CONSULTING PHYSICIAN TO THE INEBRIATE HOME, FORT HAMILTON, N. Y.

While in certain forms of neuroses, occurring in cases of alcoholism, alcohol in any form would be injurious, nevertheless there are conditions in which the judicious use of alcohol is not only beneficial, but curative and indispensable, and its place can not be taken by other drugs. The assertion that alcohol is only and always a poison, and must not be tolerated in any condition, especially where the inebriate is concerned, is not carried out by our experience in the class of cases to which we shall presently refer. The indiscriminate and therefore injudicious and harmful use of alcohol is not here indorsed; we now speak of its careful administration, where the quantity and form used are regulated by a competent practitioner. An asylum experience of over nineteen years, embracing the cases of several thousand inebriates, has given us ample opportunity to test the relative value of sudden and complete abstinence from all alcohol, and the plan of gradual reduction, or what is known

as the "tapering-off" system. And just here it is legitimate to reason from analogy. Our experience has also embraced many cases of the opium and morphine habits. In a few of the earlier of this class of cases under our treatment the drug was left off abruptly. The terrible suffering and collapse that ensued demanded the immediate restoration of his full dose to recover the patient from a state of suffering, if not peril, and the endeavor by some other and less severe method to relieve him of the habit.

The same holds true in degree in certain cases in regard to alcohol. The inebriate, whose nervous system is broken down by his excesses, is suddenly deprived of his accustomed stimulant. Some hours may pass and nothing worthy of note happen; but in time the symptoms of deprivation manifest themselves, and he pleads for his usual draught, and will resort to all kinds of deceit or force to obtain it. He fails by reason of his environments, and then mental aberration, muscular tremor, insomnia, and the familiar symptoms of delirium tremens are established. This is the common experience of the hospital surgeon. The habitual inebriate, struck down by some accident, is brought into the hospital ward. He is thus suddenly deprived of all stimulants, and the necessity for administering the same is not recognized. A few hours pass, sleeplessness ensues, and a case of delirium tremens, associated with surgical injury, is established. And the hospital surgeon could not meet with a worse complication, especially in certain forms of injury, such as fracture, where perfect rest is so essential to secure proper results.

During the first few years of our experience at the Inebriate Home at Fort Hamilton the "cut-off plan" from all alcoholic stimulants was conscientiously adopted. Recognizing the great evil that alcohol had done, we did not desire to place it on record as of any use at all; and, further, the popular cry that inebriate asylums "were nothing more than hotels for the accommodation of a certain class who desired to continue their evil habits" influenced us somewhat to adopt this plan.

Cases of delirium tremens were common. Hardly a person entered the asylum but he was expected to pass through his attacks of acute delirium. At present this is an exception to the rule. If a patient enters the asylum, and is at all tremulous, especially if he has had a long, tiresome journey, and the experience of a sleepless night and deprivation from his accustomed stimulant, he is regarded as on the verge of an attack of delirium tremens, and the judicious administration of a few bottles of ale, or its equivalent in some other form of alcohol, given at proper intervals, will not only quiet him, but tone up his nervous energy and arrest a condition rapidly tending to delirium.

Many enter who do not need such treatment. The periodic dipsomaniac who is on the tail-end of his spree and is ready, after a day or two of rest, to again enter upon his sober interval, will probably not need such stimulant. The person most likely to demand it is the habitual inebriate, because, of the two, the nervous system of the latter is the most shattered, and because, also, he is accustomed to a daily stimulant. It must not be inferred that, in our asylum, alcohol is improperly, indiscriminately, or irregularly given. On the contrary, it is dispensed with as much care and caution as other drugs. A record of the quantities given, and the periods at which they are administered, in each case is kept, as well as the effect upon the pulse, temperature, and general condition of the patient. As a prophylactic or abortive treatment for delirium tremens, I know no remedy so safe and so potent as alcohol properly administered. I believe that insomnia is more readily overcome, and the end desired more promptly attained, than if we attempted to secure the same result by large doses of the bromides, chloral hydrate, or other hypnotics, and the risk that attends the use of these drugs avoided. If we have occasion to use these drugs also, less will be necessary, so that the quantities used may be administered in safer doses. I do not hesitate to assert that, by the too free use of these drugs in cases of delirium tremens, in the effort to overcome the persistent insomnia, the convalescence of the patient has been greatly retarded, and life has been put in jeopardy and even sacrificed.

The method, then, of administering alcohol should be regulated by the condition of the patient. On the first appearance of sleeplessness, mental aberration, muscular tremor (and these should be watched for in all cases submitted to our care), a bottle of Bass's ale may be given every two, three, or four hours, lengthening or shortening the interval as the case demands, and then, after sleep is obtained and the patient reacts from his mental irrationality and physical depression, the use of the stimulant be suspended.

The use of a stimulant may be necessary for a day or so, or longer periods. We find it rarely necessary to continue it longer than a week or ten days, gradually decreasing the quantity, and at the end of that time total abstinence may be safely practiced for an indefinite period. I have seen several instances, both in private and asylum practice, where the judicious use of ale alone, without other medication, has arrested in a few doses the tendency of the patient to acute delirium, and restored him to a safe condition of sleep and mental soundness. And, even in cases where the delirium was marked and the insomnia persistent, the judicious use of stimulants has put the patient on the road to recovery. Ale will often succeed where whisky or other forms of alcohol do not answer. After a night or two of rest, the mental and physical condition of the patient meanwhile improving, we may begin reduction and carry it on as speedily as the case seems to warrant, and in a few days the patient will be convalescent. If the case is one accompanied by severe injury, it may be well to continue the stimulant until the period of debility or shock has passed, or the exhausting drain on the system has been arrested.

In chronic alcoholic dementia—a low type of mental alienation occurring in alcoholics—the patient is anæmic, listless, and full of delusions; hears voices, and holds conversation with imaginary persons; appears to have sane moments, but readily relapses into his old delusions; his appetite is capricious, his sleep irregular, and his physical strength poor; he moves about in a waking nightmare, he walks in a land of dreams and shadows. The judicious use of stimulants in these cases, a glass of ale at each meal and at bed-time, conjoined with tonic treatment, proper diet, and regular exer-

cise, will do much good. The use of bromides and chloral to overcome the insomnia will only add to the already profound mental disturbance and still further lower the physical tone. I have already referred to the fact that the too free use of the bromides and chloral and other depressing drugs in the acute forms of alcoholic delirium may plunge the patient into the more protracted forms of mental alienation to which the inebriate is particularly prone. I have endeavored to be cautious in presenting my views; but our experience at the Fort Hamilton Asylum will not permit me to indorse the idea held by some practitioners—viz., that no harm can result from leaving off at once alcoholic stimulants in any case, and that no good can result from continuing them in any case of alcoholism; that their use is not only productive of mischief to the patient, but is, besides, a great shock to the moral sense of the community. I maintain, however, that, if, by the judicious use of alcohol in such quantities and at such times as we may direct, we can arrest the onset of an attack of alcoholic delirium, or abbreviate the duration of the more chronic forms, the result of the treatment certainly warrants its adoption. In order that my statements need not be misapplied or misconstrued, it may be necessary to state that there are many persons who drink alcohol in some form habitually, but never to excess or intoxication, and who have not passed through the terrible ordeal of delirium tremens, chronic alcoholism, or chronic alcoholic mania, and who have not yet been convulsed with alcoholic epilepsy. To such my remarks do not apply. These persons are not inebriates in the true sense of the word. Immediate and abrupt cessation with them means nothing more than the leaving off of a very pernicious habit, which, if continued, will carry them into the terrible precincts of the inebriate. All such I most earnestly advise to leave off alcohol at once. Total and immediate abstinence is their only safety.

Nor do we hold that all patients entering the Inebriate Asylum demand the treatment herein indicated. But I wish to impress the fact that a certain class of cases require alcohol in some form as a part of their treatment, and that in these cases it is especially indicated. We all recognize the moral side of the question; but, when a life is wavering in the balance, we must use the means which experience has proved to be the best.

One of the best and most conservative authorities in this special department of medicine indorses the judicious use of alcohol, if not directly, at least indirectly, and comes somewhat to our aid on this point. Speaking of digitalis and its effects in large doses in the treatment of delirium tremens—doses of half an ounce or an ounce of tincture of digitalis—he writes: "The patient must have received so much proof spirit;" and he is puzzled to account whether it was the alcohol or digitalis that effected the good result, and, although opposed to alcohol, says the favorable issue was either due, probably, in the large number of successful cases, to a spontaneous favorable termination of the disease, or was slightly helped by the alcohol which is contained in the tincture ordinarily employed. The "cut-off" plan is also considered by the writer; but he says it is more difficult to carry out this plan with older patients . . . accustomed to depend for a long time on strong drink as a large part of their nutrition. "But still," he writes, "we ought to try less harmful drugs—opium, Indian hemp, etc.—before resorting to so doubtful a remedy as alcohol." Again: "Alcohol, also, in diminishing doses, does seem to aid in the cure of feebler cases. If a man has been drinking a quart of whisky daily up to the time of his attack, a pint or quart of ale or porter will be to him only a mild tonic beverage, aiding his digestion." And, finally, the author is forced to this admission: "The popular idea of tapering off is not altogether devoid of scientific, as well as clinical, foundations." *

Another point to note, and of some value in gaining the confidence and sustaining the courage of the patient in the ordeal that he is to pass through, is the fact that his stimulant will not be immediately "cut off" if it is necessary to administer it.

I have no donbt that many persons desirous of entering a special asylum for the treatment of their diseased appetites would do so if they did not dread the sudden deprivation from their accustomed stimulant. When a patient is brought to our asylum, his first and only question often is, "Will they cut me off at once?" This thought is uppermost in his mind, intensifies his desire, and aggravates his nervous apprehensions.

If we can, by the judicious use of a stimulant, carry him over the first few days of his asylum experience, quiet his fears, secure to him rest, and gain his confidence, we have brought him successfully over the first part of his treatment, and, in all probability, arrested a train of nervous phenomena that would, if allowed to go unchecked, have precipitated him into an attack of acute delirium, or permitted him to drift into the more chronic form of alcoholic mania.

TWO CASES OF CROUP
TREATED BY
TUBAGE OF THE GLOTTIS.

By JOSEPH O'DWYER, M. D.

A BRIEF account of my experiments in the treatment of croup by tubage of the glottis, with illustrations of the tubes and other instruments used, was published in the "New York Medical Journal" of August 8th last. I have since devised a much better extracting instrument than any previously tried, and also made some slight modifications in the tubes.

Since preparing the article above referred to, I have treated two cases of croup, both of which occurred in the service of Dr. C. C. Lee at the New York Foundling Asylum. They were carefully observed and complete records kept by Dr. Dillon Brown, the house physician:

The first case was that of Albert L., aged three years and three months, who had a rather mild attack of diphtheria beginning on July 9th, which was unattended by very serious symptoms until the night of the 12th, when the voice became husky and the characteristic croupy cough began. During the following day there was a moderate amount of dyspnœa, which

* Dr. Francis Edmond Anstie (Reynolds's "System of Medicine").

increased during the night and became severe early on the morning of the 14th.

Emetics, inhalation of steam, and hot poultices to the throat gave only temporary relief. When I was called, at 3.30 P. M., the dyspnœa was so extreme that I introduced a tube immediately, and without difficulty, the time occupied by the operation, after the gag had been inserted, not exceeding ten seconds. It gave rise to a vigorous spell of coughing which lasted at intervals for about half an hour, during which a considerable quantity of muco-purulent secretion was expectorated. After a quiet and very natural sleep, lasting almost two hours, he drank half a goblet of milk with a teaspoonful of brandy, which was swallowed with very little difficulty. Temperature in the axilla 101·9°, pulse 140, respiration 30.

15th.—Slept almost continuously during the night, looks well, and is quite cheerful. Asks for drink in a faint whisper. Some bronchial râles over the chest posteriorly. No membrane visible in the pharynx. Temperature 99·3°, pulse 144, respiration 30.

16th.—Passed the night very comfortably. Suffers greatly from thirst, owing to the extreme heat of the weather. Vomited several times during the day in consequence of having taken too much milk. Ordered cracked ice and iced Vichy, to allay thirst, and milk to be limited to three pints in the twenty-four hours.

18th.—Passed the two preceding nights very comfortably, sleeping most of the time. Coughs very little, except when drinking. Temperature 100·9°, pulse 160, respiration 35. The afternoon temperature, taken for the first time in the rectum, was found to be 103·5°. Removed the tube at 3P. M., ninety-six hours from the time it was inserted. For a short time the breathing remained perfectly free, and the cough, which increased when the tube was removed, for a while retained its tubal character, but soon became croupy again, and the obstruction returned so rapidly that I was obliged to reinsert it at 4.30. Has passed only about one ounce of urine in the last twenty-four hours, which contained a considerable amount of albumin and blood-corpuscles, but no casts. Given infus. digitalis with acetate of potassium, and hot poultices applied over the kidneys.

19th.—Spent a very restless night. Vomited and had several loose passages. Temperature 102·9°, pulse 168, respiration 42. Nothing found on auscultation but bronchial râles.

20th.—Passed a more comfortable night. Urine increasing in quantity; vomits occasionally. Temperature 102°, pulse 156, respiration 40. Removed the tube at 2·30 P. M., and was obliged to replace it at 4 P. M.

21st.—Slept almost the whole night. Excessive thirst continues. Temperature 101·9°, pulse 144, respiration 24. Sat up several hours and was quite playful.

22d.—Removed the tube for the third time at 2.45 P. M., and had to replace it in an hour and a half. Temperature 103°, pulse 156, respiration 36.

23d.—Temperature 102°, pulse 132, respiration 36.

24th.—Tube removed at 11 A. M. and reinserted at 11 P. M. Temperature 101°, pulse 138, respiration 30.

25th.—Removed the tube for the fifth time. Cough soon became croupy, but without any marked dyspnœa during the day.

26th.—Did not sleep so well as usual. Some dyspnœa. Temperature 103°, pulse 160, respiration 42.

A careful examination of the chest revealed nothing but bronchial râles. Although the dyspnœa was not marked, the tube was reinserted, with immediate improvement in all the symptoms. The pulse fell to 130 and the respirations to 26. The tube was finally removed on the 28th. The cough continued croupy with some elevation of temperature for several days subsequently, but convalescence was uninterrupted. Urine found free from albumin, August 4th, for the first time. He was sent out to board soon after, and I did not see him again until October 30th, when his voice was perfectly restored. I learned from his foster-mother that complete aphonia persisted for about four weeks after his removal from the asylum.

The tube used in this case was two inches and an eighth in length, and of much smaller caliber than the tracheal cannula in common use. It is quite probable that the long continuance of the obstruction—fourteen days (the longest time in any previous case being ten days)—was due in some degree to œdema of the tissues of the larynx, superinduced by the nephritis.

The second case was that of John E , aged sixteen months, always a pale, delicate child, who had a severe attack of diphtheria, beginning on October 10th. There was extensive pseudo-membranous deposit in the pharynx, with marked swelling of the tonsils and severe constitutional disturbance. The first symptoms of croup appeared on the 13th, and I was called at 2 P. M. the following day. The breathing was then very much obstructed and noisy, with marked recession of the sternum and lower ribs during inspiration, but no restlessness nor other evidence of suffering. The swollen tonsils, still partially covered with membrane, had an excavated, sloughy appearance, and the surface of the body was extremely pale; even the lips had no color. Temperature 102°, pulse 198, respiration 28.

As the case was absolutely hopeless, I concluded to resort to tubage only in case of severe suffering. I was called again at 5 P. M., and found him extremely restless and evidently suffering very acutely. I inserted a tube one inch and three quarters long with some difficulty, as there were no double teeth to hold the gag, and it was difficult to keep the mouth well open. The relief to the dyspnœa was complete, the pulse soon fell to 160, and his general condition was for a time considerably improved. He took milk and brandy in sufficient quantity, but did not swallow so well as the preceding patient.

15th.—Passed the night in a fairly comfortable manner. Early in the morning the temperature was 104·5°, pulse 192, respiration 54; 2 P. M., respiration 70, pulse and temperature about the same. Bronchial râles, of all kinds and in great profusion, heard everywhere over the chest, while the resonance was not impaired. Death took place, without much apparent suffering, at 5 P. M., twenty-four hours after the tube was inserted.

At the autopsy, six hours after death, the lungs, which receded normally when the chest was opened, were found perfectly normal, there being neither emphysema, atelectasis, nor even an abnormal amount of blood in them. A thick deposit of pseudo-membrane was found in the larynx, trachea, and bronchial tubes, as far as the third or fourth division, the caliber of the right and left bronchus particularly being reduced to a very small size. The tube, which was perfectly clear, reached within about half an inch of the bifurcation. The right heart contained a well-washed clot.

In the majority of the fatal cases of this disease, after obstruction in the upper air-passages has been overcome, it is difficult to exclude incipient pneumonia, owing to the presence of more or less congestion and atelectasis; but in such cases as the one just recorded, and I have notes of several similar cases, the high temperature and accelerated breathing, in the absence of anything else to account for them, must be attributed to the extension of the diphtheritic process into the bronchial tubes.

Dr. Waxham, of Chicago, who procured a set of my tubes early in the present year, recently reported five cases of croup treated by this method. Dr. Brush, of Mount Vernon, has also used them in two cases.

858 Lexington Avenue.

Book Notices.

Doctrines of the Circulation. A History of Physiological Opinion and Discovery in regard to the Circulation of the Blood. By J. C. Dalton, M. D., Professor Emeritus of Physiology in the College of Physicians and Surgeons, New York, and President of the College. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. 296.

This little work, as its title suggests, is largely historical. Beginning with Aristotle, the idea of the circulation is traced step by step to the school of Alexandria, through the period of the Renaissance to the age of Fabricius, and finally to the time of Harvey.

Although an unassuming book, it shows evidences of a vast amount of research. Many curious and interesting facts are introduced from the works of the older writers, and in an appendix (including upward of fifty pages) there are numerous Greek and Latin citations. The book is a valuable one, not only to the special student and lover of the quaint and curious, but to the general medical reader.

Lectures on Phthisis Pulmonalis. Delivered at the Detroit Medical College, Detroit. By Ernest L. Shurly, M. D., Professor of Laryngology and Clinical Medicine, Detroit Medical College, President of the American Laryngological Association, etc. Detroit: George S. Davis, 1885.

In this little volume of about a hundred pages Professor Shurly has given, with admirable clearness and brevity, an instructive *résumé* of our present knowledge of the subject of pulmonary phthisis. To this he has added the results of a wide, intelligent, and carefully digested personal experience. The treatment of phthisis and its complications is considered with great thoroughness, and this department, occupying as it does about one half of the book, will be read with unusual interest and profit.

A Practical Treatise on Fractures and Dislocations. By Frank Hastings Hamilton, A. B., A. M., M. D., LL. D., Late Professor of Surgery in Bellevue Hospital Medical College, and Surgeon to Bellevue Hospital, etc. Seventh American Edition, Revised and Improved. Illustrated with three hundred and seventy-nine woodcuts. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. xxxi–1005.

It is unnecessary to repeat the words of commendation which have so often been used with reference to this work, which has now become classical. The present edition is fully up to date, the alterations and additions being suggested, as the author says, by recent journal articles. He acknowledges his indebtedness for new material to Dr. Stimson, of New York, and Dr. Poinsot, of Paris. The treatise is eminently practical; indeed, it is the author's purpose throughout to avoid empty theories, and to introduce only such facts as have stood the test of clinical experience. It is with no small feeling of pride that an American points to "Hamilton on Fractures and Dislocations" when the originality of his countrymen is called in question. Such works as this, embodying the results of the practice of several generations of medical men, redeem us from the charge of superficial work, and prove that, whatever may be the failings in our system of medical education, practical ingenuity and common sense are not wanting with us.

BOOKS AND PAMPHLETS RECEIVED.

The Pedigree of Disease: being Six Lectures on Temperament, Idiosyncrasy, and Diathesis, delivered in the Theatre of the Royal College of Surgeons, in the Session of 1881. By Jonathan Hutchinson, F. R. S., late Professor of Surgery and Pathology in the College, etc. New York: William Wood & Co., 1885. Pp. 113.

A Text-Book of Nursing, for the Use of Training-Schools, Families, and Private Students. Compiled by Clara S. Weeks, Graduate of the New York Hospital Training-School, etc. New York: D. Appleton & Co., 1885. Pp. 396. [Price, $1.75.]

Manual of the Diseases of Women, being a Concise and Systematic Exposition of the Theory and Practice of Gynæcology, for Use of Students and Practitioners. By Charles H. May, M. D., late House Physician, Mt. Sinai Hospital, New York, etc. Philadelphia: Lea Brothers & Co., 1885. Pp. xi–25 to 357, inclusive.

Official Formulæ of American Hospitals. Collected and Arranged by C. F. Taylor, M. D., Editor of the "Medical World." Philadelphia: The "Medical World," 1885. Pp. 238. [Price, $1.]

Diseases of the Larynx. By Dr. J. Gottstein, Lecturer at the University of Breslau. Translated and Added to by P. M'Bride, M. D., F. R. C. P. E., F. R. S. E., etc. Edinburgh and London: W. & A. K. Johnston. Pp. 274.

Post-mortem Examinations, with Especial Reference to Medico-legal Practice. By Professor Rudolph Virchow, of the Berlin Charité Hospital. Translated by T. P. Smith, M. D., M. R. C. S. E., with Additional Notes and New Plates. From the Fourth German Edition. Philadelphia: P. Blakiston, Son, & Co., 1885. Pp. 138. [Price, $1.]

On the Tests for Muscular Asthenopia, and on Insufficiency of the External Recti Muscles. By Dr. Henry D. Noyes, of New York. [Reprinted from the "Transactions of the Eighth Session of the International Medical Congress."]

Tracts on Massage. No. II. The Physiological Effects of Massage. Translated from the German of Reibmayr, with Notes, by Benjamin Lee, A. M., M. D., Ph. D., etc. Philadelphia, 1885. Pp. 46.

The Therapeutics of High Temperatures in Young Children. By William Perry Watson, A. M., M. D., Jersey City, N. J. [Reprinted from the "Archives of Pædiatrics."]

Observations on the Cause and Treatment of Infantile Eczema and Allied Eruptions. By Henry T. Byford, M. D., Chicago. [Reprinted from the "Journal of the American Medical Association."]

Letters from a Mother to a Mother on the Formation, Growth, and Care of the Teeth. By the Wife of a Dentist, Mrs. M. W. J. Philadelphia: Welch Dental Company, 1885. Pp. 106. [Price, 25 cents.]

Report on Ophthalmology. By A. M. Wilder, M. D., etc. [Reprinted from the "Transactions of the Medical Society of the State of California."]

The Causal Relation of Obstructed Cardiac Circulation to Lymph Stasis. By Samuel C. Busey, M. D., Washington. [Reprinted from the "American Journal of the Medical Sciences."]

Primary Lateral Spinal Sclerosis. By J. B. Marvin, M. D., etc. Read before the Kentucky State Medical Society, June 26, 1885.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, NOVEMBER 28, 1885.

WHAT MAY COME OF A SUIT FOR DAMAGES.

Our readers need not be told—for those of them who have long followed the practice of medicine are painfully aware of the fact—that medical men are peculiarly subject to injustice at the hands of the law. As one of our English contemporaries has lately remarked, the very institution that ought to be an unfailing and readily available refuge for any man who is conscious of his rectitude—the law—is becoming more and more a remedy worse than the disease, if not an engine of oppression. "He who filches from me my good name steals that which not enriches him, but makes me poor indeed," may many a man of our craft exclaim when he finds himself in its toils. Whether he has been goaded to seek redress in the law, or has been made against his will to take a position that subjects him to the gibes of every loafer who reads the vulgar newspaper accounts of things medical, he is lucky if on any such occasion he can look back on the affair, after all is over, with more satisfaction than regret.

If this can be said of the legal entanglements to which physicians are ordinarily and everywhere liable, what will be thought of a state of things in which obedience to the law is the very act that leads to punishment? This is what seems to have been exemplified recently in New York? One of the ordinances of the sanitary code makes it incumbent on physicians to notify the Health Department of cases of infectious disease, and they are subject to a heavy fine for any neglect to do so. Several years ago Dr. A. E. M. Purdy, an esteemed practitioner, gave notice to the Health Department, under this regulation, that, in his opinion, a young woman who was under his treatment was suffering with small-pox. Thereupon the Department sent one of its medical officers to visit the patient, and it appears that he agreed with Dr. Purdy as to the nature of the case, and the woman was removed, contrary to her will, to a public hospital set apart for infectious diseases. Her sickness proved to be of short duration, and she was not long detained, but she has now brought suit against Dr. Purdy for damages, alleging that the business in which she was engaged has been seriously injured by the fact that her old customers, having learned of her misfortune, shunned her shop; and, further, that Dr. Purdy's diagnosis was erroneous, since she did not have small-pox, but simply a dermatitis of the face, caused by a preparation containing acetic acid having accidentally come in contact with it. She sued for ten thousand dollars damages, and last week a jury awarded her five hundred dollars.

We can scarcely regard this verdict in any other light than as a miscarriage of justice. In the first place, Dr. Purdy still maintains the correctness of his diagnosis. It is in evidence that the sanitary inspector agreed with him, and he certainly seems to us to have been entitled to any doubt that might arise in the attempt to establish a retrospective diagnosis. It is to be borne in mind, too, that Dr. Purdy is a gentleman of mature experience, familiar with the clinical picture of small-pox and fully alive to the considerations that always restrain prudent men from condemning patients to the odium and discomfort involved in public information of their having such a disease, until they can no longer avoid that course. *A priori*, then, the assumption that the diagnosis of small-pox in this case was incorrect would seem to rest upon a very slim foundation.

But, allowing that it was incorrect, it is difficult to see the equity of holding the physician responsible for the misfortunes that happened to the patient in consequence of that diagnosis having become known. The notification to the Health Department was merely the expression of an opinion on the part of a man whom the law compelled to express his opinion. The Health Department did not rest satisfied with that opinion, but sent one of its own inspectors to examine into the facts. The information upon which the patient's removal from her home was decided on came, therefore, not from the physician in attendance, but from the Department's own officer. The straightforward interpretation of these facts would seem to relieve Dr. Purdy of all responsibility in the case.

We have heard it said that Dr. Purdy was sued in this case because a suit could not be brought against the Health Department. If the Department is really hedged about by such a divinity, it seems to us that the sooner it is removed the better. It is notorious that heretofore the reports of infectious diseases to the Board of Health have been exceedingly defective; what will they be henceforth, since it is virtually proclaimed that whoever reports a case does so at his peril? The Board has been lenient in inflicting penalties, so lenient as recently to have called forth severe criticism from a well-known citizen, and we lately took the trouble to offer certain excuses in its behalf. In the light of the verdict in the Purdy case, we doubt if any amount of leniency on the part of the Board, in so far at least as concerns reports of cases of infectious disease, will not be countenanced and even insisted on by the community. Should the case become a precedent, our registration of infectious diseases will practically cease to be founded on anything else than such cases as the sanitary inspectors may stumble upon, for our medical practitioners will surely choose to risk having to pay a specified sum, however onerous it may be, rather than incur the danger of being mulcted still more heavily. Small-pox will then be "given a fair chance," and everything will be lovely.

THE COUNTY SOCIETY AND THE CASE.

An extraordinary piece of business came before the Medical Society of the County of New York at the meeting held last Monday evening, being none other than the consideration of the suit in which Dr. Purdy was lately the defendant, and in which the jury brought in a verdict of damages in five hundred dollars against him. The main features of the case were those that we have set forth in the preceding article.

Associations for the legal defense of medical men are not unknown abroad, and, in the absence of any such organization in this community, we know of no good reason why the county society should not on occasion assume such a rôle. We are glad, however, that the meeting was prudent enough not to engage in a discussion of the way in which the further conduct of Dr. Purdy's defense should be carried on, in case of appeal, but contented itself with empowering the Comitia Minora to take such action in the matter as it might deem best.

We trust that the Comitia will act more carefully about the affair itself than it seems to have acted in preparing what was probably meant to be a notification that this particular business would come before the meeting. "Shall the medical profession," says the notice, "be subjected to a penalty of five hundred dollars for reporting contagious diseases to the Health Department of this city?" We hope that we shall hear of no more instances of individuals being mulcted on such grounds, and we are quite confident that "the medical profession" will not be so mulcted; and, if damages are again awarded in such a case, we do not know that it will necessarily be in the sum of five hundred dollars. But the Comitia "means well."

MINOR PARAGRAPHS.

THE REPORT OF THE SURGEON-GENERAL OF THE NAVY.

The report for the year ending September 30, 1885, is not a long document, for it makes only a pamphlet of seven pages. It states that the appropriations for the repairs of hospitals have been so small that the Bureau has not been able to maintain those institutions in a satisfactory condition, and that the further reduction for the current year may cause serious embarrassment. The Surgeon-General is, therefore, compelled to ask for an increased appropriation for the coming year, in order to maintain the establishments in the necessary state of preservation. He calls attention anew to the bad condition of the drains of the hospital inclosure at Portsmouth, N. H. The quarantine temporary hospital lately built on Widow's Island, in Penobscot Bay, has been inspected by the Surgeon-General, and he reports that its construction is satisfactory, and that he saw no evidences of any feeling of anxiety among the residents of Rockland or North Haven about the risks of disease being introduced from ships that might visit the station. He considers it a safe and desirable refuge for infected vessels from the West Indies or the Gulf of Mexico. One hundred and seventy-eight articles have been added to the Museum of Hygiene, and eight hundred and thirty books to the library.

MORE NEWSPAPER MEDICINE.

One of the daily newspapers lately published a long dispatch from Cleveland, O., setting forth the wonderful features of a case of triple gestation, in which one of the children was born several days after the two others, and of a case of dermoid cyst. There is usually a lurking suspicion that the physicians in attendance are in some measure answerable for newspaper articles of this type, but we are quite ready to absolve the accoucheur from the charge of having connived at the publication of such a state of things as happened in the first case.

NEWS ITEMS, ETC.

The New Jersey Sanitary Association held its eleventh annual meeting in Trenton on Thursday and Friday of last week.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending November 24, 1885:

DISEASES.	Week ending Nov. 17.		Week ending Nov. 24.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	3	0	2	2
Typhoid fever	25	8	33	9
Scarlet fever	21	0	39	9
Cerebro-spinal meningitis	4	4	3	3
Measles	13	4	17	5
Diphtheria	59	28	72	23
Small-pox	7	2	7	2

The Woman's Hospital.—The annual meeting of the managers was held on Thursday of last week. The receipts were reported as less by $1,514.33 than those for the year before.

The Regulation of Medical Charity.—The conference held last week between members of the Charity Organization Society and representatives of several of the public medical institutions was well attended, and resolutions favoring the extension of the society's system to the various institutions were passed. A committee of conference was appointed, consisting of Mr. Hewlett Scudder, Mr. A. B. Ausbacher, Dr. S. O. Van der Poel, Dr. J. W. Roosevelt, and Dr. J. H. Emerson.

A Death from Yellow Fever is reported to have taken place at the Chambers Street Hospital last Sunday, the patient having been a fireman on a steamship which is said to have passed Quarantine the Thursday before and been reported as free from sickness. The vessel had touched at several ports in the West Indies.

The Edinburgh Infirmary.—The "British Medical Journal" learns that Mr. Skene Keith has been appointed a special assistant in his father's (Dr. Thomas Keith's) ward.

The Academy of Medicine in Ireland.—The "Medical Times and Gazette" states that Dr. Thomas Addis Emmet, of New York, has been elected an honorary fellow of the Academy.

The Death of M. Bailliere, the founder of the well-known Paris medical publishing house, is announced as having taken place last Saturday. He had reached the age of eighty-eight years.

The Death of Dr. William Frothingham.—On Thursday of last week Dr. Frothingham, a well-known physician of Washington Heights, was killed by the discharge of a pistol which he had undertaken to put in order for the purpose of killing a sick dog. The deceased was fifty-five years old, and had practiced at Washington Heights for twenty years. He was a member of several of the larger medical societies of New York, and was much esteemed in the profession.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 15 to November 21, 1885:*

Heger, Anthony, Major and Surgeon, member of the Army Medical Examining Board now in session in New York city, is relieved from the additional duty of attending surgeon in that city, to take effect when Joseph R. Smith, Lieutenant-Colonel and Surgeon, shall have arrived in New York and entered upon that duty. S. O. 267, A. G. O., November 19, 1885.

Elbrey, F. W., Captain and Assistant Surgeon. Sick leave of absence further extended six months on surgeon's certificate of disability. S. O. 263, A. G. O., November 14, 1885.

Strong, Norton, Captain and Assistant Surgeon. Relieved from duty at Fort Union, New Mexico, and ordered for duty as attending surgeon, Headquarters, District of New Mexico, and post surgeon, Fort Marcy, New Mexico. S. O. 171, Department of the Missouri, November 16, 1885.

Ewing, C. B., First Lieutenant and Assistant Surgeon, now at Fort Leavenworth, Kansas, ordered to proceed to Fort Reno, Indian Territory, and report to commanding officer for temporary duty in the field. S. O. 170, Department of the Missouri, November 13, 1885.

Marine-Hospital Service. — *Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ended November 21, 1885.*

Yemans, H. W., Passed Assistant Surgeon. Promoted to be Passed Assistant Surgeon from November 1, 1885. November 14, 1885. Reassigned to duty at San Francisco, Cal. November 16, 1885.

McIntosh, W. P., Assistant Surgeon. Appointed an Assistant Surgeon. November 14, 1885. Assigned to duty at New Orleans, La. November 16, 1885.

Society Meetings for the Coming Week:

Tuesday, *December 1st:* New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Herkimer (semi-annual—Herkimer), and Saratoga (Ballston Spa.), N. Y.; Hudson County, N. J., Medical Society (Jersey City); Androscoggin County, Me., Medical Association (Lewiston).

Wednesday, *December 2d:* Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot County, Me., Medical Society (Bangor).

Thursday, *December 3d:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-Psychological Association; Obstetrical Society of Philadelphia.

Friday, *December 4th:* Practitioners' Society of New York (private).

Saturday, *December 5th:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

Letters to the Editor.

THE GRENET CELL *VS.* THE CHLORIDE-OF-SILVER CELL FOR A PORTABLE GALVANIC APPARATUS.

156 Madison Avenue, *October 24, 1885.*

To the Editor of the New York Medical Journal:

Sir: While perusing a file of Journals which had accumulated during the summer months, my attention was caught by an article in your Journal of July 18, 1885, from the pen of Professor L. C. Gray, entitled "Two Valuable Aids in Electro-Therapeutics." As the subject was one which bore upon a field in which for some years I have been extremely interested and quite actively employed, I feel it my duty to correct some statements made in that article apparently on insufficient information. The article in question is written (evidently with great enthusiasm) in support of a portable galvanic battery made of chloride-of-silver and zinc elements, which (according to the author) so far surpasses all previous efforts of electricians that he says: "I am prepared to say that its general employment will mark a new era in galvano-therapy."

Now, let us see upon what facts the champion of such a remarkable invention (as this would seem to be) rests his claim for its universal recognition. If I should state in the commencement that I have intentionally omitted this form of cell from the list of those which I have depicted and recommended in my forthcoming work upon "Electricity in Medicine," and that I have done so for good and sufficient reason, I must either admit myself to be unacquainted with the progress lately made in electrical devices, or I must prove the soundness of my convictions. I prefer to attempt the latter.

The chloride-of-silver and zinc element as the basis of a battery is not new. Dr. Gray need not have written to foreign countries (as he states in his article that he has done) to obtain much valuable information respecting its rise and fall. The "chloride-of-silver battery" presented to the profession some years since by the Western Electric Company is practically the same as the one Dr. Gray now extols. True, it had glass cups in place of rubber ones (which cost more), and it lacked some other of the mechanical features described by Dr. Gray, although the latter are but copies or slight modifications of identical devices employed by other manufacturers of this city and of Europe. Its excitant was the same, the elements were the same, the cell was practically the same, and the battery was light and easy to handle (the only claim, in my opinion, which it ever had to "universal recognition").

This battery was sold extensively at first by a reputable firm in this city, and probably equally so elsewhere. This firm finally declined to continue selling it, and I am informed that the Western Electric Company has since discontinued its manufacture. So much for the history of the "chloride-of-silver battery" in this country from a practical standpoint. Dr. Gray admits that a Mr. Schoth, of Europe, has thus far failed to make a satisfactory battery with this form of cell—although he has been "experimenting with them at Dr. De Watteville's instance." Dr. Gray has tried his own battery but a few months; yet, because it works and is light, he gives it his unqualified indorsement. Is not the conclusion on its face rather a hasty one?

In the second place, this type of cell has a low electro-motive force, and generates but a *small quantity* in the battery Dr. Gray describes. The elements are costly, and are not regarded by well-posted electricians as possessing the durability Dr. Gray claims for them. It is true that the silver can be reclaimed (when the fluid is saved after the elements are consumed and subjected to certain chemical processes), but few physicians would go to that trouble for the purpose of saving a few dollars. Dr. Gray estimates that it will cost "about $8 per year" for repairs. Even at this very low estimate, the battery becomes decidedly expensive. He fails, moreover, to state the first cost of the instrument—so that comparison on that score with the cost of other batteries made by reputable manufacturers is impossible.

In the third place, great stress is laid by Dr. Gray upon the light weight of the battery (9 to 12 pounds). Personally, I fail to see why a physician who owns a buggy and horse need to care much if a few pounds of weight are or are not dispensed with, provided that he can carry the machine easily from the carriage to the house of each patient without assistance. With a portable battery composed of the Grenet cells he gains (1) cheapness of construction; (2) a fluid which can be renewed when required at a cost of a few cents; (3) a cell whose elements last a long time and cost about ten cents each to replace when they at last are consumed by the fluid; (4) a high electro-motive force; (5) a considerable quantity of electricity—if the elements are of the usual size; (6) an easy way of overcoming

polarization when the battery is in use; (7) a clean instrument which, when properly made, will not spill the fluid; (8) the ability to select the cells employed from any part of the battery; and (9) a simplicity of construction which admits of repair by the physician himself if he possesses a screw-driver and a pair of pinchers.

Some months ago Dr. Brown, of this city, exhibited, at a meeting of the Clinical Society of the New York Post-Graduate Medical School, the very battery which Dr. Gray now presents as novel. The remarks of Dr. Brown were published, without the cut, in the "New York Medical Journal" in February, 1885. If I am not mistaken, Dr. Brown had been instrumental in calling the attention of the manufacturer to several of its best features.

In closing, I would say that the sentence in Dr. Gray's article which impugns the many advantages claimed for the Grenet cell, both by myself and others, for a portable galvanic apparatus, is not in accord (as far as I can learn) with the experience of thousands who are to-day using this form of cell in Europe and this country. It seems to give universal satisfaction when properly managed and cared for.

Respectfully yours,

A. L. Ranney, M. D.

A NEW ANTISEPTIC LIGATURE.

Jersey City, *October 19, 1885.*

To the Editor of the New York Medical Journal:

Sir: Ligatures have been used for many years for bringing together and retaining solutions of continuity, also for the ligation of blood-vessels. They have been made from a number of materials, such as silk, linen, catgut, silver and iron wire. Physicians prefer one or the other, as their experience or judgment may dictate. Claims have been made for this or that particular ligature, in some cases, as being superior to the others.

In solutions of continuity the principal points of a good ligature are ease of application, a ligature that will hold when properly applied, and of a non-irritant character, so that it can be left in the wound as long as necessary—*i. e.*, until the edges adhere, without exciting undue inflammation. Silk for ligatures has been used more than any other material, and, as a rule, has answered the purpose; but, after a few days in the tissues, it absorbs moisture, causing pus to form, which provokes a discharge from the wound, and thereby tends to prevent, in some cases, union by first intention. Before the silk is used it is coated with bees-wax, to keep it firm and prevent the thread from slipping in the surgeon's hand. I have for some years used shoemaker's wax for coating silk ligatures, which is *highly* antiseptic, and can be left in the wound a *much longer time* than by using bees-wax. To show the antiseptic nature of shoemaker's wax, I will give you the composition as obtained from an intelligent shoemaker, who has made it for himself and others: Rosin 1½ lb., pitch 1 lb., melted together in a vessel over the fire; remove and then add half a pound of Archangel tar (common); the whole to be mixed to a proper consistence. As I consider this an improvement on the usual method of coating ligatures with bees-wax, and am not aware of its having been used for this purpose, I wish to make it known through your journal.

James Craig, M. D.

THE NAMES OF THE ENCEPHALIC ARTERIES.

Ithaca, N. Y., *October 24, 1885.*

To the Editor of the New York Medical Journal:

Sir: The report of my paper On a Seldom-described Artery (*A. termatica*), with Suggestions as to the Names of the Principal Encephalic Arteries, in the "Transactions of the American Neurological Association," pp. 33, 34 ("Journal of Nervous and Mental Disease," vol. xii, No. 3, pp. 348, 349, July, 1885), contains an error, due to my own inadvertence, which can be most effectually corrected if you can spare the space for the following table, as amended. Instead of two cerebellar arteries, there are three, *superior*, *anterior*, and *inferior*, the mononymic new names for which are *præcerebellaris*, *medicerebellaris*, and *postcerebellaris*, and the English paronyms of these, *precerebellar*, *medicerebellar*, and *postcerebellar*.

Common Latin names.	Proposed names.	English paronyms.	Abbreviations.
Vertebralis.	Vertebralis.	Vertebral.	*vrtb.*
Basilaris. (*az.*)	Basilaris.	Basilar.	*bslr.*
Cerebellaris superior.	Præcerebellaris.	Precerebellar.	*prcbl.*
Cerebellaris anterior.	Medicerebellaris.	Medicerebellar.	*mcbl.*
Cerebellaris inferior.	Postcerebellaris.	Postcerebellar.	*pcbl.*
Cerebralis anterior.	Præcerebralis.	Precerebral.	*prcb.*
Cerebralis media.	Medicerebralis.	Medicerebral.	*mcb.*
Cerebralis posterior.	Postcerebralis.	Postcerebral.	*pcb.*
Communicans anterior. (*az.*)	Præcommunicans.	Precommunicant.	*prcm.*
Communicans posterior.	Postcommunicans.	Postcommunicant.	*pcm.*
Choroidea anterior.	Præchoroidea.	Prechoroid.	*prchrd.*
Choroidea posterior.	Postchoroidea.	Postchoroid.	*pchrd.*

I have no mononym to propose for the very awkward dionymic eponym, *Circulus Willisii* (circle or pentagon or hexagon of Willis), but one is certainly desirable.

In this connection, permit me to add that in the paper On Two Little-known Cerebral Fissures, following the one just named, on pages 350 and 351, *neutromesal*, *callossal*, and *hypocampal*, should be *ventromesal*, *callosal*, and *hippocampal*, and on page 352 *hippocampal* should be included with the "fissures mainly or partly mesal."

B. G. Wilder.

North Brookfied, Mass., *November 18, 1885.*

To the Editor of the New York Medical Journal:

Sir: Are not the numerous remedies dispensed by druggists becoming a serious usurpation of physicians' practice? I requested a druggist to keep on hand a preparation of bromo-caffein, which I wished to prescribe for headaches, which, by the way, is an excellent remedy in the *beginning* of a sick headache. I now fear that my opportunities for prescribing the remedy are lessened, as I doubt not the druggist recommends it to others, who otherwise would apply to a physician. Ought not the druggists to be informed through their journals as to their duty in this matter, or shall physicians, as the evil increases, have to dispense their own medicine in self-defense?

Very respectfully,

J. Garst, M. D.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of November 19, 1885.

The President, Dr. A. Jacobi, in the Chair.

A Section in Laryngology.—A motion looking to the establishment of a Section in Laryngology was adopted.

The Health Department.—A letter from Mr. James Gallatin was read by the secretary, by which it appeared that the Board of Health of New York city had asked for a considerable increase in the annual appropriation over that for last year, whereas the amount allowed by the commissioners fell very considerably below that sum. In view of this fact, there was danger of the efficiency of the board being crippled by the reduction of the salaries of those who did the principal work. He hoped the Academy would exert its influence toward lopping off sinecures

and toward having nuisances corrected without the additional expense attending repeated inspections by the health authorities.

Dr. Gouverneur M. Smith had nothing to say with regard to the wisdom of reducing the appropriation called for, but with regard to other points brought out in the letter he thought we should speak, and therefore offered the following resolutions:

Whereas, It is a generally recognized fact that the value of the work of the Health Department of the City of New York depends largely upon the presence therein of competent medical men, and,

Whereas, It has been declared expedient that some reduction should be made in the expenditures of the department during the coming year;

Resolved, That it is the sense of the New York Academy of Medicine that said reduction should be effected in such a way as not to impair the usefulness of the department either by the dismissal of any of the competent and experienced physicians now in its service, or by lowering their salaries below a fair and equitable rate.

Dr. Fordyce Barker thought there was nothing in the spirit of the letter, nor in the spirit of the resolutions, which would not be for the best interests of the medical profession. As to how far the expenditures might have been injudicious, and how far the appropriations might be diminished, he was not able to speak, but there was no doubt that for the interests of all concerned the board should secure the services of physicians of integrity and ability, and then see that they were amply paid. He seconded the resolutions, and they were adopted without a dissentient voice.

The Annual Address: Pathfinding in Medicine.—Dr. Henry D. Noyes then read the anniversary address. He had been impressed with the thought that further advancement in medicine must depend upon acute, exact, and deep research. Clinical observation had done much toward advancing medical knowledge, and it promised still to do good work in the form of collective investigation, but it must be supplemented by work in the laboratory. Indeed, he laid greatest stress upon the importance of laboratory research, and instanced the discoveries made by Virchow, Helmholtz, Pasteur, and others. The value of exact and deep research made by some persons of restricted opportunities had been well illustrated in the case of that brilliant scholar, Dr. Thomas Young, to whom the author paid a warm tribute of respect. He also paid a tribute of honor to Mr. Palmer, who overcame all obstacles and finally succeeded in becoming master of Oriental and other languages, which was turned to practical use in winning the friendship of desert tribes which had harassed the workers on the Suez Canal. But to build and equip a laboratory for scientific investigation involved a large outlay of money. It was for this reason that in Europe, where governments built and sustained laboratories, and paid professors who had risen to eminence in special departments of their profession for taking charge of them, more numerous discoveries had been made, especially in bacteriology. If the people of this country, and especially the wealthy people of New York, were made to see the need of opportunities for exact research in order to advance the health interests of the human race, many would be found who would contribute of their wealth toward the building and equipment of laboratories. Proof of this view already existed in the munificent gift of Mr. Vanderbilt to the College of Physicians and Surgeons, and in the building of the Carnegie Laboratory.

Dr. Fordyce Barker spoke of the pleasure with which he had listened to anniversary addresses before the Academy of Medicine many years ago, but more recently, on account of the inefficiency, he said, of Dr. Jacobi's predecessor, the custom had been dropped and had not been revived until the present year. He was glad that the president had renewed it, and moved that a vote of thanks be extended to the orator of the evening. The motion was unanimously carried. Dr. Barker expressed great hope that ere long the Academy would be able to supply a laboratory for use by those engaged in special investigation. Surely a city having so many wealthy people as New York would not allow this need to be long felt.

NEW YORK SURGICAL SOCIETY.

Meeting of November 10, 1885.

The President, Dr. Robert F. Weir, in the Chair.

Neuralgia of the Superior Maxillary and Inferior Dental Nerves; Resection; Cure.—Dr. William T. Bull presented a man showing the results of two operations — one performed upon the superior maxillary, and the other upon the inferior dental nerve—for obstinate neuralgia. These operations had been performed fifteen months before, and, as there had been no return of the trouble whatever, he thought the case might be regarded as one of cure.

A night watchman, sixty-two years of age, was admitted to the New York Hospital July 29, 1882. For several years he had had at intervals some pain in the right side of the face, which within a year had become more severe and almost continuous. He was rheumatic, had not had syphilis, and the history of malarial disease was doubtful. All sorts of medical treatment had been resorted to, and many teeth in both the upper and the lower jaw had been extracted. When admitted he was suffering from the same pain, which was partly controlled by hypodermic injections of morphine. There were tender points over the infra-orbital and mental foramina, and over the condyle of the jaw. He was slightly emaciated, and could not eat solid food, and also had pain in talking.

August 11, 1884.—The superior maxillary was exposed in the floor of the orbit and three fourths of an inch removed. The artery was divided and bled sharply. It was stopped by a plug of catgut which was continuous, with a few strands emerging from the center of the wound. Peat and bichloride dressing were applied. The wound healed primarily in four days.

18th.—The inferior dental nerve was exposed by a vertical incision over the ramus of the jaw and by chiseling through the outer wall of its canal (Warren's operation). The incision was placed low enough to avoid Stenson's duct; the fibers of the masseter, with the periosteum, were raised with the elevator, and the upper angle of the wound was strongly retracted. It was a narrow wound to work in, but there was little difficulty in removing a rectangular piece of bone, one fourth by three fourths of an inch in area. Three quarters of an inch of the nerve were removed. In separating it from the artery the latter was wounded and tied with catgut. A small bone-drain was left in the wound, which was treated like the other. At the end of a week, when the dressing was removed, the wound had healed except at the orifice of the tube, and this closed promptly under an iodoform scab.

From the time of the operation the man experienced no pain whatever in the face, and there was complete anæsthesia over the areas supplied by the nerves. There was no facial paralysis. Now, fifteen months after the operation, he continued perfectly well. There had been a dull aching in the lower jaw in damp weather, but it was trifling in degree, and did not increase in either frequency or severity.

Dr. R. W. Amidon had kindly examined the man lately, and stated: "I tested the sensibility with a faradaic current and a single-wire electrode, and found complete anæsthesia on the right side of the face over an area included between two lines running from the outer and inner angles of the orbit downward to the line of the chin. It does not reach far back on the cheek, or

much under the chin. It does not reach the lower palpebral margin, nor *quite* to the median line on the nose. In the lips and chin it extends *exactly* to the median line. It involves the gums and what teeth there are in the lower jaw on the right side up to the median line. At the outer, upper, and nasal borders of the area the anæsthesia shades off into normal perception. On the lips and chin the anæsthesia is complete up to the median line, and the transition to normal sensibility is sudden. There is no anæsthesia of the palpebral conjunctiva of the right lower lid or the right internal canthus, or the gums of the upper jaw, or the tongue. There is no paralysis of any facial muscle. He has complained of his sight being weak since the operation. I find the fundus normal and the vision good, but with the prism-test I find that he has an insufficiency of the interni (probably the right) of 5° for distant vision and 12° for near vision, and he reads much better with a prism to correct that.

"*Query:* Did you injure, during the operation, the branch of the inferior division of the *third* nerve which passes under the optic nerve to the right internal rectus?"

The PRESIDENT said there was one point worthy of special note in Dr. Bull's case, and that was the extremely satisfactory result from an operation performed externally instead of dividing the inferior dental and maxillary nerves within the mouth. He thought the internal section, made after Paradacini's method at the spine of Spix, was rather an unsatisfactory operation. It was somewhat difficult to perform, and the amount of nerve extracted was comparatively limited.

Dr. F. M. MARKOE said he had had a satisfactory result in a similar case, but the operations were not performed at the same time. Quite a number of years ago he operated upon a patient who had suffered for a long time and severely with neuralgia in the parts supplied by the inferior dental nerve. He trephined the canal and cut out about one inch of the nerve, and with perfect success. About three years afterward the patient came to him with neuralgia of the superior maxillary nerve, and he performed the same operation, cutting out about one inch of the nerve, going back to the point where it entered the antrum, and destroying the nerve as far back as was possible with the point of the scissors, and again with success which lasted a little more than two years, when the patient returned with some slight neuralgia affecting the region supplied by the supra-orbital nerve. The man was unwilling to undergo further operation, and disappeared from observation. Up to that time, however, covering a period of five or six years, he had experienced perfect relief.

Remarks on Excision of the Hip.—Dr. L. M. YALE then read a paper with this title. [See page 593.]

Dr. MARKOE said the paper was so statistical in character that there was hardly room for discussion, and that it contained an extremely interesting and very valuable accumulation of results obtained by different operators. So far as he had been able to discover, nothing appeared in the paper which indicated that the danger of tubercular infection was either greater or less in those operated upon than in those not operated upon.

Dr. YALE said that was the conclusion, except in this one instance. Caumont had analyzed all the cases treated in every way, between one and two hundred in all, and drawn the conclusion that tuberculosis was in no way relieved by exsection; indeed, one third of the patients died after excision, and one fifth in suppurative cases without exsection. Of course that was not a sufficiently large number of cases to settle the question.

The PRESIDENT asked if we were not premature in laying much stress on general infection after an operation upon a tuberculous bone or joint, as it was a matter which had not been brought to our notice, especially with reference to later pathological developments, until within the last two or three years. He would feel unwilling to accept such statements as conclusive until a larger experience had been obtained. This inference, if received as final, would cut off all attempts at operative interference for the purpose of getting ahead of tuberculous disease in bones and joints, and would render such operations unjustifiable.

Dr. C. T. POORE thought that private statistics should not be put in comparison with hospital statistics, because statistics derived from patients among the better classes were more favorable to the expectant plan of treatment. He did not believe that statistics of excision of the hip joint in hospital cases in general would show more than 33 per cent. of mortality, and in the same class of children treated expectantly without operation, his impression was, the mortality was greater than after excision. He was unable to see how one could determine, while persistent suppuration existed, whether or not he had to deal with simple caries of the joint or with a sequestrum which could not be removed without an operation. Besides, it was a serious question whether many patients with extensive disease of the acetabulum would ever get well without an operation, and whether an operation in those cases would remove that source of danger.

Dr. F. LANGE thought it generally conceded that a comparatively large percentage of patients with hip-joint disease would entirely recover under proper conservative treatment without excision of the joint. Even extensive destruction of bone did not preclude spontaneous recovery and a comparatively good functional result. He had observed so much destruction of bone that at last the trochanter was considerably above Nélaton's line, still without noticeable suppuration, and at the end with some mobility and a very useful limb. He thought it so much a point of experience as to whether in a given case one should follow out conservative treatment, or resort to more radical interference, that only the long-continued observation of a large material might entitle us to draw general conclusions. He must say that, as a principle, he was rather inclined to push the conservative treatment as far as possible, and his impression was that, even in cases presenting a more serious aspect, if only all the indications of hygiene and orthopædy were fulfilled, and retention of pus prevented as much as possible, good results could be obtained. Further, he thought that, if by consequent general treatment one succeeded in altering in a favorable way the constitution of the patient and in checking the progress of the local tuberculous process, any kind of surgical interference would be followed by more satisfactory results so far as complete recovery was concerned. Though feeling convinced that small particles of necrosed bone might be absorbed by the action of vigorous granulations, it was beyond doubt that a large percentage of patients would not recover entirely unless tuberculous sequestra were removed. Hence eventually in these cases excision had to be considered. He had repeatedly tried to avoid total excision, and to perform more of a sequestrotomy, but he must say that in all the cases but one he had been obliged to add excision of the upper end of the femur in order to get sufficient access to the diseased parts to enable him to remove with some degree of certainty the structures involved. In the one case above mentioned, in which several tubercular sequestra were removed from the anterior aspect of the acetabulum without touching the head of the femur, except to scrape away quite an amount of granulations, healing apparently took place, but it had not been under observation a sufficient length of time to enable him to determine whether recovery was permanent. He regarded the necessity of removing so much bone in excision of the hip joint as a great drawback to the operation, and did not think that the amount of shortening was so little as was

generally assumed. The question, what was the amount of shortening in adults who at an early age had been subject to excision of the hip joint, was not settled yet, and was worthy of careful investigation. Suppose we had a young patient with tuberculous osteitis of the acetabulum, and we removed, as might become necessary, a large portion of that bone, besides the separation of the shaft of the femur above the trochanter minor. In such a case we might have three or more inches of bone in its length lost, and, in addition to that, have abolished what additional growth might have come from the preservation of the upper epiphyseal cartilage. One ought to state how much that represented in the adult, in order to fix more accurately the question of indication for total exsection. The latter would of course always exist where the operation had to be done as a means of preserving life, and he thought that the standpoint of a good many surgeons and orthopædists, as a matter of principle, not to do any exsection at all, was identical with sacrificing a certain number of lives which otherwise might be saved. Especially the results of orthopædists were not absolutely conclusive, because in the majority of the worst progressive cases the patients did not apply to them, or eventually gave up their treatment in order to search for some more speedy relief. Regarding the very important question of functional result, he was not able to give a decisive answer. He had had some very good results after excision, and other cases in which after excision recovery was incomplete, or the functional result deficient. He had observed in several cases where a great portion of the acetabulum had had to be removed, in spite of consequent abduction during the after-treatment, that the shaft did not find a favorable point of support. One was able to make out in such cases a certain amount of slipping of the bones against each other, according to the more or less strong and tense fibrous connection; and he must further say that he was not convinced yet that, under all circumstances, a patient with a movable joint after excision was better off than one with ankylosis in good position. The latter, with a slight amount of flexion, would always have a safe gait, and was not deprived of the advantage of being able to sit. Besides, his limb would probably not be so short as that of the former, who, to be sure, might occasionally offer an excellent result, at other times an incomplete one. He also thought one point worthy of attention, namely, whether the position of the limb after excision, as well as after conservative treatment, was a lasting one. Eventually, after a year, perhaps after a good many years, an unfavorable position might take place. He had once within the last seven years seen general tuberculosis follow excision of the hip, apparently caused by the operation. The latter was done at an early stage of the disease. There were several sequestra belonging to the head of the femur, and the patient died, in the third month after the operation, of tubercular meningitis.

Dr. Yale said, with regard to the amount of shortening which might occur, that, according to Ollier's experiments, if it was assumed that the growth from the upper epiphysis was absolutely abolished, it was possible that, with the ordinary growth from that extremity of the femur, about nine centimetres might be lost. To that there might be added the atrophy from inactivity. He had measured many cured patients, some of whom had had abscesses, and others none, with regard to the different sources and amount of shortening. He had seen a tibia in a coxalgic person fall behind one inch or more, and it was fair to presume that the diminution in the growth of the femur was quite as much. If that was added to the other, it was possible that several inches might have been lost from simple inactivity. The amount of functional use which a limb might have with ankylosis after an extensive disease of bone had recently been brought to his mind by the case of a patient who, fifteen years before, had come under his care with an abscess which had been totally neglected. There were many fistulæ, and in the spring of 1871 he contemplated excising the joint, and asked the opinion of Dr. Sayre, who said that excision would do but little good on account of the great amount of disease of the pelvic bones. He therefore treated the case as best he could without resorting to operative interference, and the patient recovered with ankylosis, and was now a teacher in one of the public schools, although she still had six sinuses about the hip, which discharged more or less. The limb was in very good position; the actual shortening in the femur was an inch and a quarter, in the tibia about one inch, which is partially compensated for by tilting of the pelvis, and the remainder is nearly made up by super-extension of the sound limb; and practically, therefore, she walks with a shortening of only about half an inch, and locomotion is with only a very slight limp. He also recalled the case of a young man who, after he was cured, had thirteen cicatrices about the hip, and he was, when last seen, able to take an active part as a member of a baseball club.

A Urinary Calculus spontaneously fractured in the Bladder.—Dr. J. C. Hutchison presented a specimen which had been removed by bilateral lithotomy from a man twenty-three years old, who gave the history of stone in the bladder beginning when he was five years old. His general health was excellent, and he had always been able to attend to his business without much suffering until he began to drive a cart in the city of New York, when he experienced considerable pain in the bladder after a long day's drive over rough stones. Three weeks before he applied for treatment his symptoms suddenly grew worse, and the pain was so great that he was compelled to give up work. On exploration of the bladder with a searcher, the speaker at once detected a calculus. An instrument had never before been introduced into the bladder. Bilateral lithotomy was performed, and the two fragments of stone shown were removed. The patient made a satisfactory recovery. The surface of the stone showed no marks of an instrument with which it might have been broken, and the fractured surfaces were not covered with urinary deposits or smoothed by attrition, showing that the fracture was quite recent. All the evidence went to prove that the fracture was spontaneous, that it was the result of forces acting from within, and that it occurred at the time there was a sudden increase of pain in the bladder—three weeks before the operation. The stone was composed of calcium oxalate, with a uric-acid nucleus. It weighed 859 grains, was disc-shaped, measured an inch and a half in its transverse and an inch in its vertical diameter, and its surface was smoothly mammillated.

Dr. Ord,* in a paper read before the London Pathological Society, had expressed the opinion that there were three methods by which a calculus might spontaneously fracture: 1. From forces arising within the calculus itself; "in an altered state of the urine the nucleus becomes swollen, and acts as a bursting charge in a shell." 2. From molecular disintegration. 3. From weakness of the layers within the crust, allowing its fracture. The speaker could not understand how either of these methods could have caused the fracture in this specimen, nor had he any satisfactory explanation to offer.

Dr. Hutchison also presented twenty-two calculi removed by median lithotomy from a gentleman sixty-six years old, on on whom he had performed litholapaxy two years before. They varied in size from that of a pea to that of a hazel-nut; the surfaces were fissured, but not rough, and of a light-red color. A section of one was made for examination. It was composed

* "British Med. Jour.," May 10, 1879, and September 7, 1878.

mainly of uric acid, with a small amount of calcium phosphate. The total weight when removed was 478 grains. The patient recovered, but died some time afterward from causes not connected with the bladder. The speaker also showed the fragments removed from this patient two years before by rapid lithotrity. They weighed 225 grains, and were composed of uric acid and calcium oxalate.

Dr. POORE presented two small calculi removed from a child who was operated upon in May last by median lithotomy. The child was three years and a half old, and the second operation had been performed in September last.

The PRESIDENT asked if the child had suffered very much after the first operation.

Dr. POORE replied that the father, although perhaps his statement could not be accepted without allowance, had said that the child suffered a great deal after it left the hospital where the first operation was performed. At the time of its discharge after the last operation the child had no bladder symptoms.

The PRESIDENT said he had asked the question because it was well known that in the old subject two stones not infrequently existed and escaped detection. One case he recalled particularly, in which the patient was operated upon by the late Dr. Van Buren, and got a great deal of relief; and then pain came on again, and lithotomy was performed one year afterward by the late Dr. Buck. At the second operation a stone as large as the original one removed by Dr. Van Buren, of about the size of a walnut, was removed, and there was no evidence of facets upon its surface nor in its internal structure, and the explanation of the presence of the second calculus was found in the fact that an unusually large bar between the mouths of the ureters divided the bladder into two parts. Dr. Buck had been much struck by this condition, found at the time when he operated, and, as the patient complained about two weeks afterward of some pain, he anæsthetized him again, made another search, and found a small fragment of a calculus which was lodged in one of the irregularities of the prostatic portion of the urethra.

Dr. A. C. POST had met with two cases in which there was contraction of the bladder between two calculi so that the stones could not come together. His cases occurred in young subjects. In each case one calculus was near the urethral orifice of the bladder and the other was far back in the cavity, and there existed a contraction of the bladder between the two which could be felt with the finger.

Fistula in Ano.—Dr. LANGE directed attention to one way of treating fistula in ano, namely, cutting the entire canal out and sewing up the wound. In most cases it was a simple procedure, and he would be much obliged if the members of the society would try it. He had adopted it for the first time about two years before in the case of a woman who had a deep-seated fistula. In that case he had a complete result, and the patient recovered in about fourteen days. He had tried it in a limited number of cases, but he had not succeeded in all; yet he thought that, with improved technique, the results would become better. So far, at least, the results were encouraging. Having a probe in the canal, he dissected all about the probe and cut the entire fistulous canal away, including some of the tissues surrounding it, and then, with a catgut étage suture, closed the entire wound, and besides inserted several silk sutures around the whole mass, as after other plastic operations, to relieve tension and to prevent eventual separation of the lips of the wound in consequence of too early absorption of the catgut.

The PRESIDENT said he had performed this operation four times with satisfactory results. In one instance the fistula ran from the labium to the rectum. His first knowledge of the operation was obtained from the "Transactions of the American Gynæcological Society," and from a Western surgeon who reported a number of cases.

Dr. MARKOE had performed the operation twice by scraping out the fistula, but he had not got good results.

Dr. A. G. GERSTER had employed this method in a limited number of cases, and, as Dr. Lange had stated, with some good results and with some failures. He thought the method applicable in cases where the fistula was simple. Where, however, there were several fistulæ crossing each other, as occasionally occurred, and running perhaps in a spiral line around a part of the circumference of the rectum, and where, after removal of all the lining of these different canals, a complicated wound remained, the results had not been very satisfactory, the relations of the wound being such that absolute contact of all the surfaces could not be brought about, and accumulations of secretions with retention in pockets frustrated primary union. But certainly in simple cases, however deep, up to a certain extent, the method was a rational one, and it shortened the time of cure very considerably.

NEW YORK STATE MEDICAL ASSOCIATION.

Second Annual Meeting, held in New York, Tuesday, Wednesday, Thursday, and Friday, November 17, 18, 19, and 20, 1885.

(*Concluded from page 584.*)

Wednesday's Proceedings.

A Communication from the American Medical Association, regarding certain proposed uniform State legislation, was referred to a committee of three, to report to-morrow.

The Discussion on Pneumonia was resumed after certain other business had been transacted. Dr. CHARLES G. STOCKTON discussed in a brief paper the seventh question propounded by Dr. Flint, and said he thought the special manner in which the temperature should be lowered would depend upon the individual case; a single antipyretic would not answer in all cases. He had sometimes used quinine and antipyrine successively in the same case. Regarding antipyrine, he recommended its use in from fifteen- to twenty-grain doses once in from eight to twelve hours. When so used it had never produced any toxic effects upon the heart, and it had had the desired effect upon the temperature.

Dr. E. D. FERGUSON's experience with antipyrine had been similar.

Dr. J. G. ORTON discussed the eighth question in a brief paper. He had never seen an unqualified case of relapse of acute lobar pneumonia during or shortly after the period of convalescence, but one attack seemed to predispose to subsequent ones in the same lobe. He thought pneumonia was a non-infectious essential fever. He also spoke of complications and diseases to which pneumonia predisposed.

Dr. F. E. HYDE had in several cases of acute lobar pneumonia found evidence at the autopsy that there had been early and persistent thrombosis as well as embolism of the veins, and in two cases there had been embolism in the arteries as well. This condition he thought occurred more frequently than was supposed, and we could see why remedial measures proved of no avail, and why death occurred so early in the course of the disease.

Dr. SHELDEN and Dr. ROSS also discussed the paper.

The Medico-Legal Bearing of Pelvic Injuries in Women.—Dr. ELY VAN DE WARKER, of Syracuse, read a paper with this title, in which he said that actions at law to recover damages for injuries sustained to the pelvic organs in women were becoming quite frequent and involved large sums of money; they were usually brought against corporations, particularly cities and villages, and railroad companies. He cited three

illustrative cases, by which it appeared that the facts of the case, could they be obtained by a thorough medical examination, were in favor of the defendant, but the verdict was likely to be in favor of the complainant. Some of the women conscientiously but erroneously attributed their symptoms to the injury sustained, but most of the cases were of a fraudulent nature. In all, perhaps, there would be found a history of previous pelvic inflammation, or affections which would fully account for the symptoms present. The impossibility of a fall of some nature, which was the usual accident in these cases, producing such concussion of the healthy uterus and pelvic organs as to cause permanent displacement of the womb, or swelling, pelvic inflammation, and abscess was evident to the physician but not to the simple juryman, whose sympathies were appealed to by a suffering woman, while the other party to the action was a heartless corporation with a supposed unlimited supply of money.

Dr. Williams, of Boston, and Dr. Alonzo Clark, of New York, were at this point introduced to the meeting.

An Address on Some of the Relations of Physiology to the Practice of Medicine was read by Dr. Austin Flint, Jr., who said that physiology was the only rational basis of scientific medicine; this was true even if we used the term medicine in its widest signification, including in it the practice of surgery, gynæcology, and pathology. A knowledge of anatomy and physiology was a most important requisite in making a correct diagnosis. The necessity of a knowledge of physiology was evident in the study of valvular lesions of the heart, for our ability to diagnosticate heart lesions depended upon our familiarity with the functions of the heart and the sounds produced by the blood current in health. Dr. Flint analyzed the heart-sounds in different diseased conditions of the heart, in proof of his assertion that a knowledge of physiology was an important element in scientific medicine. In the same line he cited certain affections of the digestive tract, Beaumont's observations upon digestion within the stomach through a gastric fistula, the discovery of vaccination by Jenner, of the circulation of the blood by Harvey, of the manner of bacteria cultivation by Koch, etc. Regarding bacteria as causes of disease, the theory offered wide possibilities, and it was not improbable that methods of prevention and treatment of disease would now be discovered which would be of the greatest benefit to the human race. Methods of bacteria cultivation might also prove of value in the study of the physiology of the fluids and functions of the body. Dr. Flint referred to an article on the subject of how to treat a fever as based on physiology, which he published in the "American Journal of the Medical Sciences" in 1879, and said that fever meant the rapid use of the heat-producing elements in the economy, and hence the importance of digestion of heat-producing foods during a fever to prevent the burning up of the system. Alcohol in fever was well borne, and temporarily was capable of taking the place of the elements consumed by hyperpyrexia. In phthisis with fever hydrocarbons should be given, such as starch, sugar, and cod-liver oil; alcohol was well borne by such patients.

Recto-Labial or Vulvar Fistulæ; their Causes and Treatment.—Dr. Isaac E. Taylor read a paper in which he spoke of the comparative rarity of the condition. It was very liable to begin with a vulvar abscess, depending upon an inflammation of the vulvar glands, perhaps excited by injury during coition, masturbation, labor, direct injury, or cold. A small tumor might exist in the labium prior to breaking down into an abscess, perhaps quite movable, and leading to the suspicion of a displaced ovary. The history of such a case, seen by the author, was given. The tumor constituting the suspected ovary broke, and gases and fæces escaped by the small opening. Huguier's plates were shown in illustration of the subject-matter of the paper. The pathognomonic symptom of vulvar fistulæ was the escape of air and thin fæces. The vulvar opening was usually small—perhaps so small that it could be found with great difficulty. As to the treatment, he adopted the ligature. The method was simple and efficient, and, in view of the great and serious difficulties likely to attend the use of the knife, he thought it deserved much more general employment. The elastic ligature was to be preferred.

After reading the paper, Dr. Taylor presented to the society a form of obstetric extractor given to the association's museum by Dr. Samuel W. Francis, of Newport. Dr. Taylor also presented a fœtal skull which showed the effects of molding during extraction from an equally contracted pelvis. The gifts were accepted with thanks.

Recurring Luxations.—Dr. Edward M. Moore then read a paper on this subject. That luxations were likely to recur he would not attempt to prove, for it was a well-known fact. Recurrence of the luxation took place often not as a result of violence, but of the action of different forces not connected with violence. Some replacements were maintained with great difficulty. Attention was then called to the tendency of recurrence of luxations in different joints, and to the manner of preventing this accident. To prevent it in the case of the clavicle, the elbow was to be thrown backward and retained in that position by binding the hand to the side by means of adhesive plaster, or, what was better, by means of a figure-of-eight bandage; thus the scapula would be carried nearer the vertebral column. Several interesting cases were related in which recurrence of luxation had taken place in the shoulder joint, and the manner in which the accident was apt to occur was pointed out. The reader's views with regard to luxations occurring in this joint had been made clear by certain experiments which he had performed after removal of the flesh about the shoulder, and bringing forces applied upon the arm and forearm to bear upon the ligamentous structures. His experiments illustrated incidentally how it was that, in many cases of sprains, or supposed injury to ligamentous filaments, the symptoms were as serious as and more prolonged than in fractures of bone; for, as had been shown in these instances, the ligament gave way only by taking with it a portion of the bone to which it was attached. In luxations at the shoulder, either upon the dorsum of the scapula or into the axilla, examples would be met with in which maintenance of reduction would be found difficult. The manner in which the luxation took place was by gravity allowing the arm to fall, especially if at the same time the arm was turned more or less forcibly outward. Touching upon recurrence of luxation at the hip joint, the author cited an interesting case which had come under his observation, and had been reported, with two others, by Bigelow, in which a soldier acquired the art of dislocating and replacing the head of the femur by a certain twisting motion of the body.

The Difference in the Symptoms of Strangulated Oblique Inguinal Hernia.—Dr. Hyde read a paper with this title, in which the following were some of the principal points brought out: 1. In proportion to the length of time an inguinal hernia had existed would the symptoms and signs of strangulation be mild and chronic. 2. In a case of long-standing inguinal hernia in which signs of stricture of the bowel were obscure, with no evidence of total destruction of the canal, it was often not safe to wait for fæcal regurgitation before deciding that strangulation existed. 3. When strangulation occurred at the first protrusion, the symptoms would be found to be more marked. 4. If hiccough and fæcal vomiting had existed from nearly the beginning of the symptoms, no time was to be lost; kelotomy should be performed at once. 5. If a swelling existed, with

symptoms of obstruction of the bowel, the patient complaining of severe pain in the abdomen, although of none in the tumor, but having hiccough, even if there was no marked general disturbance, a fair trial of taxis should be made, and, that failing to reduce the tumor, kelotomy should not be delayed. This remark was based on an interesting case, the history of which Dr. Hyde gave in detail. No fæcal vomiting occurred, nor any pain in the tumor even after taxis, but there was some pain in the abdomen, with hiccough. Because of the mildness of the symptoms the consulting physicians delayed the operation more than twelve days, and, when it was finally performed, the strangulation was found to have existed within the abdomen. The patient died. 6. If no strangulated portion was found within the external sac, the finger should be passed internally and adhesions sought for in the neighborhood of the opening. 7. Too long a trial of taxis before dividing a stricture should be guarded against, as it increased the liability to death. 8. After stercoraceous vomiting had set in, taxis should not be applied, but kelotomy should be performed at once, although the prognosis was unfavorable. 9. If, after the sac was opened, the omentum was found smooth, and no intestine could be detected, the omentum should be unfolded to learn whether it did not contain a strangulated portion of intestine. It was unfair to speak of kelotomy as a dangerous operation *per se*. The danger attending it was due to the condition of the sac and its contents, and to taxis and delay in operating.

Dr. J. W. S. Gouley read some notes on the subject of Dr. Hyde's paper, in which he stated the following conclusions: 1. When doubt arises respecting the existence of strangulation of the intestine or omentum in a case of incarcerated hernia, it is the surgeon's duty to give the patient the benefit of the doubt by at once resorting to the operation of kelotomy. 2. Delay in relieving the strangulation was often fatal, while kelotomy in a case in which no strangulation existed was not usually harmful. 3. Medicinal treatment was often delusive, and local applications, such as opium, tobacco poultices, ice, etc., were in most cases worse than useless. 4. Persistent taxis was infinitely more dangerous than kelotomy, and such taxis, even when it was followed by reduction, was often the cause of fatal peritonitis. 5. Another, though rare, effect of violent taxis was the reduction of the hernia *en masse* in its state of strangulation, and it was well known what the result was. 6. As a general rule, two minutes of gentle taxis, the patient being in a hot bath, would settle the question as to the possibility of safely reducing the hernia. 7. Therefore, it might be said with propriety that the less taxis, the less ice, the less other topical applications, the less opium, the less general or special meddlesome interference, which often did serious injury to the intestine, the better the chances of recovery in the event of kelotomy. This was particularly the case in femoral hernia. The speaker had abstained from incising the neck of the sac in femoral hernia, but had made divulsion by simply insinuating the index-finger through the free opening made in the sac until it entered the abdominal cavity, and had had no trouble in effecting reduction of the intestine, the object of the procedure being to avoid division of the obturator artery should it be abnormally situated. He agreed with Dr. Hyde that kelotomy was not *per se* a dangerous operation. Further, if it seemed necessary in a case of inguinal hernia, after kelotomy he would open the abdominal cavity in order to relieve the strangulated intestine.

Dr. Varick, of New Jersey, indorsed what the other speakers had said, especially as to the advisability of an early operation, and the importance of guarding against undue taxis. In his hospital he always proceeded at once to kelotomy, knowing that before the patient had reached the hospital taxis had been carried to a sufficient degree.

The Medicinal and Dietetic Therapeutics of the Common Forms of Chronic Intestinal Catarrh.—Dr. John S. Jamison read a paper supplementary to one read last year. It called out considerable discussion.

A Cursory Review of the Epidemic and Endemic Diseases of Sullivan County during the last Thirty-four Years was the title of a paper read by Dr. Isaac Purdy. During the first years of the period, commencing in 1850, pneumonia and fevers of asthenic type prevailed, in which it was common to bleed, and to employ cathartics, diuretics, and a depleting system of treatment, and this course seemed to be indicated as being followed by the best results. About the beginning of 1854 typhoid fever was heard from in the distance, and soon reached Sullivan County, and for several years pneumonia and other forms of disease took on a typhoid character, and this period was marked by the fact that in nearly all cases the asthenic form of disease showed itself; a depletory course of treatment was followed by the worst results. Close attention had to be given to the diet, to encouraging nutrition, and to checking excessive discharges. About 1860 diphtheria began to prevail in Delaware County, marched up the Delaware River, and existed in Sullivan County in the epidemic form for about five years, being very violent and carrying away many patients. The odor of persons suffering from the disease was peculiar, and could be recognized at a great distance from the sick-bed. In the author's opinion it was a constitutional, not a local affection, although the local deposit constituting diphtheritic croup was present. About 1862–'63 it was present in the form of black fever, petechial fever, etc., being in places very malignant. Afterward it again appeared as genuine diphtheria of the throat. In these cases they applied turpentine and sweet-oil to the throat at night with benefit. During a part of this period dysentery prevailed; first severe, then of mild type. Scarlet fever was present at intervals of about five years, sometimes of severe, sometimes of mild character. Measles had occurred at different periods, but in general required little treatment. Occasionally diphtheritic cases occurred up to the present time, but the contagion was generally brought from afar. Typhoid fever had continued to prevail more or less, especially in the autumn, and typhoid pneumonia during the winter, up to 1881. The spread of typhoid fever up the Hudson and its tributaries occurred at one period. The highest point was situated 1,200 feet above the level of the sea. The treatment consisted chiefly in moving the bowels, particularly with calomel, and then giving quinine.

The discussion which followed was lengthy and of a general nature, particularly with regard to the treatment of diphtheria.

Commercial Prescriptions.—Dr. Henry Van Zandt, the author of this paper, was of opinion that physicians should write their own prescriptions and have their medicines compounded by the apothecary or do the compounding themselves, and not depend upon the preparations coming from commercial houses, regarding the exact nature of which they must necessarily be more or less in doubt.

Prophylaxis.—Dr. Isaac de Zouche chose this subject for a paper, in which he pointed out the advantages of preventive over curative measures.

Thursday's Proceedings.

Officers for the Ensuing Year.—The nominating committee had named for president, Dr. E. M. Moore, of Rochester; for vice-presidents, according to districts, Dr. William Gillis of the first, Dr. H. Van Zandt of the second, Dr. Frederick E. Hyde of the third, Dr. Desault Guernsey of the fifth; for members of the council, from different districts, Dr. E. M. Lyon, Dr.

Ira H. Abell, Dr. Thomas Wilson, Dr. F. W. Ross, Dr. S. T. Clark, and Dr. E. S. F. Arnold. The secretary was instructed to cast the ballot, which he did in the affirmative, and the president declared the gentlemen named elected.

The Demodex Folliculorum as a Cause of Acne.—Dr. Fell, of Erie County, read a paper in which he described some rebellious cases of acne which had come under his observation and had finally yielded to treatment, the cure, he believed, bidding fair to be permanent. This opinion was founded on his views regarding the possible or probable ætiology of the disease. It was true his views were new, but, so far as his own observation had gone, they were substantiated by facts. In a large number of examinations of the contents of the acne tumors, he had always been enabled to find the *Demodex folliculorum*, usually from six to ten in number. While the presence of these mites in the skin was not of unusual occurrence, and had long been known, they had not been regarded as the cause of acne. He had found them in the pus or oil-globule, and not in the indurated matter. While their presence in small numbers might not give rise to apparent disease of the skin, he thought that when large numbers existed they might stand in the relation of ætiological factors of considerable importance.

The Communication from the American Medical Association.—The committee of three, appointed by the president to report on the communication, recommending that a uniform law be pressed for passage by the various State Legislatures, reported that it was inexpedient for the association to enter upon the discussion of the subject at the present time.

Oxygen in the Treatment of Pneumonia.—Dr. E. G. Janeway, by request, made some remarks on this subject before proceeding to read his address in pathology. According to his experience, oxygen inhalation in pneumonia was of marked benefit. It was especially serviceable in incipient cyanosis or just previous to this symptom; its use should not be delayed until cyanosis had become well marked. If employed at the proper time it would often be found to tide life over the critical point and lead the patient on to recovery. Dr. Janeway would also add to the discussion on pneumonia that he had seen one case in which the patient had a relapse at the end of a week, as much a relapse as the relapses of typhoid fever. He said, further, that he had seen a number of cases in which tuberculosis of the upper lobe of the lung had occurred in patients who had suffered from pneumonia, and he was of opinion that the attack of pneumonia had left the lung in a weakened state, fitting the soil for the development of tubercle bacilli.

The Address in Pathology.—Dr. Janeway then proceeded to read his address, which was devoted largely to the advances made in pathology, particularly during the past few years, and the relation of pathology to exact diagnosis and the ætiology of disease. The importance of the cultivation methods adopted by Koch, the value of Pasteur's discoveries regarding anthrax and hydrophobia, etc., received attention. The field for labor and new discoveries was still great, and offered excellent opportunities for able and progressive young men. The backwardness of this country in scientific discovery was attributed in large part to want of Government aid, such as was given in Germany and other countries of Europe. Special paths for investigation were offered in tetanus, anæmia, malignant tumors, lithæmia, etc. Dr. Janeway thought vaccination should be done, if possible, before the third day after exposure to small-pox if it was desired to abort the attack; otherwise it might be too late.

The Report of the Library Committee was read, by which it appeared that a room had been secured in the Carnegie Laboratory building. The entire number of volumes was about 3,450, and more than 4,000 pamphlets had been received. Some interesting specimens had been presented, which it was hoped would form the nucleus of a museum in connection with the library.

Exploratory Laparotomy for Gallstones.—Dr. W. W. Seymour gave the history of a case of gallstones in which the usual symptoms were present, but the gall-bladder could not be felt through the abdominal wall. Nevertheless, the patient's sufferings were such, and her health so reduced, that an incision was made for the purpose of removing the supposed stone or stones. The gall-bladder was found empty; there was a hard nodule involving the cystic and hepatic ducts, and, as it was thought that the symptoms were due to malignant disease, the abdominal wound was closed. Eight weeks later the patient died, decidedly emaciated and jaundiced. In the upper margin of the right lobe of the liver there was a cancerous patch; the gall-bladder was empty; the common duct was impervious; the junction of the cystic and hepatic ducts was involved in the hard mass, which was of the size of a hen's egg and continuous with the right lobe of the liver. The hepatic duct was enormously dilated, and filled with gallstones of the size of a peach-stone; an ulcerated opening led from the upper part of the hepatic duct into an abscess cavity, an inch and a half in diameter, in the right lobe of the liver, where a gallstone was found. The hard mass was cancer.

The Chlorides: Antisepsis a Prominent and Important Factor in their Medicinal Action, was the subject of a paper read by Dr. Nelson L. North.

The Causes of Failure in the Treatment of Urethral Stricture by Electrolysis.—Dr. Robert Newman then read a paper on this subject, in which he said that the method had been so successful in his own hands that he had not been aware of any failures until his attention had been drawn to a paper on the subject quite recently. He had then made some inquiries and found that failures did sometimes occur in the hands of those of little experience with the method. The cause of failures could be given in two words—bad management. This could be classed under three heads—incompetence on the part of the operator, errors in diagnosis, and faulty instruments. These headings were treated of at considerable length, the points being sustained by reference to letters, cases, and instruments.

Dr. G. C. H. Meier corroborated the author's statements from his own experience, and testified to the excellent results obtained by this method when properly carried out. It was true that it was not until he had assisted Dr. Newman in his public and private practice for some time that he had been enabled alone to give the patient the full benefit of the treatment of urethral stricture by electrolysis. The paper was also discussed by Dr. Manley.

Pelvic Hæmatocele; its Diagnosis and Treatment.—Dr. W. W. Seymour read a paper on this subject, which he had read at the branch meeting at Saratoga. A great many cases had occurred in his own and in his father's practice, going to show that pelvic hæmatocele was of much more frequent occurrence than was stated by most authors. Where there was a tendency to an increase in size, or to interference with the functions of neighboring organs, aspiration might give prompt relief. Aspiration failing, and suppuration taking place, he was disposed to make an incision *per vaginam* and irrigate.

The Action of Micro-Organisms upon Surgical Wounds.—Dr. Frederick S. Dennis read a paper on this subject. He drew a diagram, classifying bacteria, and pictured an operating-room to be disinfected before use by throwing hot steam into it.

Friday's Proceedings.

The History and Treatment of Thirty Cases of Diphtheria was the title of a paper read by Dr. Samuel W. Smith.

The great mortality from diphtheria was shown by figures obtained from the Board of Health of New York, by which it appeared that, out of an average of about 2,500 cases yearly for several years past, there had been a mortality of nearly fifty per cent., the rate of mortality varying slightly from year to year. In order to test the value of a given method of treatment, Dr. Smith had employed that adopted by Dr. Billington, described in a paper read before the New York Academy of Medicine. It consisted in syringing the nose and pharynx every two hours with a solution of chloride of sodium, a teaspoonful to a pint of warm water, to which Dr. Smith had added a teaspoonful of borax. The syringing should be done in a very thorough manner. In addition, the throat was sprayed with lime-water and a solution of carbolic acid, and tincture of chloride of iron and glycerin were administered, being alternated with chlorate of potassium. In the thirty cases there were five deaths.

Pelvic Hæmatoma.—Dr. GEORGE T. HARRISON read a paper in which he gave the history of a case, and treated of pelvic hæmatoma in a general way, taking up the questions of diagnosis, treatment, etc.

Cancer of the Kidney.—Dr. JOHN SHRADY read a paper in which he described a case of cancer of the kidney in a child, which had been reported in the proceedings of the New York Pathological Society. The differential diagnosis was considered. In a child the diagnosis was comparatively easy to make, but the rarity of the affection might cause the physician to overlook the true nature of the case.

On the Treatment of Spondylitis or Caries of the Spine by Partial Suspension and the Plaster-of-Paris Jacket, and the Treatment of Rotary Lateral Curvature by Gymnastics and Partial Suspension and the Plaster-of-Paris Corset.—Demonstrations by practical application in cases were made by Dr. LEWIS A. SAYRE.

The society then adjourned, to meet in New York on the third Tuesday in November, 1886.

During the session the following papers were read by title: "Antipyrine; its Power to diminish and occasionally entirely remove Fever," by Dr. W. S. Fuller; "The Significance of Non-traumatic Intra-ocular Hæmorrhage in Diseases of the Heart, Blood-Vessels, and Kidneys," by Dr. C. S. Bull; "The Relation of Drink to Insanity," by Dr. G. A. Blumer; "Tumors of the Jaw," by Dr. W. S. Tremaine; "The Treatment of Incontinence of Urine in Women resulting from Over-dilatation and Paralysis of the Urethra," by Dr. N. Bozeman; "Skin Flaps in Amputations," and "Umbilical Hæmorrhage in Infants," by Dr. U. C. Lynde; "A Case of Poisoning by Two Grains of Strychnine," etc., by Dr. W. Fitch; "The Treatment of Abscess," by Dr. J. D. Rushmore; "Chronic Catarrhal Gastritis," etc., by Dr. W. H. Thayer; "The Proper Disposal of Street Sweepings," etc., by Dr. A. H. Briggs; "Ergot, its Uses and Misuses," by Dr. J. K. Leaning; "Nutrition in Lithæmia," by Dr. C. G. Stockton; "The Modern Aspect of Therapeutics," by Dr. T. H. Manley; "The Vectis in Cross-Births," and "Pessaries and their Uses," by Dr. J. Hartmann; and "Notes on Contracture of the Bladder consequent upon Cystitis," by Dr. J. W. S. Gouley.

Miscellany.

The Case of the late Professor Panum.—Dr. D. Bryson Delavan writes to us as follows: The following history, communicated by Professor Frier to the Medical Society of Copenhagen, has been translated, prepared, and transmitted to me by my friend Dr. Holger Mygina, of Copenhagen. Besides the rare pathological importance of the case, its interest is still further enhanced by the fact that the patient was none other than Professor O. L. Panum, the distinguished and much-lamented President of the Eighth International Medical Congress.

Dr. Mygina's translation is as follows:

Professor Panum, who reached the age of sixty-four years and four months, had, on the whole, enjoyed good health. About ten years before his death a chronic bronchitis with frequent acute exacerbations had developed. This was followed two or three years later by well-marked emphysema. Besides cough, this disease occasioned shortness of breath, especially on going up stairs. This, however, never reached any important degree until the last weeks of his life, when he was often obliged to rest on the landings on going up to the third or fourth floor, and at times felt an oppression in the chest. After a few minutes' rest these attacks usually passed off. The stethoscopical examination, made by the son of the deceased, showed no disease, either in the heart or in the large vessels; only the above-mentioned chronic diseases of the lung were present. As the deceased, on the evening of May 1st, was returning from a visit, he felt a difficulty in walking in the somewhat high wind, and was unable to keep up with his companions, whom he asked to go on. He was several times seen standing outside shop-windows in Bredgade, probably in order to rest and regain strength. Shortly after his return home he felt severe pain in the region of the heart, and, as I was told afterward, a sudden feeling of something bursting in the left side of the chest. The pain increased, and the patient became uneasy and alarmed. When seen by Professor Frier, at ten o'clock P. M., he was pale and a little collapsed, the skin was cool and not perspiring, and the pulse slight, frequent, and irregular; he talked freely, and his respiration was not particularly accelerated. He moved about the room easily, undressed quickly and went to bed. Here he continued to complain of pain, which now included the sternal region and radiated out into the left arm to the fingers. He continually changed his position as if seeking relief, and used all his might to repress exclamations of pain. Attempts to give warm drinks, such as wine, camphor-drops, etc., failed, as they only produced nausea and sickness, which he himself repeatedly produced by thrusting his finger down his throat.

His mind was perfectly clear the whole time, and he even made jesting remarks on the inability of medical science to relieve his sufferings, for not only had mustard leaves, warm bottles, and incitantia, but also a considerable injection of morphine remained without effect. The pains began to decrease about midnight. After another injection of morphine he fell into a light, uneasy sleep.

The sickness did not return until after he had taken his coffee the next morning. Up to eight o'clock A. M. he felt so well that it was with difficulty he was persuaded to remain in bed and give up his morning lecture, and he gave directions as to his business letters. In the early morning he had thought out a thorough explanation of the functional disorders of the vagus and the sympathetic nerves from which he believed himself to be suffering, all of which he explained to his son, although unable to give a cause for them. Half an hour after his son had left him, his pulse being strong and his appearance decidedly improved, and a few minutes after he had spoken jokingly to those around him, he was heard at a moment when he was alone to utter a groan. He had fallen back cyanotic and unconscious, and a few minutes after he died. It must be added that, from the superficial examination which circumstances had allowed on the previous evening, no increased dullness of the heart had been discovered, but tumultuous action, with long, strong murmurs, which prevented the two heart-sounds from being heard or distinguished. That the patient was suffering from an affection of the heart, and that one which came under the category of angina pectoris, was clear to Professor Frier as soon as he had observed him a short time. It seemed improbable, however, that this attack should be the only one, and that the end was so near, as the pains had been diminished and rest obtained. The real cause of death was first discovered post mortem.

Autopsy, May 3, 1885, twenty-nine hours after death, made by Dr. Dahl.—Rigor well marked. Death suggillations all over the body. The panniculus adiposus well developed on the chest and abdomen. The two superior lobes of both lungs and the right middle one emphysematous and swollen, especially along their anterior edge. No *fluid*

in the pleural cavities. The mucous membrane of the bronchial tubes somewhat injected and covered with cohesive white mucus. The pericardial sac filled with a little more than a pint of dark fluid and clotted blood. Blood of similar appearance was seen to flow out of a fissure of the anterior left ventricular wall. This fissure was five centimetres long, and was parallel with and close to the septum. Its edges were lacerated. A similar but smaller fissure, one centimetre and a half in length, was seen along the first one, and united with it by a cross-fissure. Both extended through the subpericardial fatty tissue, which was infiltrated with blood and reached the muscular substance; this was perforated by several small fissures and holes, none of which were larger than that a probe could pass through. In the lower part of the fissure the probe entered a small cavity between the muscular and fatty layers filled with blood. The heart itself was flabby, with much subpericardial fat, especially at the apex, where it was more than one centimetre thick, while at the seat of the fissure the thickness was exactly one centimetre. In a few localities the pericardium was thickened and white. The heart was thirteen centimetres in length and in breadth. The apex was formed by both ventricles and a little rounded. The aortic valves were normal. The foramen ovale was open. The tricuspid orifice admitted three fingers, the mitral orifice four. The tricuspid and pulmonary valves were healthy. On the anterior mitral flap there was a large, white, thickened patch. The right ventricular wall was two millimetres thick, the muscular tissue being of a deep, dull, grayish-brown color. Toward the septum there was a limited yellow area extending somewhat in depth.

The cavity was enlarged, although the septum projected much. The left ventricular cavity was much enlarged—the wall in the thickest part 8 mm., at the apex 2 to 3 mm. The trabeculæ were flattened and not much developed. The muscular papillæ were of normal thickness, the muscular tissue being flabby and much softened, and its color like that of its right side; at several places yellow spots were seen through the endocardium. Toward the septum, at a point corresponding to the external fissure, there was a rectilinear fissure four centimetres long. It did not quite correspond to the external one, crossing it at an acute angle. The edges of this fissure were flattened; in the depth of it there were several small holes, corresponding to those described in the external fissure.

The surrounding tissue was very much softened, and infiltrated with dark blood. A fresh cut across the fissure and through the muscular layer showed this to be very thin—about 2 mm. close to the edge, and 5 mm. farther away. The aortic valves were somewhat thickened. In the tunica intima there were many white, fibroid patches, and similar ones were found in both coronary arteries. In the vertical branches of the left, just after its separation from the horizontal branch, was found a constriction which barely admitted the passage of a fine probe. Upon opening the artery here there was found a soft, yellowish white plug, adherent to the wall, where it covered a soft, atheromatous cavity formed in the thickened and partly calcareous intima, which was perforated in several places by small holes. From this place and down to the rupture the artery seemed healthy. A little below the plug a small branch went off; it could be followed to the spot of fatty degeneration in the right ventricle. Microscopical examination of the muscular tissue showed the fibers around the fissure atrophic and very fatty; there were no transverse striæ to be seen, and there was no increase of the interstitial fibrous tissue. The nuclei were normal; many of the fibers were broken by extravasation of blood. At other places, both of the right and left side, the transverse striæ were well marked, but everywhere there was more or less fatty degeneration. Other organs were not examined.

It seems probable that the plug which caused fatty degeneration of a part of the heart had developed during the last weeks before death, and had caused the shortness of breath and feeling of oppression. The rupture, the result of the degeneration, was probably observed by Professor Panum himself; but it seems to have gone slowly through the wall, from within outward, not causing at first any effusion of blood into the pericardial sac, but only irregularity of the action of the heart, pain, and nausea.

A New French Journal, entitled "La Normandie médicale," reaches us from Rouen. It is edited by M. Cerné and M. Gendron, with the collaboration of M. Duménil, of Rouen, M. Gibert, of Havre, M. Leudet, of Rouen, and M. Notta, of Lisieux. It is a semi-monthly octavo of sixteen pages.

The Health of San Francisco.—It appears by the Health Department's "Condensed Statement of Mortality" for October that the whole number of deaths reported was 432, of which 75 were from zymotic diseases, 92 from constitutional diseases, 195 from local diseases, 36 from developmental diseases, 28 from violence, and 6 from causes not ascertained.

The Johns Hopkins University.—The "Therapeutic Gazette" notices a rumor that Professor Matthew Hay, of Scotland, has accepted the chair of pharmacology.

The "Medical News" Visiting-List.—We have received a copy of the "Medical News" Visiting-List for the year 1886, and an examination of it leads us to think that it will be found exceedingly servicable. It has evidently been prepared with great care, and its mechanical get-up is pleasing. A very commendable feature is the thumb-index to the various departments.

THERAPEUTICAL NOTES.

Iodide of Sodium in the Treatment of Syphilis.—Arcari ("Gazz. med. ital. lombard."; "Med. Chron.") reports a number of cases of tertiary syphilis in which rapid improvement was due to the hypodermic use of this drug in quantities of about ten grains four or five times a day. He recommends the simultaneous use of thirty grains by the mouth, with only two daily injections, in cases where an organ is seriously threatened from syphilitic deposits.

The Stinging Nettle as a Hæmostatic.—Dr. C. J. Rothe ("Pharmac. Post"; "Therap. Gaz.") has experimented with the juice of the stinging nettle (*Urtica dioica*) as a hæmostatic. The leaves, flowers, and stalks of the young plant, gathered in the spring, are cut up fine, soaked for a week in sixty-per-cent. alcohol, and subjected to pressure. The liquid is filtered, when it is of a dark greenish-brown color, and has a spicy odor and taste. Applied on cotton, it rapidly arrests capillary hæmorrhage, and the clots formed are soft and tenacious.

Kava as a Remedy for Gonorrhœa.—Kava, a piperaceous plant indigenous to the Sandwich Islands, has been recommended by Dupuy and Gubler ("France méd."; "Dtsch. Med.-Ztg.") as a specific for gonorrhœa and leucorrhœa. It acts as a diuretic, diminishes the inflammation, and allays the pain. It has the advantages over copaiba of possessing an agreeable taste and of not disturbing the stomach. Gubler mentions a gum and a crystalline principle, kavaline, as the active constituents.

Cold Bandaging of the Leg in Insomnia.—According to the "British Medical Journal," Dr. von Gellhorn has found this practice very useful in cases of sleeplessness, especially from cerebral congestion. Sometimes he has found it necessary to reapply the bandage every three or four hours, as it dried. [It would be interesting to note what difference there is, if any, between the effects of this practice and those of the well-known device of plunging the feet into cold water.]

The Administration of Paraldehyde.—M. Lereboullet ("Gaz. hebdom. de méd. et de chir.") gives the following formula, proposed by M. Yvon:

Paraldehyde	150 grains;
Ninety-per-cent. alcohol	720 "
Syrup	900 "
Tincture of vanilla	30 "
Distilled water	450 "

A tablespoonful of this elixir contains fifteen grains of paraldehyde. Four soupspoonfuls should not be exceeded at a dose.

Phosphate of Bismuth.—Fredenat ("Giorn. farm. napol."; "Nouveaux remèdes") remarks upon the variable density of subnitrate of bismuth, and proposes the phosphate as a substitute, the latter being a stable salt. Its therapeutical properties are the same as those of the subnitrate, and it may be given in doses of thirty grains.

Essence of Peppermint as an Application to Burns.—"Nouveaux remèdes" quotes the "Australasian Chemist and Druggist" to the effect that essence of peppermint, painted on a burn, causes the pain to cease at once.

Lectures and Addresses.

A REVIEW OF THE LIFE OF LOUIS ELSBERG, M. D., AND OF THE ADVANCEMENT OF OUR KNOWLEDGE OF DISEASES OF THE THROAT DURING HIS PROFESSIONAL CAREER.*

BY MORRIS H. HENRY, M. A., M. D., LL. D.,
OFFICER OF THE ROYAL ORDER OF THE SAVIOR, OF GREECE; LATE SURGEON-IN-CHIEF OF THE NEW YORK STATE EMIGRANT HOSPITALS, ETC.

MR. PRESIDENT: By your favor I appear to-night to pay tribute to the memory of our late colleague, Louis Elsberg, who died at his home in this city on Thursday, February 19, 1885.

With one accord I know we shall agree that it was a useful and honorable life; and, now that it has passed away for ever, I would gather from it an account of the virtues it exemplified, that the example may serve for guidance in our own careers.

Louis Elsberg was born at Iserlohn, Prussia, April 2, 1836. He came, with his parents, to this country at the age of thirteen. His family settled in Philadelphia and the boy became a pupil in a public school. He subsequently went to the High School, from which he was graduated with honor in 1852. He then obtained a position as tutor in an academy at Winchester, Va., where he remained two years. He returned to Philadelphia and entered the Jefferson Medical College, and acquired a medical degree in 1857. Immediately following his graduation he came to New York, and for six months was resident physician at Mount Sinai Hospital. He then went abroad, where he remained for one year, and returned to this city, and at once began the practice of his profession. With Störk, Semeleder, Lewin, and Türck—all subsequently distinguished laryngoscopists—Elsberg formed one of the first class that received instruction under Czermak. Störk and Türck became professors in Vienna; Lewin filled a similar position in Berlin; Semeleder attained distinction in Mexico, under the Emperor Maximilian. Elsberg did his good work in New York, and became no less distinguished than the *confrères* of his early professional days. He was the first of this brilliant little class to succumb to the inevitable.

In 1861 he delivered a course of lectures at the University Medical College. The following year he established the first public clinic for diseases of the throat.

In 1864 he wrote his essay on "Laryngoscopical Surgery, Illustrated in the Treatment of Morbid Growths within the Larynx." It was the prize essay for which the American Medical Association awarded him the gold medal in 1865. The subject of this paper was, at the time, a new one. The account of his success in these operations marked a new era in intra-laryngeal surgery. In 1864 he published, under the title of "Laryngoscopic Medication," several papers which he had read before this Academy and other societies. In this publication he gave descriptions of many new instruments of his own invention—all well known to you. They included a new tongue-depressor, sponge-carrier, and concealed porte-caustique.

In January, 1874, he contributed a valuable article to the "American Journal of Syphilography and Dermatology" on "Syphilitic Membranoid Occlusion of the Rima Glottidis." He described eleven cases of the disease, and the operative treatment pursued for their relief. The results were satisfactory; and it must not be forgotten that they were obtained at the time when many able men were in doubt of the safety and feasibility of surgical interference in severe forms of laryngeal diseases.

In 1878 he read before the Academy of Sciences a treatise "On the Structure and other Characteristics of Colored Blood-Corpuscles," a paper which showed that he was not only well versed in biology and a good microscopist, but possessed and capable of a vast amount of original thought. In June of the same year (1878) he, with a few others, founded the American Laryngological Association, and he became its first president. At the first meeting he gave some account of the history of laryngology. His address, at the second meeting, on "Laryngological Instruction," was sent from Aix-la-Chapelle, where he had gone to regain his health.

In 1880 he began the quarterly publication of the "Archives of Laryngology," which was continued until 1884.

In 1882 he delivered the annual address—his subject being "Changes in Biological Doctrines during the Past Twenty-five Years"—before the Alumni Association of Jefferson Medical College. This, as he expressed it, was "the silver wedding of his class."

The rest, change of scene, and renewal of old and pleasant associations, on his last visit to Europe, proved of benefit to him. Shortly after his return he delivered a lecture on "The Throat and its Functions," at the hall of the Young Men's Christian Association. It was one of a series instituted by the New York Academy of Sciences. He contributed largely to the "Archives of Laryngology"—the publication of which has ceased. Among his contributions may be found "Angioma of the Larynx," "Neuroses of Sensation of the Pharynx and Larynx," "Paralysis of the Muscles of the Larynx," "Contributions to the Normal and Pathological Histology of the Cartilages of the Larynx," besides many other clinical reports of which I have no record.

His intense application to his work, on his return from Europe, was, no doubt, the cause of the return of his disease. His kidneys had been seriously impaired. So far as outward appearances extended he seemed to have recovered. For a long time, however, after the attack he was solicitous about himself, and referred guardedly to the future. In his last paper, read before the American Laryngological Association in May, 1884—on the subject of laryngeal spasm—he remarked: "I promise you that, *if I live*, I will prepare a more elaborate essay on the subject before our next annual meeting." The place that he filled at that meeting and before that association knew him no more for ever.

* Delivered before the New York Academy of Medicine, December 3, 1885.

Ten days before his death he contracted a severe cold, but persisted in the discharge of his regular duties. Pneumonia set in, and scarcely was it known by his friends that he was sick ere the report came of his death. A widow, a little daughter, and many relatives and sincere friends mourn his death. During the last few days of his illness he was attended by some of his devoted professional friends. He retained up to the period of his death the professorship of laryngology at Dartmouth College and at the Polyclinic of this city.

Just one year ago I had the honor of nominating him for the position of corresponding secretary of this Academy. He was, of course, elected, and I know he appreciated the honor it conferred. He had, for many years, devoted a portion of his time to the collection of materials as a basis for a more complete work on diseases of the throat. Had he been spared, he would have given us a satisfactory volume—a book that would have contained the results of investigations pursued in this country as well as of those of foreign sources.

Elsberg was the first, beyond any question, to demonstrate and teach, in public, in this country, the use and value of the laryngoscope in diagnosis and treatment. He leaves many disciples among his former pupils who will continue the same course of investigations. The best work of his life, however—the work that inures most to his fellow-men—was the diffusion of his knowledge and experience in such a way that all practitioners might render good special service to their clients.

I recall in detail the works of our late brother, for I think it well to place the results of his active and industrious life on the records of the Academy which he adorned.

The account of his contributions will serve as guides to those who succeed him. They will serve as a stimulus in the advancement of studies that are still in comparative infancy. The perfect assimilation of clinical facts for future clinical benefits requires time, and natural and trained capacity of no mean order. Sound clinical records—what I mean by sound records are truthful records—must ever be the great basis of advancement in the practice of our art. Elsberg was an astute clinical observer. The records of his observations show intelligence of the highest order and no ordinary manipulative skill in the management of his cases. His knowledge of music and of the functions of the voice made him the physician of many of the great singers who have visited our shores.

A statement was very recently made in this Academy, by one of its distinguished fellows, that in the year 1860 the use of the ophthalmoscope and the laryngoscope was unknown in the New York Hospital, regarded at that time, by universal consent, as the best endowed and the best equipped of all New York institutions for the relief of the sick and injured. This statement seems to us now a strange one. It establishes the fact that, at this time, the use and value of the laryngoscope were scarcely known in New York. In the year 1858 I devoted a portion of my time to the study of the uses of these instruments in the treatment of specific diseases. I was "but a student." I mention this because when I subsequently—in 1864—first met the subject of this memoir, and in the course of conversation alluded to my own early experiences in the use of these instruments, it assisted in forming an attachment—a bond of sympathy in the study of congenial pursuits that was never impaired, never canceled.

It was during my early investigations of diseases of the throat with the laryngeal mirror that I first thought of the concentration of light by the simple means of a large plano-convex lens mounted in such a way that it could be used with any form of artificial light. By the advice of Elsberg I published an account of my method in the "American Medical Times," June, 1864, edited by the present distinguished chairman of the Section of Surgery of this Academy. This instrument is, I think, still deserving of attention. It is inexpensive, easy of application, and will answer perfectly all the demands of the routine range of diseases of the throat, larynx, and nasal passages. This same instrument has passed under other names since the date of publication I have just mentioned.

No allusion to the subject of the nature and treatment of diseases of the throat and air-passages in this country would be complete without reference to the accomplishments of Horace Green. He was the first and only specialist up to the period of Elsberg's advent in New York. May I not pause to say a few words in memory of that distinguished Fellow of this Academy who gained celebrity by his thorough knowledge of the science of medicine and the skill he displayed in the practice of his art? Without any disparagement of those who are now engaged in the same department of medicine, and although a quarter of a century has passed since he added luster to this Academy, that luster has never been dimmed by later work. It is possible that I may not do full justice to those who have followed him, but I have searched in vain through the transactions of this Academy to find his peer in contributions to diseases of the throat and air-passages. He was, like Trousseau, a teacher of the practice of medicine, and with that combined the elements of an admirable physician. His knowledge of the art of medicine was of service to him in the more limited range of practice to which he devoted the best years of his life. I remember him well as a teacher. He was a good one. His statements were reliable. In his controversies with Trousseau—when the illustrious Frenchman disputed his ability to pass the sponge into the trachea for topical medication—Green bore himself with dignity and ability. It would be well for the present generation to refer now and then to the works of their predecessors. While there was, perhaps, not less strife in the race for fame and fortune, there was, at least, less sensationalism and less seeking for secular newspaper notoriety; the genius for popular secular advertisements may have been born at the period of which I speak, but its full growth has only been attained within the past few years. Green, like other specialists of great attainments and distinction, knew well and taught the necessity of natural qualifications, as well as of a sound general education, as the basis of a successful (scientific) career in medicine. There is still lingering a theory that with a charter and a heavy dose

of teachers you can take anybody, from any trade or any sphere, and turn him out a physician or a surgeon—usually both—after "two full courses of lectures." Green was one of the teachers who did not share in this heresy. He knew that to make a good doctor you must have a first-rate man when you begin. He was the founder of a college, and, in mapping out the course of instruction for its alumni, he bore in mind the essential qualities of his teachers. In this, too, he was in advance of his time. He knew that "you can not create teachers as if they were light-infantry men, who can be manufactured out of clowns by three months' drill." He advocated his views more than thirty-five years ago. Twenty years have elapsed since he passed into eternal sleep. The purpose he toiled to serve is still in advance of the practice of the day. He was singularly successful in the choice of many of his colleagues. Many of the most distinguished have followed him to their last home. Among them were Conant, Childs, Cox, Stiles, and Peaslee. If I may single out for mention one of all others of that "old Faculty" who has been spared to us and who has won great distinction—you, Mr. President, must know to whom I refer—your revered predecessor, Fordyce Barker. Before ending this reference to Horace Green, let me recall to your mind the purity of his conduct and the nobility of his bearing in his last scientific struggle in this Academy when called upon, in 1859, by John Watson, for information in the case of, and as to the cause of, the death of the late Stephen Whitney. That extraordinary attack left no blemish on the character or skill of Green; but it left an insidious impress that hastened his death. His principal opponents, also distinguished in this Academy—I forbear to mention their names—have also, ripe in years and honors, passed away. I refer to these facts, for they serve as the best text for a lesson of forbearance and the cultivation of an honest, kindly intercourse among us in all our meetings.

During that period of excitement pending the discussion of "the code question" Elsberg could not be otherwise than thoughtful and liberal. He was gentle in the expression of his opinions. He was intense in his convictions. He never faltered in the discharge of an obligation or duty when once assured of its correctness and the probability of its serving a good purpose. While he was registered—if I may use the term—as a "new-code man," and I on the other side of the question, there was, in reality, no difference whatever in the substance of our views. A calm discussion of the questions at issue proved us in unison. Might not more forbearance have prevented the strife that disorganized associations and dissevered friendships of a lifetime? A calm, retrospective review of the field of battle tells again the sad tale of "what might have been" had wiser counsels prevailed. Elsberg shared the common feeling of all educated, thoughtful, honorable practitioners of medicine, that there should be no necessity of a code beyond that unwritten code of ethics that should govern the conduct of gentlemen in every sphere of life. He knew of, and fully appreciated, the difficulties of any enforcement of a statutory enactment or a professional mandate against persons devoid of honor and unworthy of fellowship in a liberal profession. He knew also that the attainment of this boon—a difficult one—could only be reached by the imperative demand of the profession at large that the mills should be stopped, and that there should be no more enlistments of ill-informed, improper persons to the ranks of our sacred calling. He knew also that you can neither teach nor enforce virtue by resolutions or text-books. He knew, Mr. President, as you and I know—no one better than yourself—that the enlightened men of this country—the class that have shed most luster, that have attained most honorable distinction, whether now rated (by irresponsible and illiberal factions) as new- or old-code adherents—are of one accord. The admission of the necessity of a special code—it is useless to deny it—is virtually an admission that the rank and file of the profession in this land is inferior, in moral integrity, to that of all other countries. I, sir, am unwilling to admit of any basis for any such conclusions.

There is seldom any romance associated with the lives of the serious workmen in science. The element of romance seems to be reserved to the credit of *soi-disant* followers that are but spurious imitations of the genuine men. Elsberg's career was a serious one. He knew no rest from toil, or thought of the work to which he devoted his life. He paid early the penalty of his incessant labors in a depreciation of his constitution that with gentler, less ardent enthusiasm, might have spared him to us many more years. He yielded to the natural characteristics of his race, the race of romance and reality. He belonged to that "chosen people" that conquered the empires of the East long before the dawn of the Christian era; to that race that has survived unparalleled persecutions from post-biblical periods down to the dark days of the Inquisition.

From one of his people—descended of those born on Latin soil, the same that gave birth to the Disraelis, Montefiore, Jessel, Aguilar, and Castelar, brilliant in art, literature, law, statesmanship, and humanity, not less dazzling to science—we are indebted for the first account, by the use of the laryngoscope, of the action of the vocal cords during inspiration and vocalization; important observations on the production of sound in the larynx; and valuable reflections on the formation of the chest. The story of the investigations of Manuel Garcia, who published, in the year 1855, in the proceedings of the Royal Society of England, his physiological observations on the human voice, is too well known to you to call for further reference on this occasion.

If the utility and value of a life be measured by the advantages which accrue from the love, devotion, and labors of those ever ready to sacrifice self in ministering to the ills of poor suffering humanity, surely no one will now deny a worthy site to the memory of our late friend and Fellow of this Academy.

The Comparative Action of Alcohol and Coffee.—W. B. Lewis ("Jour. of Mental Sci."; "Arch. de neurologie") gives a detailed account of certain experimental investigations of the action of these two agents. While alcohol increases the production of heat, it really lowers the bodily temperature by virtue of exaggerated radiation. Caffeine, however, preserves the heat, and thus, if given in conjunction with alcohol, tends to restrain the lowering of temperature that would otherwise be caused by the latter.

Original Communications.

JOINT DISEASES;
TREATMENT BY REST AND FIXATION.*

By De F. WILLARD, M. D., Philadelphia,

SURGEON TO THE PRESBYTERIAN HOSPITAL; LECTURER ON ORTHOPÆDIC SURGERY IN THE UNIVERSITY OF PENNSYLVANIA.

The application of rest as a principle in the treatment of joint disease, although very generally accepted, is yet frequently employed only as an adjuvant to other measures of relief, while its proper position is in the first rank, and all other means are but subsidiary.

The principle is capable of wide application in medicine. Splints—rest-producers—are applied in fractures and in wounds to limit inflammation. Inflammations of the pleura, liver, intestines, or peritonæum are best controlled by absolute recumbency. In joint inflammations, quietude, unaided and alone, is capable of effecting more in averting and subduing a developing disease than iodine, blisters, heat, cold, the cautery, *et id omne genus*. These measures, powerless in themselves, are, however, useful as supplemental treatment; but no surgeon is justified in trusting to their power when dealing with a disease which is so prone to develop the most serious results if neglected. As soon should he trifle with a bleeding femoral artery or a post-partum hæmorrhage. In osteitic cases, especially, the evil tendency is so strong that no time can be lost.

Those who advocate the "motion-without-friction" cure assert that motion is the normal condition of a joint, which statement, while true as regards normal articulations, is no more applicable to diseased ones than to inflamed muscles or other tissues.

Friction is constant during walking. I took occasion to count my steps for a single square to-day. Ninety times each of the joint surfaces of my lower limbs was concussed between the stone pavements and the superincumbent weight of my body in two minutes, or nine hundred times in a walk of a mile. If inflamed or roughened, the effect of such friction would be just as disastrous as the rubbing of a hard substance upon an irritated external sore or pimple, and the results, though temporarily concealed, would be none the less destructive. Nature evinces her aversion to motion by producing the most perfect rest which she is able to accomplish unaided. Muscular rigidity is the first and most common *avant-coureur* of danger.

When I speak of rest for a joint I do not mean that it should be that form of confinement to the house that allows the child to run up stairs, and play at games which will be more severe upon his articulation than walking. If the affected member is the lower limb, it should under no circumstances be placed upon the floor, and, until pain and all signs of acute inflammation have subsided, the recumbent position should be unceasingly maintained. If starting or spasmodic pains are present, weight and pulley extension should be employed, and fixation enforced until relief is secured. Then, and only then, should crutches and apparatus be used. By the careful enforcement of such a course, synovitis, if taken early, can be aborted, and articular osteitis so modified that its evil effects will be reduced to a minimum. Surely if such results are compared with the terrible consequences which follow procrastination, or temporization with ineffective counter-irritative measures; the slight restraint put upon a child at a period of life when a few months or even years are of slight importance can not be considered for a moment.

The abortion of articular disease is considered impossible by some surgeons, but cases of traumatic origin can within the first ten days be easily checked. The skeptical maintain that such a case is not one of true joint disease. It certainly is not articular osteitis; but a flame is as much a fire, save in degree, when first started, as when it has become a conflagration, and every suppurating articulation had a stage when it was but a tiny spot of irritation. One week of proper early treatment is more efficient than months of later work. The one objection to absolute rest can be obviated by rigid rules in regard to the admission of fresh air to the room. Windows should never be closed night or day, as warmth can be secured by additional coverings.

My practice is about as follows: For use by day a narrow platform is constructed of light boards, with a handle at each end, and on it is placed a firm hair mattress. To one end is attached a grooved pulley-wheel, over which plays the extension cord, with from two to ten pounds attached —comfort regulating the weight. This bed can easily be picked up by two persons and laid upon rests beneath the trees or on the porch, or it can be placed and locked upon a child's express-wagon, or, better, upon a frame wagon with easy springs. If removal is painful, the entire fixture can be laid upon the couch at night, but ordinarily the sliding upon a bed is not harmful, provided extension is maintained.

By this method an abundance of fresh air and exercise can be secured with little expense, and the patient will be contented and happy. When the starting pains are severe, and especially when the patient is intractable, the addition of sand-bags, or, better, of a Desault long splint, will be of service for the first ten days. This splint, covered with muslin or bandages, can be retained in position by an underwaist, to which it can be fastened by safety-pins. A rope stretched above from head to foot, together with a few toys and bent wires, will assist in sports and remove the great temptation to sitting up. After restlessness has ceased, the side-splint can be removed, and the freedom of sitting upright for an hour when weary does no injury, provided twisting is avoided. Should these means fail to relieve pain, the direction of extension should be changed and a plaster-of-Paris, leather, felt, or binder's-board splint be fitted. Wire gauze also has been applied, and constitutes an excellent dressing. It makes but slight difference how fixation is accomplished, and each surgeon will have his own particular method. I am speaking now of uncomplicated cases in their early stages, having in mind chiefly knee and hip inflammations.

If extension is commenced in the line of the deformity,

* Read, by invitation, before the Lehigh Valley Medical Association, August 19, 1885.

a change for the better can soon be accomplished until gradually a more normal position can be secured. In many cases a cautious surgeon can gain considerable time by straightening the limb during anæsthesia, but such a procedure requires the utmost caution lest new inflammation be excited. Tenotomy and aspiration are often advantageous.

I have no doubt that strict confinement in bed would be sufficient without extension in slight cases, but it is difficult to prevent a child from quietly slipping off the couch unless some decided impediment is offered. The method may be temporarily adopted, however, where the other treatment is viewed with disfavor, since, at the end of a week, so great is the mitigating power of time, the parents will acquiesce in a restraint which at first seemed unwarrantable to them. Counter-irritants can be used if desired, since they exert a good influence at least upon the attendants. All hygienic, supporting, and constitutional measures should be most carefully watched.

The time of confinement varies according to the conditions. In the hip much will depend upon the synovitic or osteitic character of the disease. If synovial, slight, and traumatic, a few weeks may be sufficient; but, if osseous in origin, several months should elapse after all cessation of pain before the crutches should be permitted. Night extension is often beneficial, even many months later. A simple over-gaiter is then the best foot attachment. If the knee is at fault, extension is rarely required for any length of time, simple fixation with rest being all-sufficient. These conditions are much more readily secured than at the higher articulation. It is better for the patient, however, to remain in bed during the acute stage, since more perfect quietude can be obtained. If the inflammation is violent, not only must fixation be secured by the adaptation of a posterior splint of wood, leather, felt, binder's board, tin, etc., but ice should be steadily applied in a rubber bag, or coil, or bladder. The action of this powerful agent upon the capillaries may be enhanced by covering the skin with lint wet with a saturated solution of sugar of lead, made anodyne in its properties by the addition of opium. Leeches also may be of service in an acute traumatic case.

In osteitic cases, however, the chief reliance must be upon rest, a condition which is most thoroughly secured by fixing the limb in the most comfortable position by gypsum or other material. If slight deformity with effusion has occurred, the procedures before alluded to must be practiced. Sponge-pressure or a close-fitting rubber bandage is of great service. If there is a tendency to posterior displacement of the tibia, extension must be made in two directions: one weight drawing downward, while another band is placed around the upper third of the leg, at right angles to the axis, and through a pulley in the ceiling the limb is suspended in such manner that forward traction is continuous upon the head of the tibia. Should this fail, tenotomy of the ham-strings will frequently hasten relief; but when displacement is great, of course, ligaments are destroyed, and even if restoration is accomplished it can not be maintained without absolute fixation.

In knee arthritis which is osseous in its origin, or when the joint is undergoing pulpy or fungous degeneration, when good position has been secured, or when ankylosis is to be desired, the complete incasement of thigh and leg is better than posterior splints. The enveloping ones of sole-leather, which can be laced and made removable, or the lighter ones, of partially tanned hide, are, however, very serviceable in the later stages. It is, of course, understood that all these appliances are intended to promote as perfect rest as possible, and that walking without crutches is absolutely to be forbidden, the injunction being that the foot shall *never* be brought to the ground. Without this restraint many steps about the house will be taken and great injury inflicted by friction. A high shoe upon the sound foot prevents the striking of the toe, and removes the temptation to walk.

Slight injuries or trifling synovitis may, of course, recover by counter-irritation, cold, etc., even though rest be but partial; yet even these cases are not without risk, and should receive the closest attention.

Osteitic cases, the old "white swellings," demand, from their inception, the most rigid enforcement of the principle of complete fixation, while every available constitutional health promoter is brought actively into service.

In hip disease, after all pain has ceased for months, and earlier if the general health demands, some form of apparatus should be applied to prevent joint motion and yet permit the patient to move about on crutches, and with a high shoe on the sound foot.

In this department every surgeon has his particular modification, and believes that it alone is capable of giving good results. While pleading partially guilty of the same weakness, I am yet able to see merits in all fixation splints. As for the so-called extension appliances, although I have seen nearly all of them in service, I can not imagine that they exert any separation of articular surfaces. By adhesive-plaster and bandage-pressure their beneficial action is, however, probably exerted in controlling muscular action, and thus giving a certain amount of rest, fixation, and protection, particularly in those appliances in which hip-joint motion is transferred above the pelvis. I employ horizontal extension, not with any idea of pulling the bone from its socket, but simply to relieve muscular spasm, give quietude, and reduce deformity.

I am compelled also to differ with many skilled surgeons, who believe that the perineal straps and ischiatic rests are capable of acting as pelvic crutches, and thus doing away with axillary ones. The tissues covering the pubic rami are thin and the skin is sensitive, and, as I have always encountered these appliances, the patients either could not endure the pressure, or, as more frequently happened, the straps, except for an hour after the physician's visit, were so loose that the weight was borne upon the articulation, and relapse has been the result. Even when most perfectly adapted, the jar upon the hip is far greater at each step than is received during axillary locomotion, and the liberation of the arm from restraint is not sufficiently compensatory for this harmful action.

Only a few weeks have elapsed since I saw a most lamentable instance of this effect, although the splint was in most careful hands and was one of the best of its kind.

Hutchinson's plan of permitting the patient to go about with crutches and high shoe, without splint, is a method to which we are often obliged to resort among poor patients, but it compels the hip-guarding muscles to remain in a vigilant state during the entire day, in consequence of which increased congestion starting pains will continue throughout the night in spite of extension.

The surgeons who strive most earnestly to obtain a cure with motion are the ones who are obliged to perform the most resections. Decide upon the instrument that will give the most absolute rest, and you will make the best cure. The indications are to fix the joint, protect it from injury, maintain proper position, and yet be light and comfortable. Innumerable methods have been tried in order to secure these results at slight expense. Binder's board, leather, plaster (even when stiffened with tin strips)—all fail in the case of active boys, owing to the long leverage and great strength of the thigh muscles. Leather answers best, but in adults so large a piece is required that the expense is considerable. Vance's splint is a good form. Thomas's posterior bar and Agnew's modification answer a good purpose, but are open to the objection that sitting is impossible in a proper position. To accomplish it, therefore, the boy soon learns to twist his body, and also his hip, thus giving the joint each time a decided strain. This appliance, however, has many advantages which are not to be obtained in other forms, and is especially of service in dispensary and country work. Simple bars of cast-steel, one, two, or three sixteenths of an inch in thickness, and from one half to one inch in width, can be easily cut to proper length and bent by wrenches or in a vise by any practitioner, so as roughly to fit the posterior part of the body from the thorax to the calf. Two tin strips to encircle the body, and one each for the thigh and leg, can be soldered or riveted to this upright, and, when all is fixed in position by gypsum bandages, a very rigid support is obtained. The encircling bands can be made of steel, which, when covered with leather and provided with buckles and straps, give a removable apparatus that, though less effective, is more comfortable and cleanly.

Any rigid material is as good as plaster. One great drawback to gypsum in its fixation uses has been the uncleanliness and annoyance of making the bandages. This is now avoided, since the instrument-makers are furnishing them for $2.50 a dozen, which is much cheaper than to make them one's self. The crinoline should always be open-meshed, and the plaster fresh. Oven-heating will often be of service. Muslin bandages will not retain sufficient gypsum. In order to secure the fixation of the joint and yet permit the sitting posture without the necessary twist produced by Agnew's or other instruments, I employ a lock joint, which is perfectly rigid except at the moment of sitting, when the simple lifting of a bolt from a mortise permits flexion, while at the same time no lateral or rotary motion is possible. On rising, the lock is easily managed under either male or female clothing, and the articulation is protected from blows on all sides. The joint is attached to Y-shaped arms, riveted to thigh and body enveloping bands of leather or felt. The trunk section must extend as high as to the lower angles of the scapulæ so as to embrace the thorax. For accurate adaptation, a plaster cast of body and thigh should first be taken; but approximation may be secured by leather cut to measure, then wet and fitted to the body. Russian felt can also be employed, as it is readily molded when heated and sets quickly. Lace hooks complete the splint and render it removable at will.

Objection has been raised to my apparatus, that it permits motion; but experience shows that the simple temporary flexion movement is far less injurious than the twist necessitated by other fixation splints, since it is impossible to restrict patients to standing and lying. Chance's splint, like my own, embraces the thorax—a condition which I consider essential, since pelvic bands permit compensatory motion too near the hip. Crutches, and a high shoe on the sound foot, are always used with this appliance. Its total weight for a child need not exceed one half pound. While not an extension splint, its action is to relieve the articular surfaces by controlling muscular action and by distributing the pressure over a large area of surface, just as a plaster or leather jacket relieves the vertebræ by transferring weight to the material through skin contact. The great support given to the hip by this splint is markedly evidenced in its employment for ununited intra-capsular fracture and in paralysis. If we prefer extension apparatus, we have a choice among many varieties—Taylor's, Sayre's, Gibney's, Judson's, Bauer's, Stillman's, and a score of others. I have already stated my objections to them. Each has its advocates, and doubtless each surgeon can report good cures; but it is not a particular splint which cures hip disease. The good progress of a case depends upon the fidelity and care which both surgeon, nurse, and patient give to the proper guarding of the joint, to the carrying out of all the little details of treatment, to the strict obedience to the command of non-use of the limb, to the persistence of all these through the years of first, second, and third stages. Each case will test the ingenuity of the surgeon and the patience of the sufferer.

I have purposely omitted the treatment of the suppuration stage of the separate joint diseases, with all the various complications, since their discussion would lead us on to excision and the later stages, which our space will not allow; but the principle of rest is at all times applicable and beneficial. I can not forbear, however, to insert one word in regard to diagnosis. Whenever muscular rigidity is present about any articulation, too much attention can not be given to its significance, due as it is to the fact that neighboring joints and muscles are supplied by the same sets of nerves, and irritation of an articular branch fortunately displays the warning signals—*muscular fixation* and *starting pains.*

At the ankle and foot immobility can be secured by wood, binder's board, felt, silicate of sodium, starch, oxide of zinc and glue, gypsum, or any other convenient means, rest of the inflamed surfaces being the result to be obtained. The means of securing this will vary with the joint affected, whether ankle, tarsal, metatarsal, or phalangeal. The principle is applicable to all stages, and, as caries of the bones almost always co-exists, it will be found that gypsum will answer best, since it can be easily windowed, and, if varnished, is quite non-absorbent of pus. A tightly fitting

stocking is the best under-dressing. The more absolutely rest is insured, the less will be the inflammation and the smaller will be the suppurative results.

If the case is of long continuance, a molded leather splint which can be laced is of advantage. Walking without crutches is never allowable. Long-continued suppuration is the rule, and free drainage must be established. Gouging, excision, and amputation are, unfortunately, often required in the later stages.

The primary fixation position in this articulation, as in all others, should be the one which gives greatest comfort.

Extension knee and ankle splints are in no wise superior to fixation ones, and are far less comfortable. They can not safely be used without crutches, and are useful only so far as they give quietude to the joint, a result which can be secured with much greater ease and benefit to the patient by other means, at one tenth the trouble and expense.

When strumous inflammation attacks the sterno- or acromio-clavicular articulations, the osseous structures are almost sure to be primarily or secondarily affected. In a case which came under my care last June, a few weeks sufficed to cause destruction of the ligaments and head of the bone. Tissue-death continuing, the anterior two thirds of the clavicle perished, and, protruding through an integumentary opening, were easily removed.

To retain these two articulations in a position of quietude, the same means should be adopted as are employed in shoulder disease.

At the shoulder we have a joint which, though but seldom the subject of articular osteitis, yet when attacked is, from the movable character of the scapula, so difficult to keep at rest that ankylosis, suppuration, and bone-death are very frequent results. If "extension with motion" was the true theory of treatment, we ought here to have most admirable results, since the weight of the extremity makes an excellent extending force; but, on the contrary, we are usually doomed to disappointment.

To produce partial rest, the arm should be bound to the side of the body, borated or salicylated cotton being interposed between the two skin surfaces. If the patient is young, a large body-waist or broad muslin strip is better than bandages. The shoulder can be still left exposed for counter-irritation, if desirable. Should maceration of integument take place in the axilla, a sling may be worn for a few days, with a shoulder-cap of binder's board.

At the elbow it is not difficult to maintain rest, but, as the majority of cases of arthritis met with at this joint are strumous, and commence in the humerus, extensive suppuration is the rule. A permanent splint is better than one that is removable, and nothing answers better than plaster of Paris. The angle of fixation should at first be the one that will relieve pain, but changed from time to time so as to give a good position in case of ankylosis, the hand being placed slightly in pronation, so as to avoid the tendency of the head of the radius to displacement as disorganization advances. If the swelling diminishes, the incasement can be slit and tightened, or a new one applied. Traps can be cut for counter-irritation or to give exit to discharges. The aspirator should be used early, sponge or elastic pressure being afterward applied. Suppuration from the humeral condyles is common, and excision is frequently demanded. A laced leather splint is often convenient.

The wrist joint, like the ankle, is subject to a strumous form of inflammation which may extend to the bones, or, as is perhaps more frequently the case, an osteitis may involve the joint and pass to all the carpal bones and articulations. To apply the principle of rest, we have here, first, to tightly wrap the wrist and hand with an adhesive-plaster bandage, which exerts pressure and tends to prevent the posterior displacement of the carpus which is so common when the dorsal ligaments give way. Over this should be applied a gypsum bandage, the hand being held during the hardening process midway between supination and pronation. This dressing answers much better than a palmar splint, and windows can be cut as required. If one prefers any other form of immovable dressing, it may answer just as well; but, if salt is added to the water in which the bandages have been soaked, the quickness of setting is decidedly in favor of plaster over any other material. Shingles and stiff paper are, of course, more constantly at hand, but require careful subsequent attention and are not nearly so certain in their fixation powers, since bandages will constantly loosen. In chronic cases a removable leather splint is useful.

The caries of bones and the fungous degeneration of the synovial membranes very frequently demand partial or complete excision or amputation. Unfortunately, surgical interference is frequently followed by increased bone-death, as is also the case in the tarsus.

To sum up in outline:

1. Rest subdues joint inflammation more effectually than all other means combined, often aborting, always lessening, an impending process. Its employment is indicated by nature; its beneficial influence is seen in every domain of medicine; in theory it is rational, in practice it fully proves its power.

2. The more perfect the rest, the greater will be the diminution of pressure, friction, tension, and inflammation, and the less will be the resultant ankylosis and suppuration.

3. The means for securing rest and fixation are exceedingly simple, and can be applied by every intelligent practitioner.

4. Counter-irritation is but of secondary importance.

5. In inflammations of the sterno-clavicular, acromio-clavicular, and scapulo-humeral articulations the arm should be fastened to the body, which takes the place of a splint.

In elbow disease the member should be immovably fixed in a semi-flexed or in an extended position; pressure, aspiration, puncture, drainage, excision, etc., to be employed as necessary.

In the wrist and hand articulations the same principle is to be enforced, long-continued rest being necessary. Early exit of purulent accumulations must be secured antiseptically by the bistoury, and the progress of caries carefully watched, the surgeon interfering only when nature is unable to properly accomplish separation or health fails.

In the ankle and foot the same will hold true, fixation by plaster or other rigid material being complete and per-

manent. Locomotion for even one step without the aid of crutches should be positively forbidden—an injunction which is equally applicable to diseases of the knee and hip.

At the knee, the question of counter-irritation, immobilization, or rest in bed with extension, will depend largely upon the amount of traumatism and the existence or absence of muscular rigidity. When nature indicates by the last-mentioned symptom that motion is harmful, delay in enforcing one of the latter measures is criminally negligent.

Serous effusion should be aspirated, pus evacuated antiseptically, free drainage maintained, and excision practiced as soon as it is decided that destruction has occurred.

Permanent rest and fixation, with the use of crutches, are far better than any form of extension that can be applied in the upright position.

In hip disease, horizontal extension with fixation answers best for the acute stage. Three months after the cessation of pain, if deformity has been largely reduced, the erect position may be assumed, provided the joint is put at rest by a fixation apparatus and the high shoe and crutches are used.

1818 Chestnut Street, Philadelphia.

THE ANNUAL AND SEASONAL CLIMATIC MAPS OF THE UNITED STATES;

WITH A RULE FOR THE EVEN DIVISION OF CLIMATE,

BASED UPON THE AVERAGE OF THE COMBINED ATMOSPHERIC HUMIDITIES IN THE UNITED STATES.*

By CHARLES DENISON, M. D.,
DENVER, COL.

(*Concluded from page 603.*)

The rule of moisture and dryness mentioned above is stated as follows: First find for the given time and place the per cent. of relative humidity and cloudiness, and the absolute humidity in tenths of a grain of vapor to the cubic foot of air. Then compute the difference between one third of these three and the standard number given opposite the proper temperature (of the given place) in the "Rating Table," and the result, plus or minus, will show the relation of the given climate to the average for the United States. An excess of six belongs to *moderate moisture*, and over six to *extreme moisture*, while a deficiency of six locates a place in *moderate dryness*, and over six in *extreme dryness*. On the map each of these four divisions is divided into halves, thus giving eight even divisions of the whole climate. The gradations toward the extreme of moisture or extreme of dryness are thus easily seen as the colors change from the mean of climate, which is the dividing-line between the blue and red shades.

It is claimed for this mean of climate for the United States that it is only approximately correct, because the colors of the seasonal charts do not represent a period longer than one year (1883), and because the density of observation stations in the United States is very unequal. An effort was made to counteract this latter circumstance by taking the average relative humidity of places representing about an equal area along parallels of latitude. The averages thus obtained, of 67 per cent. of saturation for relative humidity and 44½ for cloudiness, were considered by the Signal Service authorities in Washington to be about as nearly correct as could be obtained. A little too much of the country may be apportioned to the blue shades, yet, if that is the case, it makes no difference with the extremes of either moisture or dryness. Here it should be noted that the excesses, from the annual average for the whole country, on the side of dryness (red) are much more than on the side of moisture (blue). For instance, Red Bluff, California, in summer—with a cloudiness of 13 per cent., a relative humidity of 34 per cent., and an absolute humidity of 3·7 grains to the cubic foot of air, giving a mean of 28 to compare with the usual mean (62·7) in the table for Red Bluff's temperature, 82°—gives an excess on the side of dryness of 23 above the extreme of dryness, while Spokane Falls and Port Huron, Mich., two of the moistest localities in winter, give only 4 excess above the extreme of moisture. This less fluctuation on the moist side of the average of climate is in perfect accord with the greater variability of climate according to the dryness of the air. These facts, and the proofs the author presented in his last year's report, that equability goes with warmth and moisture of atmosphere, should always make us suspicious when equability is claimed for dry, cool places, or when great dryness of atmosphere is alleged for warm, equable places.

The other features of the seasonal charts are easily understood—*i. e.*, isotherms, wind-arrows, and seasonal tables—by referring to the descriptions already given and simply substituting *seasonal averages* for *annual means*.

For instance, the isotherms represent belts of country of the same seasonal average of temperature. The same winds averaged for seasons are *prevailing*, *rain-bearing*, and *pleasant-weather producing;* but, instead of representing regions, as on the annual map, they answer for each signal station near which they are placed. In the border tables the *comparative windiness* of stations is worked out from the seasonal averages of miles the wind travels a month, which latter are likewise given at the sides of the charts. Besides the seasonal averages of cloudiness, relative and absolute humidities, precipitation, daily and monthly ranges, and the 1883 seasonal averages of temperature which are given below the seasonal charts, the establishment and elevation of stations, the annual cloudiness, annual temperatures, and mean annuals of maximum and minimum temperatures are given on the sides.

The basis map of the seasonal charts contains all the signal stations, State capitals, principal cities, health stations, and all the thermal and mineral springs of note, including many as yet unnamed, and comprising the most complete list of such springs extant.

The absolute humidity table, given on the chart for autumn (see Gulf of Mexico), is added for the convenience of those who may wish to compute the standing of places not rated on the charts, while the presence of the "Rating Table" and "Rule of Moisture and Dryness" on the chart for summer gives opportunity for any one to make such computations, or to prove the color shades as given for any signal station.

It is to be explained that barometrieal records, atmospheric eleetrieity and ozone are not given for the following reasons: The uncertainty incident to the fickleness of barometrical readings, with the necessity to reduce them to a sea-level standard, is not thought to be warranted by any good that would result; while atmospheric elcetricity and ozone are not yet estimated, if at all, with sufficient degree of accuracy to allow of their use.

The principal feature of these seasonal charts is the illustration of the method of dividing the climate into even portions, based upon the average of atmospheric humidities for the year. If this standard of evenly subdividing the climate of our own country shall be accepted as the rule by the Climatologieal Association until a better is submitted, the author will feel amply paid for his labor in working it out and presenting it to the medical profession.

DISCUSSION.

The PRESIDENT had received the maps three or four months before, and had spent some time, but perhaps not sufficient to express an opinion, in examining them. It seemed to him that Dr. Denison had endeavored to put too much on the maps, and they were confusing, to say the least, on that account. That was the only criticism which he had to make with regard to them. How reliable the observations made were, he supposed was only to be determined by the accuracy of the signal stations observations. With regard to the final deductions which the author made, he thought, as stated in his address, that humidity which was prejudicial to phthisical patients had more to do with the soil than with the general atmospheric condition, and therefore it would be necessary to know more of the soil of the different localities that were supposed to be specially favorable for phthisical patients before he should be willing to express an opinion. He believed that all of the gentlemen who had been the most correct in the matter of climate, starting with the observations of Dr. Bowditch in 1862, agreed that dampness of the locality due to the condition of the soil played an important part in the development of phthisis. It was not the amount of rain-fall, nor the amount of relative humidity, but the want of free drainage in the soil. Dr. Bowditch, in his address before the Massachusetts State Medical Society, had dwelt upon this point very strongly and very clearly. When the speaker first went into the Adirondack region as an invalid it seemed to him that everything was against its being a suitable place for phthisical patients so far as humidity, changes of temperature, and all that was concerned; but the results had proved that it was a good place for phthisis—certainly in the earlier stages, and the principal reason was the condition of the soil. There was no clay in the Adirondack region, and everywhere there was quick drainage.

Dr. A. N. BELL remarked that the maps which Dr. Denison had prepared to show the relative moisture and dryness in different parts of the United States, with a view to enabling physicians to decide where to send their phthisical patients, went far to counteract the position which Dr. Denison started out with, that dryness was the essential element in the cure of phthisis. Studying these maps, and the reports on which they were based, we found some curious facts. In Colorado, for example, the ratio of mortality from consumption to the mortality from all causes varied only a small fraction of one per cent. from that of Florida, Mississippi, and Louisiana, exclusive of New Orleans, where there were just reasons why the mortality from phthisis should be excessive. It was considerably higher than in Texas, which also had a damp climate. What the president had said with regard to the Adirondack region had an equal bearing on the subject. Everybody knew that forests were the storehouses of moisture, and, so far as we could go in measuring these climates, they were exceedingly damp, and for manifest reasons—not only because of the large amount of rain-fall, but also because the leaves interfered with evaporation. It had also been shown that there was something besides heat, as well as besides relative dryness, which had an important influence on the consumptive. We might refer to the statistics of the navy. It would be said that the men in the navy were picked men, but that fact might be offset with the further fact that they were of the age when phthisis was most likely to develop, seafaring men, usually occupying bad quarters for sleeping. The ratio of deaths from phthisis in the navy to deaths from all other causes was 6·3 per cent., while in Colorado, Florida, and Mississippi the ratio was 8+per cent. In Texas, Arkansas, and Arizona it was about 6 per cent., or nearly the same as on the ocean. According to English statistics, the mortality from phthisis was ten times less on the ocean than on land; if allowance was made for the seaman's age, from fifteen to forty-five years, it was sixteen times less. The rate of mortality from consumption among all classes who lived on the water in this country, including canal and river men, and their wives and children, was less in comparison with the general mortality than that of several of the New England States. Consumptives on land, subjected to like conditions, would certainly die much faster. More than thirty years ago he had kept records of the mortality occurring on vessels on the west coast of Africa, and found that the number of deaths from phthisis was greater at a given locality where the atmosphere was dry than at points where there was greater moisture, which went to show that moisture alone was not the cause of greater mortality among the phthisical. An atmosphere containing clean moisture was by no means necessarily promotive of consumption. If one wished to experience the full benefit of the Adirondack region he should go into it, and not remain on its outskirts. There one would get the benefit of free drainage, atmospheric agitation, electrical change, and a bountiful supply of ozone, equal to that developed by the action of the waves on the seashore. He had examined the maps prepared by Dr. Denison very carefully, and, while he held in admiration the industry displayed by the author, he certainly was far from being willing to accept his suggestion to make excessive dryness, to say nothing about altitude, the test of climate for consumptives.

Dr. REED was glad to hear the vigorous protest of Dr. Bell against the suggestions offered by the author. When Dr. Denison read his paper last spring he (Dr. Reed) had entered his protest against accepting his conclusions. He thought it was so generally admitted by the profession that ocean air, either on shipboard or at the sea-coast, was beneficial to consumptives that there ought to be no longer any question about it. It had been a known fact among physicians since the time of Hippocrates, and had never been questioned until recent years, when it had become the fashion to talk about dryness as the only standard. He had been glad to hear the explanation by the president of the importance of dryness of the soil. Against the idea that dryness was the only important factor he could place his observations at Atlantic City, where patients suffering from phthisis, particularly in the first stage, and often in the second stage, did very well. These maps, which showed elaborate work and were unquestionably valuable, also contained conclusions which required restrictions. They could not be accepted as proof positive. Regarding the statistics of the English navy referred to by Dr. Bell, in a paper which Dr. Reed read last spring he had given some of the records of both the navy and army of England, which were to the point. Of course the men in both the army and navy were equally picked men

and it was a striking fact that, while there was quite a fair proportion of deaths from phthisis in the army, in the navy, if he remembered correctly, the mortality from the same cause was not more than a third as great. The only way to account for this greater mortality from phthisis in the army was that the men were on land, while those in the navy were most of the time at sea.

The President remarked that it was evident the association was not willing to indorse Dr. Denison's position, and it was hardly necessary to take a vote upon it.

Dr. Tyndale, the reader of Dr. Denison's paper, stated that the author's contention was that the principal features of climate related to dryness, elevation, and equability of temperature. Statistics had thus far shown that, of these three, dryness was the most important, and equability next, elevation being third, and not separable from dryness.

[Note by the Author.—The author wishes to add a word or two in reply to those who took part in the discussion. First, with reference to the president's criticisms. A considerable number of physicians, whose opinions are most trustworthy, have critically examined the charts and have not found them at all confusing, when applying the given explanations to the colors, lines, arrows, etc., illustrating separate data.

The comparatively favorable Adirondack region was not differentiated on the seasonal charts, because the Signal Service had no station there. Undoubtedly the freedom from soil-moisture and the "quick drainage" would so have made its impress upon the humidities of the atmosphere as to have brought out this region into one of the light-red colors of moderate dryness. The qualities which the president mentions as favorable—porosity of soil, "quick drainage," and, in fact, all the soil conditions which produce a pure atmosphere—extend over large areas in the United States. These regions, because of their atmospheric dryness, are thrown into the deep-red shades on the seasonal charts; on the other hand, the dark-blue regions, showing atmospheric moisture, indicate a general preponderance of opposite soil characteristics. Therefore, for large regions, the character of the soil, in a great measure, determines the atmospheric humidities. Conversely, the humidity colors, to a certain extent, represent soil conditions.

The president's statement that the author's position is not indorsed is unfair, since the whole discussion, with the above-mentioned exception, was irrelevant to the subject of the paper read—namely, *the even divisions of climate*. The question is, Are the divisions of climate fair, and the extremes on the charts worked out with justice to the sections of our country which are put in opposition to each other?

The discussion seems to have been wholly confined to the therapeutics of climate, which the author did not intend to introduce in this paper. As to his previous writings he has nothing to retract; nor has he ever said that dryness was the "*only*" important factor in climate. If, however, he were to mention the principal features of climate, for the arrest of phthisis, in the order of their importance, he would give them as *dryness*, *coolness*, *sunshine*, and *elevation*, not mentioning *equability* at all, for he would expect to find a due amount of *variability* with these favorable attributes.

Provided he is present at some future meeting of the association, he would be pleased to discuss the subject introduced by these gentlemen. Perhaps the following title will best comprehend the questions in dispute, *i. e.*, *The comparative importance of different climatic attributes in the arrest of phthisis.*

However, there were two statements made which should not go uncorrected, notwithstanding they are foreign to the discussion of the author's proposed divisions of climate. With reference to Dr. Bell's argument, mortality statistics from consumption are inadmissible as settling the salubriousness or injuriousness of given climates, because of the migration of pulmonary invalids in search of health. For instance, if statistics of mortality from pulmonary tuberculosis alone are taken, probably not over five per cent. of such deaths in Colorado have been from disease which originated in the State. The author has written many certificates of death from phthisis—probably a hundred and fifty, and perhaps more—during his twelve years' residence in Denver, but he does not remember to have written one for an uncomplicated case which originated in Colorado. A brother physician suggests that one might as well assert that all the cases of syphilis at Hot Springs, Arkansas, originated there.

That sea-air is healthful, and the mortality among seamen is small, is not at all to be wondered at, since the analyses of the air by Miquel, at the Observatoire de Montsouris, near Paris, have shown that the air out at sea is next in freedom from bacteria to that of elevated regions. Therefore if, in addition to this purity of sea-air, the consumptive mortality among seamen —some six per cent.—is about equal to that in Texas and Arizona, where many invalids go, then the better—the dryer and more elevated—portions of those States must indeed furnish a very pure atmosphere, and one which is especially suited to the consumptive's needs.

If Dr. Reed's statement, that the maps "contained conclusions which required restrictions," does not indicate a determination to shun the inevitable logic of facts, it is at least very vague. There are no "conclusions" on the maps except the arithmetic of climatic data—the condensed and graphical illustration of the work accomplished by the Signal Service Bureau. Why should not the conclusions of facts be allowed to have full sway in the judgments of medical men who are able to appreciate their bearing? In fine, with reference to a many-sided question like the one introduced, is it not through the largest collection of facts and climatic data that the physician can have any reasonable grounds from which to draw conclusions? And is it not a mistake to try to determine those conclusions from an experience which is limited to sections which are within a hundred or so miles of New York city?]

HYDRONAPHTHOL;
A NEW ANTISEPTIC.

By GEORGE R. FOWLER, M. D.,
SURGEON TO ST. MARY'S GENERAL HOSPITAL, BROOKLYN.

(*Continued from page 459.*)

The following is a *résumé* of the antiseptic methods employed in this hospital with hydronaphthol:

Preparation of Sponges.—Medium-sized sponges of good quality are selected and thoroughly beaten so as to break up and loosen all calcareous particles. These are thoroughly washed until all gritty matter is separated. They are then placed in a solution of permanganate of potassium of the strength of thirty-six grains to the pint, and there allowed to remain for a few minutes, or until they are of a brown color. They are then washed in clean water and placed in a bleaching solution made as follows:

Sodium hyposulphite.....	10 ounces;
Water	68 "

Dissolve, and add muriatic acid, 5 ounces.

This solution should be made the day before required for use, so that the sulphur may separate from the solution. It should be decanted off. The sponges should be immersed in this solution for a few moments only. They

should then be washed in clean water, and, in order to make certain that no sulphurous acid remains, it is well to immerse them a few moments in a solution of bicarbonate of sodium, 100 grains to the pint. They are then sterilized by being immersed in a 1-to-1,000 solution of corrosive sublimate for two hours. From this they are transferred to a 1-to-1,000 warm solution of hydronaphthol and kept hermetically sealed in a screw-cap fruit-jar or museum-jar. If it is desired to keep them in a dry state, glycerin should be added to the last-named solution, in the proportion of half an ounce to the pint, in order to prevent the sponges from becoming harsh and brittle. For hospital use, a separate jar is kept for each day's supply of sponges, and, as soon as they are no longer required, they are washed thoroughly, again sterilized as before, and placed in the hydronaphthol solution in the jar in which they belong, which is numbered for purposes of identification, and not put to use again until at least a week has elapsed. This insures the most perfect immunity against infection from every source, and enables one to employ the same sponges again and again without incurring the slightest risk.

Irrigation.—During operations and dressings an almost constant stream of hydronaphthol solution, 1-3,000, in water previously sterilized by boiling, is kept running over the parts. The jar containing the irrigating solution is kept partly filled with the saturated solution, and, at the time of operating or otherwise employing the irrigating solution, warm water is added in the jar in sufficient quantity to reduce it to a weaker solution.* In cases of chronic joint disease or cases of hydrops articuli, if no purulent accumulation be present, the hydronaphthol is used to wash out the joint. If, upon tapping the joint, purulent or floeculent fluid flows through the cannula, a solution of corrosive sublimate is first used to thoroughly sterilize the interior, and this is, in its turn, well washed out with the hydronaphthol solution. By this means corrosive-sublimate poisoning is guarded against; a portion of the hydronaphthol solution may be left in the joint cavity. In all cases of a septic character sterilization had best be accomplished by the aid of the mercuric-bichloride solution, the latter being always washed away subsequently with the hydronaphthol solution.

Bath for Instruments.—The instruments are placed in shallow pans, porcelain-lined, and covered with a saturated solution of the compound. A towel, wrung out of the same, is spread out in a convenient place, upon which the operator drops the instruments when not in use, and from which an assistant transfers them to the bath until again needed. Towels for the purpose of isolating the field of operation are wrung out of a 1–1,000 mercuric-bichloride solution.

Preparation of Catgut.—The catgut should be wound upon hard-rubber, glass, or porcelain spools. It is then sterilized in a one-per-cent. solution of mercuric bichloride, being immersed for twelve hours. It is then transferred to an alcoholic solution of hydronaphthol, one tenth of one per cent., for permanent preservation. The latter hardens the gut sufficiently, and preserves it against all further change.

Silk and horse-hair may be treated in the same manner, excepting that they may be boiled in the corrosive-sublimate solution for a half hour and then immersed for twelve hours. They should be preserved in the alcoholic hydronaphthol solution, as in the case of the catgut.

Drains may be immersed in the corrosive-sublimate solution also, in the same manner as the catgut, and then placed, for permanent preservation, in a saturated watery solution of hydronaphthol, to which glycerin, in the proportion of half an ounce to the pint, has been added.

Wood-flour and Sawdust.—Sterilization of wood-flour and sawdust is accomplished by thoroughly triturating the same in a mortar with an alcoholic solution of corrosive sublimate, and in the same solution the hydronaphthol is dissolved, which latter gives to the dressing its permanent antiseptic character. The following is a good working formula for this purpose:

Hyd. biehlor., Hydronaphthol,	āā	3 ss.;
Glycerin		℥ j;
Spts. rectif.		Oj.

This should be triturated with 3 pounds of wood-flour, or finely-sifted sawdust, and, after drying, placed in bottles with large mouths until required for use. Bags are prepared, of different sizes, of coarse cheese-cloth previously rendered hygroscopic by boiling in a strong alkaline solution, and then washed and dried. The material known as mosquito-bar or netting, if used, need not be rendered hygroscopic, as its meshes are so coarse as to readily permit of the passage of the wound secretions through and into the wood-flour. These are dipped into the same solution prepared for the wood-flour or sawdust, before filling. They are prepared and filled upon the day of operation, and kept in a tin can, or wrapped in some impervious material until needed.

Absorbent Cotton.—This is used for backing up and placing around the edges of the cushion or pad dressings, when these are placed upon uneven surfaces. It is hydronaphtholated in an alcoholic or benzol solution, so that the former represents twenty per cent. of the cotton by weight.

Absorbent Gauze.—This is hygroscopic cheese-cloth; what is known among dry-goods dealers as archery bunting makes a very good dressing after being rendered hygroscopic. It is hydronaphtholated in the same manner as the cotton, and, after drying, kept in tin cans until needed for use. It is used principally for making bandages. Should it be designed for use in immediate contact with the wound, it is prepared in the same solution used for the wood-flour, in order to insure its thorough sterilization by means of the mercuric bichloride.

*Paper-wool.**—This is manilla tissue-paper, cut into strips one sixteenth of an inch wide and saturated with the same solution used for the wood-flour. It is passed through the rolls of a clothes-wringer, dried and carded, or pulled apart by hand. It is used as a cushion-dressing, or may be applied in a mass directly to the wound.

* Solutions of from 1-3,000 to 1-5,000 are sufficiently strong for all purposes. The saturated solution, although generally well borne, has seemed at times to over-stimulate the tissues and lead to increased secretion, a very undesirable feature in any antiseptic agent.

* See article in "N. Y. Med. Jour.," October 10, 1885.

Hydronaphthol Soap.—Powdered soap, triturated with about four per cent. of hydronaphthol, is found to be most convenient for use. The compound may be incorporated in cakes of ordinary toilet soap with advantage. It is useful in scrubbing the parts preparatory to operation, the surgeon's hands, etc.

Hand Scrubbing-Brushes.—These are kept in a saturated solution of the hydronaphthol. Two sets are always at hand, one for cases in which some suspicion of sepsis is entertained and suppuration exists, and the other for aseptic cases and the surgeon's hands.

Mention has been previously made of a hydronapthol-ated magnesia for use as an absorbent along the line of sutures. I think that this is uncalled for in the majority of instances, and in antiseptic surgery whatever is uncalled for had best be omitted. Wherever such an application is needed, this will be found a safe and efficient substitute for iodoform.

In addition to these, hydronaphthol incorporated in simple ointment, in the proportion of half a drachm to the ounce, is found to be an excellent application when a stimulating ointment is indicated. Old leg ulcers and the like are found to behave very kindly and heal rapidly under its use.

Dr. F. W. Rockwell, chief of our department of genito-urinary diseases, informs me that he has had some excellent experiences with hydronaphthol in cases of purulent cystitis, washing out the bladder once or more daily with a saturated solution. In a case of irritable bladder of long duration, in a female, I recently dilated the urethra so as to admit my index-finger, for exploratory purposes. An acute cystitis followed, which yielded readily to a daily irrigation with a warm solution of this compound.

A case of intractable eczema capitis recently yielded rapidly to the application of the hydronaphthol ointment. I believe the naphthols have been employed in the Vienna skin clinics for some time past with marked benefit.

To summarize the results of my experience thus far with this compound I would state that: 1. It is an efficient and safe antiseptic and anti-putrefactive agent. 2. This is accomplished in very dilute solutions; consequently it compares favorably in point of expense with carbolic acid, and it is especially as a substitute for the latter that its use is urged, not only on the score of cheapness, but of safety. 3. Its saturated solution is only of the strength of 1 to 1,100, and consequently no mistakes can occur in its use. In this strength of solution it is at least five times above its antiseptic limit, and yet is non-poisonous, non-corrosive, and, generally speaking, non-irritant.

COCAINE AS AN ANÆSTHETIC IN FRACTURES AND DISLOCATIONS.

By JOHN R. CONWAY, Jr., M. D.,

INSTRUCTOR IN CLINICAL SURGERY AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; ASSISTANT CURATOR TO BELLEVUE HOSPITAL.

Dr. M. Josiah Roberts's experiments on the use of the hydrochlorate of cocaine in bone surgery first suggested to my mind that it could be applied with equal success to a fractured bone, and the soft tissues surrounding it, to render them perfectly anæsthetic, and thus allow of careful and painless examination, and, if necessary, the manipulation required for the reduction of a deformity of the fragments.

It is obvious that, if this could be done successfully and safely, it would be a valuable addition to the resources of the surgeon for accurately diagnosticating the line of fracture, reducing displaced fragments, and, finally, painlessly setting the broken bone.

The manipulation of a fracture necessarily causes great suffering, and, if there should be a displacement of the fragments, the agony of reduction without an anæsthetic is always very severe.

Of course, ether or chloroform can be given, but the inconvenience of so doing and the disagreeable after-effects, not to mention those during the administration, are generally sufficient to prevent the use of either, the pain being considered the lesser of two evils.

I believed, also, that the ligaments and tissues surrounding a joint could be anæsthetized by the use of the cocaine, so as to allow of a painless reduction of a dislocation.

I resolved, accordingly, to test the effects of cocaine in the first set of cases that presented themselves.

Below I have recorded three cases of Colles's fracture in which the solution was used with marked success, and one case of dislocation backward of both bones of the forearm at the elbow-joint, where it acted with equal satisfaction.

Case I.—A. T., aged thirty-seven, a painter by occupation, was admitted into Gouverneur Hospital, October 26, 1885. While he was painting the cornice of a house the scaffolding on which he was standing gave way, precipitating him to the ground, a distance of over thirty feet. He struck upon his right buttock and the palmar surface of his right hand. Examination showed that he had received a fracture of the right radius, about three fourths of an inch from the lower extremity of the bone, the lower fragment having been displaced backward upon the upper, and being firmly held in that position. He had, also, severe contusions about the right hip and buttock, but no other serious injury.

All attempts at an examination of the injured forearm caused him so much pain that I concluded to use deep injections, at the point of fracture, of the four-per-cent. solution of cocaine, and ascertain whether it would sufficiently anæsthetize the bone and the tissues surrounding it to allow of a thorough examination and of reduction of the deformity without causing him pain. I loaded a hypodermic syringe with twenty minims of the four-per-cent. solution, and inserted the needle perpendicularly into the posterior surface of the forearm, directly over the seat of fracture, and pushed it down into the tissues until the point could be felt on the bone and between the fragments; there the solution was slowly injected until three minims were discharged. Withdrawing the needle slightly, so that its point would rest in the soft tissues just over the fractured bone, I injected two minims more. On the outer side of the radius I adopted the same procedure, endeavoring in the deepest injection to push the point of the needle far enough anteriorly to leave two minims in the tissues in front of the fracture, as well as the three minims between the fragments in this situation. In withdrawing the needle I injected two minims into the soft parts covering the fracture externally. The third injection was made between the ulna and radius—three minims between the fragments at this point, and two into the parts covering them. Altogether, seven-

teen minims were used. I think it is very important that the cocaine should not only reach the fractured surfaces of the bone, but should also be injected into the tissues immediately surrounding the fracture, for, although the bone may be thoroughly anæsthetized, the manipulation necessary for examination and reduction will sufficiently disturb the injured soft parts to cause pain, unless they also are rendered insensitive. After completing the last injection, I immediately applied a rubber bandage to the arm above the elbow, to check the circulation, and thus render the anæsthesia as lasting as might be desired, a method first suggested and practiced by Dr. J. Leonard Corning, of this city. (See "N. Y. Med. Jour.," Sept. 19, 1885, p. 317.) In five minutes from the time the needle was first introduced there was complete anæsthesia all about the seat of fracture. Firm pressure, and even blows on the forearm over the injured bone, caused no uncomfortable sensations.

Flexion, extension, and lateral motion of the wrist joint were made without any complaint from the patient, and, when questioned, he assured me that he felt no pain.

This was all in marked contrast to his sensations and complaints before the cocaine was used. Then he could not bear the least pressure over the fracture, and any motion of the joint caused him great agony. After I had satisfied myself, by a thorough examination, that there was no doubt as to the fact that absolute anæsthesia was produced, I proceeded to reduce the deformity by extreme extension of the wrist joint, together with traction. This was successfully accomplished at the first trial, although considerable force had to be used. The patient bore the reduction very calmly, never making the least sign that would show he was being hurt, and, when asked if it pained him, he answered "No!"

I now had the fragments in proper position, and could readily move them upon each other, producing distinct crepitus. Rubbing the broken surfaces of the bone together was unattended by the slightest symptom of pain.

The rubber bandage was allowed to remain on at least half an hour, and at the end of that time the anæsthesia was as profound as in the first ten minutes after the cocaine was introduced.

After the removal of the bandage, sensation returned to the parts at the seat of fracture in about fifteen minutes, but the pain was not excessive, nor sufficient to give rise to any complaints.

Case II.—J. O'B., eight years old, a school-boy, was admitted into Gouverneur Hospital, October 29, 1885. He had been knocked down while playing in the school-yard and fallen forward, striking upon both hands and knees. Examination revealed a Colles's fracture of the right radius with dislocation of the lower fragment backward. The injured wrist was very sensitive, and could not be touched without causing a good deal of pain.

In this case I used fifteen minims of the four-per-cent. cocaine solution in divided injections in the same manner as in the preceding case. Instead of checking the circulation with an elastic bandage, digital compression of the brachial was employed. As before, complete anæsthesia was produced in a little over five minutes, and the patient bore the manipulation necessary for examination and reduction of the displaced fragment without complaint.

After the circulation was allowed to go on again the fractured bone and soft parts regained their sensibility in about ten minutes.

Case III.—J. S., aged twenty-seven, a varnisher, was admitted into Gouverneur Hospital on October 30th suffering from a backward dislocation of both bones of the left forearm at the elbow joint. Any motion of the dislocated joint caused pain. The parts were also very sensitive to pressure. Twenty-five minims of the four-per-cent. cocaine solution were used in five separate injections of five minims each. The punctures were made around the joint at equal distances apart. The needle was first pushed as deep as the ligaments, and three minims were discharged; then it was withdrawn slightly, and two minims were injected into the soft parts covering the ligaments. Having finished the injections, I encircled the arm with a rubber bandage, and so checked the circulation. Allowing ten minutes to elapse, I examined the joint at the expiration of that time, and found that the ligaments and deeper tissues were perfectly anæsthetized. Motions of the displaced joint were made in all directions without causing pain. Reduction was effected by means of forced flexion, together with traction of the forearm and counter-extension of the arm, with scarcely any sensation to the patient. As the bones were slipping into place he muttered an exclamation, but said that he "did not feel it much." I then removed the bandage from the arm, having allowed it to remain on about half an hour, and all that time the anæsthesia had continued profound. Sensation remained absent for ten minutes and then returned.

Case IV.—M. D., aged forty, a 'longshoreman, fell and received a Colles's fracture of the left radius on November 2d. There was no displacement of the lower fragment, and the symptoms of fracture were somewhat obscure. There was a good deal of tenderness about the wrist. I injected ten minims of the four-per-cent. solution in two injections between the fragments on either side of the bone. The circulation was not checked, as the examination could be made rapidly, and prolonged anæsthesia was not necessary. After five minutes had elapsed I found the bone anæsthetized, and could rub the fragments together and get crepitus without causing any suffering.

In this case I had not injected the solution into the soft tissues over the fracture, and therefore found that they were not without sensation, for, although scraping the bones together caused no pain, extreme flexion or extension of the wrist was attended by uncomfortable sensations. The anæsthesia did not last more than ten minutes.

In conclusion, I would like to state that, if the injections are made carefully in the manner described in Case I, and the circulation is checked, after five or ten minutes have elapsed anæsthesia will certainly be produced in a fracture, and will continue until the blood is allowed to resume its course through the vessels. In dislocations a greater quantity of the cocaine has to be used, and the punctures must surround the joint as nearly as possible, and the solution be injected not only into the ligaments, but also into the soft tissues immediately around the joint.

In none of the cases that I have experimented in have bad effects followed the introduction of the cocaine. On the contrary, I think the inflammation was checked and was not so severe as it would have been had the cocaine not been used.

14 Lexington Avenue, *November 16, 1885.*

A PLEA FOR CREMATION.*

By WILLIAM M. McLAURY, M. D.

In the course of human events, laws, customs, ceremonies, and even habits of thought change. There is a law of progression that manifests itself through individuals as well

* Read before the Society of Medical Jurisprudence and State Medicine, October 8, 1885.

as nations. There are more indications of peaceful progress of our race toward higher modes of life now than ever before in the history of mankind. One change that is inevitable, and becoming more and more necessary for health and comfort in our nation, is in the disposal of the dead. By our habits of thought, by our laws, by our religious ceremonies, we are silently and solemnly taught that to reverently deposit the remains in a grave dug beneath the ground is the only way of showing proper respect to our departed friends. And with many, no doubt, the religious sentiment taught of the physical resurrection of the body would continue to be a great objection to their giving consent to substitute cremation for inhumation. But safety for the living with change in religious sentiments must in time overcome all such scruples.

The Oriental nations that have practiced cremation for cycles of time are more philosophic and hygienic than we who selfishly plume ourselves on our highly enlightened Christian civilization.

Greece in her palmiest days cremated her dead. The ancients held to four elements in Nature—air, water, earth, and fire, the latter being the most powerful, as it is capable of changing, purifying, and destroying each of the others.

In our own country, with its vast extent of soil and climate, there is a great difference in the danger to the living from the inhumation of the dead. In country places, where the population is not dense and the location of the cemetery is hygienically chosen, the danger to the living may be said to be very slight. But, as our country becomes older and more populous, the danger becomes increased in a geometrical proportion. It will be conceded by all that cemeteries in the vicinity of cities are a source of increasing danger to those cities. Take the city of New Orleans, for instance, where the graves can not be dug so as to bury beneath the surface; hence the coffins are placed on the surface and mounds are built over them. In process of time some of these become leveled and broken; consequently the escaping gases from putrefying corpses poison the air for miles around, threatening seriously friends and employees who attempt to repair the damage. Not only is the air poisoned by cemeteries, but water in the vicinity. Wells are sunk in close proximity to decaying bodies, and I have often myself perceived the cadaveric odor in drinking water of wells so situated.

Dr. Gray, of Orange, N. J., whom I met at Ocean Beach this summer, told me of a well in his town so near the cemetery that the men, while digging a grave, being driven from their work by a sudden and violent thunder-storm, as they returned to their work found the grave nearly filled with muddy rain-water, and, as they repaired to the nearest well for drinking-water, found the well-water also muddy, and, on extending their observations, found a subterranean communication between the grave they were digging and the well, which they proved by filling the grave with water and finding a corresponding rise of water in the well.

I have often seen graves dug where the water had to be bailed out repeatedly while the grave was being dug, and bundles of straw or hay thrown in just before the coffin was lowered, to prevent the mourners hearing the coffin splash into the water.

By cremation we avoid another horrifying thing in regard to burial—it is the vermin infesting grave-yards. It is a fact well known by all grave-diggers that rats are abundant in grave-yards and burrow from grave to grave, gnaw the coffins, and feed on the dead bodies so tenderly and reverently placed there. All these things, so distressing to sympathetic friends and mourners, would be avoided by the simple, cleanly, reverent deposition of the dear friend's or relative's body in the fragrant retort gleaming with rosy light.

We can not overestimate the sanitary agency of heat; it is the only thing that will utterly destroy the cryptogamic spore and annihilate the mycelium. Freezing renders microbia dormant and inactive, but they easily thaw into life again, and become as active and propagative as ever.

If we will only rationally compare the difference between burial and cremation, we may see how much there is *every way* in favor of the latter. The slow putrefaction, the offensive stench, the miasmatic effluvia, the poisonous gases of contagious diseases and plagues, the burdensome expense of funerals—all, all are avoided by the simple, economical, healthful reduction of the human remains to ashes by the chemical agency of heat amid the fragrant odor of sweet spices.

From the legal side of the house we may hear the objection against cremation that, in cases of crime (felonious poisoning, for instance), the evidence of the crime is immediately and for ever swept into oblivion. I would say, in reply to this objection, that the changes going on in society through this and other improvements in life will so elevate the standard of public morals and so modify the selfishness of individuals that heinous crimes of cruelty against the person will be of very rare occurrence. Radical improvements in the customs, habits, and ceremonies of a people or nation never go singly. A change of this kind would rid the people of an immense amount of superstition. It would be economic as well as hygienic. It would economize labor as well as material, and thus save thousands of dollars to poor people, who annually bury an immense amount of money which is greatly needed for food and raiment for the survivors. This they waste and bury, thinking that thereby they honor the dead. When we lighten the burdens of the poor we lessen crime. Criminals are made so by the hardening systems under which they live.

We are still living in the midst of error. We look back and commiserate the people of the "dark ages." A few generations hence people will look back to our time and wonder why we did not reform abuses and correct our errors.

It is pertinent for this society, in its domain of State medicine, to suggest feasible methods as to the erection and establishment of crematories in all towns and cities where the public health makes it necessary for their establishment, and have the entire business as a department of State.

But we have first to agitate and educate the public mind up to such a condition that it will think and act upon the subject. This may be done by issuing tracts and circulars and

through the daily press, and directing earnest attention to it through national and State offices and officers. The various boards of health would be powerful aids in helping to mold public opinion.

To the members of this society, or the public who wish to further investigate this subject, I would recommend a very able paper read by my friend, Dr. P. C. Coal, before the Northwestern Medical and Surgical Society, and also to a more lengthy paper by Dr. E. J. Bermingham, published by him in 1881.

I would also call attention to an excellent paper by John O. Marble, M. D., of Worcester, Mass., published in the "Medical Communications of the Massachusetts Medical Society," vol. xiii, No. iv, 1885.

Book Notices.

The Science and Art of Midwifery. By WILLIAM THOMSON LUSK, A. M., M. D., Professor of Obstetrics and the Diseases of Women and Children in the Bellevue Hospital Medical College, etc. New Edition, Revised and Enlarged. With Numerous Illustrations. New York: D. Appleton & Co., 1885. Pp. xviii–763. [Price, cloth, $5; sheep, $6.]

IN the short space of time that has elapsed since the first edition of Professor Lusk's treatise appeared, its reception by the profession has been such as amply to justify the commendation with which we greeted it. It has become a recognized text book in nearly every American medical college and in many of the British schools; it is read and quoted wherever the English language is spoken; and translations of it are announced in French, Italian, and Spanish. It is safe to say that it is generally regarded as the leading treatise on obstetrics, and that it is likely to maintain that position for many years to come.

The new edition contains nearly a hundred more pages than the first one, and twenty more illustrations. The number of the chapters and the phraseology of their titles remain the same, so that the changes have been interstitial, *i. e.*, of just the kind that a careful and painstaking revision should bring about. This means that the original work was so comprehensive and so well arranged that additions were needed only as to matters of detail. No higher praise than this can be given to any treatise on a practical branch of medicine. The book is now beyond criticism, for it has been accepted by the unerring judgment of the great body of physicians. We congratulate Dr. Lusk upon this reward for the immense labor he has bestowed upon it.

A Treatise on the Science and Practice of Midwifery. By W. S. PLAYFAIR, M. D., F. R. C. P., Physician-Accoucheur to H. I. and R. H. the Duchess of Edinburgh; Professor of Obstetric Medicine in King's College, etc. Fourth American, from the Fifth English, Edition. With Notes and Additions by ROBERT P. HARRIS, M. D. With Three Plates and Two Hundred and One Illustrations. Philadelphia: Lea Brothers & Co., 1885. Pp. xxv–34 to 663, inclusive.

THE appearance of a new American edition of this popular work will awaken considerable interest among students of obstetrics, inasmuch as the author's preface promises much. However, after a careful perusal of the book, it is impossible to avoid the conclusion that many questionable paragraphs have been retained, and that the most modern portions of the book are the work of the American editor.

It is unnecessary to discuss at length the character and scope of a work which is so familiar; it will be more profitable to note such improvements as have been made (or their absence). There are comparatively few changes in the chapter on anatomy; the brief paragraph upon the perinæum (page 53) preserves its original form in spite of the criticisms of former reviewers. As regards the woodcuts, it is sufficient to say that the bad ones are as bad as ever, although the worn-out state of the plates might have justified a few fresh drawings. Figures 34 and 35 are not pleasing to look upon. Chapter V, on the Differential Diagnosis of Pregnancy, deserves enlargement. In the light of modern improvements in the methods of diagnosis, the reader will be disappointed in it. The operative treatment of abnormal pregnancy belongs properly to that portion of the book which treats of obstetric operations. Chapter XVI, on Rupture of the Uterus, concludes with a long paragraph by Dr. Harris, who urges the performance of laparotomy "in all cases of rupture where it is evident that blood and liquor amnii have escaped into the abdominal cavity." His note on Porro's operation (page 526) is of value because of the exhaustive statistics it gives. The introduction of a separate chapter on Laparo-Elytrotomy (Chapter VII, page 529) is a graceful tribute to American surgery. Considering the amount which has been written of late on the conduct of natural labor, especially on the management of the perinæum, expression of the placenta, and the after-treatment of the puerperal woman, Chapter III (page 280) does not exhibit those evidences of revision which we should expect. The chapter on Puerperal Septicæmia likewise contains no reference to the recent American discussion on that subject.

In considering Professor Playfair's work as a whole, it can not be said that he has given that care to its revision which we should expect in view of the fact that it has not a few formidable rivals in the field. The reception which greeted Lusk's book ought to have been a convincing proof that the profession is not slow to recognize true scholarship. Every new edition of a well-known work must be abreast of the times, or it will surely be replaced by more advanced books. With all due kindliness toward the writer, we must acknowledge that Playfair's "Midwifery" is still just a little bit antiquated.

BOOKS AND PAMPHLETS RECEIVED.

Practical Surgery; including Surgical Dressings, Bandaging, Fractures, Dislocations, Ligature of Arteries, Amputations, and Excisions of Bones and Joints. By J. Ewing Mears, M. D., Lecturer on Practical Surgery and Demonstrator of Surgery in Jefferson Medical College, etc. With Four Hundred and Ninety Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1885. Pp. 794. [Price, cloth, $3.75; sheep, $4.75.]

The Principles and Practice of Surgery. By John Ashhurst, Jr., M. D., Professor of Clinical Surgery in the University of Pennsylvania, etc. Fourth Edition, Enlarged and Thoroughly Revised. With Five Hundred and Ninety-seven Illustrations. Philadelphia: Lea Brothers & Co., 1885. Pp. xxviii–33 to 1118, inclusive.

Clinical Therapeutics. Lectures in Practical Medicine, delivered in the Hospital St. Antoine, Paris, France, by Professor Dujardin-Beaumetz, Physician to the Cochin Hospital, etc. The Treatment of Nervous Diseases, of General Diseases, and of Fevers. Translated by E. P. Hurd, M. D., etc., Newburyport, Mass. Detroit: George S. Davis, 1885. Pp. xvii–491.

A Reference Handbook of the Medical Sciences, embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Authors. Illustrated by Chromo-litho-

graphs and fine Wood Engravings. Edited by Albert H. Buck, M. D., New York City. Volume I. New York: William Wood & Co., 1885. Pp. vi–808.

The Principles and Practice of Medicine. By the late Charles Hilton Fagge, M. D., F. R. C. P., Physician to, and Lecturer on Pathology at, Guy's Hospital, etc. Including a Section on Cutaneous Diseases, by P. H. Pye-Smith, M. D., F. R. C. S., Lecturer on Medicine at Guy's Hospital; Chapters on Cardiac Diseases, by Samuel Wilkes, M. D., F. R. S., Physician to Guy's Hospital, etc.; and Complete Indexes, by Robert Edmund Carrington, M. D., Assistant Physician to Guy's Hospital, London. Volume I. Philadelphia: P. Blakiston, Son, & Co., 1886. Pp. 1040.

An Atlas of Clinical Microscopy, by Alexander Peyer, M. D. Translated and Edited by Alfred C. Girard, M. D., Assistant Surgeon, United States Army. First American, from the Manuscript of the Second German Edition, with Additions. Ninety Plates, with One Hundred and Five Illustrations, Chromo-lithographs. New York: D. Appleton & Co., 1885. Pp. xiv–194. [Price, $6.]

Inorganic Chemistry, by Edward Frankland, Ph. D., D. C. L. LL. D., F. R. S., Professor of Chemistry in the Normal School of Science, London, and Francis R. Japp, M. A., Ph. D., F. I. C., Assistant Professor of Chemistry in the Normal School of Science, London. With 51 Illustrations and a Plate. Philadelphia: Lea Brothers & Co., 1885. Pp. xix–33 to 693, inclusive.

Des névroses réflexes d'origine nasale. Par le Dr. A. Cartaz, etc. [Reprinted from "France médicale."]

Observations upon the Mutual Relations of the Medical Profession and the State. Address by Donald Maclean, M. D., President Michigan State Medical Society, delivered before the Society at Port Huron, June 10, 1885.

Avena Sativa in the Treatment of Opium Addiction. A Therapeutical Fraud, a Delusion, and a Snare. By J. B. Mattison, M. D., Brooklyn. [Reprinted from the "Medical Bulletin."]

The Climatic Treatment of Phthisis. By Harold Williams M. D., Boston. [Reprinted from the "Boston Medical and Surgical Journal."]

The Surgical Treatment of Cysts of the Pancreas. By N. Senn, M. D., Milwaukee. [Reprinted from the "Journal of the American Medical Association."]

Kentucky School of Medicine. Thirtieth Annual Announcement.

Mechanical Dilatation of the Uterus. By Charles Meigs Wilson, Philadelphia. [Pamphlet.]

Correspondence.

LETTER FROM WASHINGTON.

The New Library and Museum Building.—Medical Officers on Duty Abroad must Pay their own Expenses.—The International Medical Congress.—Georgetown University.—The New Nomenclature of Diseases.—The Inspection on the Canadian Border.

Washington, *November 23, 1885.*

The new Medical Library and Museum building is growing apace, and the brick wall is to be seen on three sides. It is thought that, should the winter be not very severe, the work will be pushed without ceasing, so that the building may be ready for the roof by early spring.

Much sympathy is felt with Surgeon Billings on account of the recent ruling of the accounting officers of the Treasury Department whereby he is obliged to pay from his own pocket the expenses of his trip to Europe in attendance upon the meeting of the International Medical Congress and in the collection of books and pictures for the library. This trip was evidently, as is reported, mainly for the latter purpose, and its results are already manifest in valuable additions to the library. Furthermore, the journey was made under the orders of the Secretary of War. It is understood that a similar ruling will be made on the traveling-expense accounts of Medical Director Brown, of the navy, who attended the same congress. The immediate effect of this ruling will be that these details will not be sought after as in the past. It looks to an unprejudiced observer as if medical men scarcely had an equal chance with other classes of our fellow-countrymen. An army officer of good looks, a graduate of the military free academy, and of undoubted pedigree, can with little trouble get an order taking him to witness the spring manœuvres at Saint Cyr, the mobilization of the *Landwehr*, or perhaps the actual hostilities between contending forces, but who ever heard of an order detailing a doctor to witness the establishment and hygienic management of the hospitals abroad, or of the quarantine service? It is only recently that we have gained enough in that direction to allow of the sending of an expert to study the cholera epidemic, and one to participate in the sanitary conference.

The President was waited upon by a committee from the Local Committee of Arrangements of the International Medical Congress to-day. Dr. J. M. Toner, Dr. C. H. A. Kleinschmidt, Dr. J. B. Hamilton, and Dr. A. Y. P. Garnett, the chairman, were present.

The Medical Department of the Georgetown University have in contemplation the erection of a new building for college purposes. The plans contemplate the erection of a structure worthy of this old institution and the National Capital. Dr. J. W. H. Lovejoy, the Dean of the College, has been confined to his room for the last two weeks on account of sickness.

Captain Henry F. Azpel, of the Medical Department of the Army, has been in the Hospital for the Insane for several months, and has recovered so far that a jury has decided him to be of sound mind and refused to appoint a guardian for his estate. It is probable that he will soon be released and returned to duty.

Major Ben. Perley Poore's index to the publications of the Government is now being issued by the Public Printer, and it is well for collectors to remember that any book published by the Government may be purchased at cost price, with ten per cent. added, if the purchase is made while the work is passing through the press.

The Surgeon-General of the Marine-Hospital Service is daily receiving applications for copies of the revised Nomenclature of Diseases, but it is authoritatively stated that the original work will be issued to the service, and no American edition will be published by that department, as was done in the case of the first edition. Gentlemen desiring the revised Nomenclature will therefore be obliged to depend upon their booksellers.

Owing to the outbreak of small-pox in Prince Edward's Island, and its extension to the Province of New Brunswick, the Marine-Hospital Service has begun an inspection service on the eastern frontier. The health authorities of Ontario have made representations to the Surgeon-General to the effect that they are inspecting persons and baggage from Montreal with great care, that they are taking every necessary precaution, and that they therefore wish the inspections on the border discontinued as against the Province of Ontario. No statement is made in regard to the fumigation of Quebec baggage by the provincial authorities; hence there is some doubt expressed as to the wisdom of the proposed relaxation of the present precautions.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co.
Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, DECEMBER 5, 1885.

ESMARCH'S BANDAGE IN LOCAL ANÆSTHETIZATION BY FREEZING.

IN the "Lyon médical" for November 15, 1885, there is a somewhat lengthy article on this subject by Dr. Chandelux. It appears that some time since M. Horand, having observed that local anæsthesia by refrigeration was unusually difficult of attainment in very vascular tissues, conceived the idea of passing a ligature around the part, thus effectually arresting the circulation in the region to be refrigerated before the application of the ether spray. By resorting to this expedient, insensibility was much more rapidly induced than when the blood was allowed to circulate in the part. All this might have been readily predicted beforehand, since it is evident that the blood constantly circulating in the capillaries carries continually to the tissues a quantity of heat, which is effectively opposed to the refrigerating influence of the spray. Hence the inevitable evanescence of the insensibility induced by refrigeration *even if we shut off the blood-flow to the part*, for, unless we operate in an ice-vault or a refrigerator, we shall always have the calorific influence of the external atmosphere to contend against. We are therefore not surprised to learn that the duration of the anæsthesia induced by refrigeration, even when the spray is used *after* arrest of the circulation by the application of the ligature, is *only three minutes*.

Dr. Chandelux's improvement upon the suggestions of M. Horand consists in this, that, before applying the ligature, he exsanguinates the part by means of an ordinary Esmarch bandage. This is the whole story of the achievement. It is true that the time necessary to produce insensibility of the part is sensibly abbreviated over and above that required by M. Horand, who has recommended the ligature alone; but the duration of the anæsthesia after it has been established is *only three minutes;* hence the question, What is to be gained by an anæsthesia which is far briefer in duration than that obtainable by the use of a few drops of a solution of cocaine, even when the latter is employed without Dr. Corning's precautions?

But, putting aside the merits and demerits of Dr. Chandelux's proposals, it must be remembered that among many surgeons of eminence to-day the question is, not how shall we freeze, but shall we freeze at all? The devitalizing consequences of freezing to the tissues are often indeed disastrous. As Mr. Thomas Bryant remarks ("The Practice of Surgery," Philadelphia, 1879), freezing mixtures, when too long applied, "may produce frost-bite or chilblain"; and Dr. John Ashhurst, speaking of the same subject, observes ("The Principles and Practice of Surgery," Philadelphia, 1878): "The process of freezing is itself very painful in some instances, especially when mucous membrane is involved, as in the case of hæmorrhoids, and the use of the ether spray is not entirely free from danger; thus in a case of excision of the tunica vaginalis for hydrocele, which occurred in this city, the use of the spray was followed by extensive sloughing of the scrotum, which well-nigh cost the patient his life." There is probably not a single surgeon of extensive experience but can bear witness to such major calamities as the direct result of anæsthesia by freezing—this at least is true when operations at all considerable have been attempted.

In the face of such facts it is with pleasure that we recur to the method recently proposed by Dr. J. Leonard Corning, of this city (see the number of this journal for September 19th), which, after repeated trials by various surgeons, seems to leave nothing to be desired in point either of profundity or of duration of the anæsthesia, the latter quality being practically unrestricted.

The chemical method of inducing local anæsthesia seems, then, to embody the only principles which are really practicable; and, since by Dr. Corning's method solutions of one and even one half per cent. of cocaine hydrochlorate may be employed, there is practically no danger of constitutional symptoms of the graver sort, if even ordinary caution is employed. The possibility of preventing too rapid an escape of the incarcerated anæsthetic into the general circulation, by gradually loosening the constricting ligature or tourniquet, would seem to afford additional security of a physiological and substantial sort. The only surgical exploits performed under Dr. Chandelux's method of freezing have been the removal of some ingrowing toe-nails and the incision of a felon—very pretty little operations, certainly, but this is not the extirpation of large tumors, nor yet excision of the hip joint. Dr. Corning's method seems to fulfill the scientific ideal; the closer the analysis to which its various details are subjected, the more do the latter appeal to physiological intuition and common sense.

SURGEON BILLINGS'S EXPENSE ACCOUNT.

WE are not willing to admit that the decision of the accounting officers of the Treasury Department, whereby a man who has served the country so notably as Surgeon Billings, of the army, is placed in the unpleasant position of having to pay out of his private resources the expenses incurred by him while acting under orders from the Secretary of War, will be confirmed or treated as final. The sympathy felt with Surgeon Billings in Washington, as mentioned by our Washington correspondent, is by no means confined to the Capital, and we do not believe that it is limited to the army or to the medical profession. It is not too much to say that, if the ruling is carried into effect, the nation will be felt to have assumed a humiliating attitude before the world. Without asserting now that there may not have been technical considerations to warrant or excuse the decision, we must insist that the fundamental facts in the case are such as should make the Government utterly refuse to allow it to be enforced.

Among the acts for which the American Government is

most respected abroad are the production of the Index-Catalogue of the Library of the Surgeon-General's Office and the intelligent and liberal management by which the library itself and the museum have been brought to their present state. It was doubtless a gratification to Dr. Billings to attend the Copenhagen meeting of the International Medical Congress, but the fact must not be lost sight of that his presence at the Congress, advantageous as it undoubtedly was to our prestige as a country in which the demands of medical science are not wholly ignored, was far more demonstrably in the interest of the great public undertakings of which he has charge in greater or lesser degree. By his being enabled to visit the chief sources of accretions to the library and to the museum he was unquestionably put in a position to direct even more intelligently than before the purchase of books and apparatus for those institutions, and consequently to save the Government many an item of unnecessary expense that could not otherwise have been well avoided. At all events, he went, as we understand it, not merely with the permission but by the direction of the Government, and we can not see that his journey can be looked upon in any other light than as in the line of duty.

MINOR PARAGRAPHS.

THE CITY HEALTH DEPARTMENT.

It is mortifying to reflect that one of the commissioners, the president of the board, has been arraigned on a charge which involves his integrity in certain financial transactions, but it is gratifying to know that these transactions had nothing to do with his career as a Health Commissioner, and also that the accused is not one of the medical members of the board. A Senate committee, however, is investigating the methods which have crept into the doings of the Board of Health since he became its president, and the result may be somewhat opposed to the general impression that a layman is needed to manage the medical members of such a body. The facts thus far brought out have been well known in the profession, but the general public has probably had not the slightest inkling of their significance or even of their existence.

FREE TRADE IN DOVER'S POWDER.

It is notorious that any householder, or for that matter any servant girl, in New York can at any time obtain a Dover's powder of almost any apothecary in town by simply asking for it and paying for it. A prescription is not at all necessary, and no questions are asked. A transaction of this sort lately resulted in the death of an infant, as it is supposed, and the apothecary has been tried and acquitted on the charge of having given Dover's powder instead of another remedy that had been prescribed by a physician. His defense is said to have been that the child's mother asked him for Dover's powder, and that he made no mistake. In view of the loose custom prevailing, it is not easy to see how any other conclusion of the case could have been reached, but the occurrence ought to call the attention of apothecaries and that of the officers of the law anew to the need of enforcing the same restrictions on the sale of Dover's powder that are in force in the case of certain poisons that are more dangerous, it is true, but not so much more dangerous as to justify their classification apart.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 1, 1885:

DISEASES.	Week ending Nov. 24.		Week ending Dec. 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	2	2	3	0
Typhoid fever	33	9	22	8
Scarlet fever	39	9	33	5
Cerebro-spinal meningitis	3	3	3	3
Measles	17	5	8	1
Diphtheria	72	23	75	29
Small-pox	7	2	3	2
Yellow Fever	0	0	1	1

A Pretended Vaccination.—The Springfield, Mass., "Republican" is credited with the story of a Vermont woman who, having occasion to travel on a Montreal train, determined to outwit the sanitary inspector by making him think that she had recently been vaccinated. Accordingly, she sewed a button to the inner side of her sleeve, at the usual site of vaccination, and, when the inspector asked her to show her arm, answered that it was not necessary, for he could "feel the scab." The device is said to have succeeded.

Hospital Saturday and Sunday.—The Hospital Saturday and Sunday Association has taken measures which ought to secure an increase of this year's fund over that contributed last year. The plan relates chiefly to the auxiliary trade-organizations, but there seems reason to hope that the churches and the synagogues will improve on their past contributions.

A Confectioner's Clinic may be said to have been held in the Court of General Sessions last Monday, the occasion being that of the trial of a firm of confectioners on a charge, brought forward by a sanitary official, of having used tainted cocoanuts in the production of some of their goods. A member of the firm ate a large quantity of the sweets, and so did some of the jurymen, all with evident relish. The result was that the complaint was dismissed. The sanitary officer has since stated that the sweets eaten in this demonstrative manner were not of the lot on which he had founded his complaint.

Personal Items.—Dr. Charles E. Sajous, of Philadelphia, was among the passengers by the steamship Noordland, which arrived at New York from Liverpool November 27th.

The University of Santiago de Chile.—According to the "Deutsche Medizinal-Zeitung," Dr. R. Ewald, of Strassburg, has been called to Santiago de Chile as professor of physiology.

The German Hospital.—Dr. H. J. Garrigues has been appointed gynæcologist to the hospital, in place of Dr. E. Noeggerath, resigned.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 22 to November 28, 1885:*

Winne, C. K., Captain and Assistant Surgeon. Assigned to duty as Post Surgeon at Benicia Barracks and Attending Surgeon at Benicia Arsenal, California. S. O. 109, Department of California, November 20, 1885.

Reed, Walter, Captain and Assistant Surgeon. Granted leave of absence for one month, with permission to apply for one month's extension, to take effect about December 1, 1885. S. O. 115, Department of the Platte, November 18, 1885.

Taylor, A. W., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect December 5, 1885. S. O. 116, Department of the Platte, November 20, 1885.

CHAPIN, A. R., First Lieutenant and Assistant Surgeon. Ordered for temporary duty at Fort Robinson, Nebraska. S. O. 115, Department of the Platte, November 18, 1885.

SIMONS, JAMES, Lieutenant-Colonel, U. S. A. (retired), died November 11, 1885, at Baltimore, Md.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending November 28, 1885.*

DRENNAN, M. C., Surgeon. Ordered to Training-ship New Hampshire.

AULICK, H., Surgeon. Detached from Training-ship New Hampshire, and to wait orders.

FITTS, H. H., Assistant Surgeon. Ordered to appear before examining board preliminary to promotion.

RUSH, C. W., Past Assistant Surgeon. Granted sick leave for three months, from November 20, 1885.

MARMION, R. A., Surgeon. Detached from Marine Barracks, Washington, D. C., December 7, and to wait orders.

MOORE, A. M., Surgeon. Ordered to Marine Barracks, Washington, D. C., December 7, 1885.

Society Meetings for the Coming Week:

MONDAY, *December 7th:* New York Academy of Sciences (Section in Biology); Medico-Chirurgical Society of German Physicians (annual); Morrisauia Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conu., City Medical Association; Chicago Medical Society.

TUESDAY, *December 8th:* New York Medical Union (private); New York Surgical Society; Medical Societies of the Counties of Chemung (Elmira) and Rensselaer, N. Y.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association (private); Medical Society of Morris County, N. J. (semi-annual); American Public Health Association (Washington, D. C.—first day).

WEDNESDAY, *December 9th:* New York Pathological Society; American Microscopical Society of the City of New York; Medico-Legal Society; Medical Societies of the Counties of Cayuga (semi-annual), Cortlandt (semi-annual), and Montgomery, N. Y.; Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society (conversational); American Public Health Association (second day).

THURSDAY, *December 10th:* Harlem Medical Association of the City of New York; Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; New York Laryngological Society (annual); South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia; American Public Health Association (third day).

FRIDAY, *December 11th:* Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.; American Public Health Association (fourth day).

SATURDAY, *December 12th:* Obstetrical Society of Boston (private).

Proceedings of Societies.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of November 16, 1885.

The President, Dr. CHARLES A. LEALE, in the Chair.

Photographing Wet Preparations.—Dr. J. W. S. GOULEY described a method of taking photographs of wet preparations which had been new to him five years before, when he first practiced it. It consisted in attaching the specimen to a blackboard and immersing it in clear water in a glass jar. Transferring the specimen from alcohol, the usual preservative fluid, to one of a different density caused the finer as well as the coarser filaments to float and stand out prominently from the mass of the specimen and to present a distinct appearance in the photograph. A number of beautiful photographs, taken according to this method and illustrative chiefly of the diseased bladder, were exhibited, and contrasted with others of the same specimens taken while they remained in alcohol. The latter were indistinct and unsatisfactory, while the former represeuted the irregularities of the lining membrane in minutest detail.

The Elements of Prognosis in Bright's Disease.—Dr. AUSTIN FLINT read a paper with this title. In the popular miud the name Bright's disease at the present time had a prophetic import not unlike that of a verdict of conviction after a trial for life. It was regarded as a hopelessly fatal malady. This prevailing impression reflected the views of the medical profession, that a fatal termination would invariably take place sooner or later. This view accorded with our pathological knowledge and clinical experience. But the scope of prognosis was not limited to recovery from the disease. A disease might involve more or less irremediable damage to important organs, but, after having progressed to a certain extent, the damage might not become greater, and the remaining healthy portion of the organs might be sufficient for all purposes of life and a perfect state of health. Again, a disease might be progressive, but so slow as not to be opposed to long life and general good health. But in chronic disease the danger to health might depend upon associated affections, or chronic disease might be tolerated, provided the conditions were favorable; otherwise it would prove fatal. Was the disease acute or chronic? Assuming the existence of acute Bright's disease, experience taught that, exclusive of the important concomitant affections, it did not end fatally as a rule, and did not result in any permanent renal lesion. In other words, the acute was not followed by the chronic disease; but exceptionally it ended fatally or in the chronic form. In some cases the acute disease was not marked; it continued for some time, and ended in recovery. Here he would substitute for the word acute, subacute. In some cases the question would arise, whether the disease was subacute or chronic, and the diagnosis could only be definitely settled in favor of the subacute form by the disappearance of every evidence of renal disease after some weeks, and the recovery of health.

The author then considered some of the elements of prognosis in cases of chronic Bright's disease. What were some of the conditions requisite for latency? 1. The kidneys must not be damaged beyond a certain degree. 2. The important organs of the body, other than the kidneys, must be capable of performing their respective functions satisfactorily. 3. The laws of health relating to alimentation, exercise, etc., must be observed. Suppose these conditions to be fulfilled, and a lesion of the kidneys to exist which diminished their functional ability one half, and the disease was not progressive; life and health would be compatible with the existence of chronic Bright's disease for an indefinite period. In order that chronic Bright's disease should be well tolerated, the treatment should relate to accessory conditions required for bringing about toleration, those conditions relating to other organs of the body and to general hygiene. The kidneys in this condition were incapable of meeting an additional demand on their functions. Should the patient fail to observe the accessory conditions mentioned, the inefficiency of the kidneys would become manifest in headache, misty vision, nausea in the morning, impairment of the

appetite, and general debility. Examine the urine in such a case, and evidence would be found of chronic Bright's disease which had probably existed for years, the progress of the renal affection at length rendering the organs incapable of performing their functions properly, which caused attention to be directed to the state of the kidneys. It was important, in determining whether the kidneys eliminated excrementitious matters sufficiently not to endanger the health, to make a thorough examination of the urine, not alone with regard to the presence of albumin and casts, but also as to the amount of urine eliminated daily, its specific gravity, and the proportion of the salts. The quantity of the urine might be increased while the specific gravity was so low as to involve great danger from uræmic toxæmia. Suppose the examination of the urine in a case of chronic Bright's disease showed renal adequacy; how should that fact influence the treatment? In this way, that diuretics, sudorifics, and hydragogue cathartics would not be indicated; indeed, inasmuch as their influence was debilitating and opposed to the accessory conditions for health just mentioned, they were contra-indicated. Was the degree of renal adequacy, as determined by an examination of the urine, reliable in judging of the absence of danger from toxæmia? This question was to be answered in the negative. In some cases of Bright's disease the quantity of the urine was decreased for a long period without serious consequences. The explanation lay in the fact that the excrementitious matter was eliminated vicariously, or its effects upon the system were counteracted by other agents. On the other hand, slight inadequacy, without vicarious elimination and counteracting agents, sometimes led to serious consequences. The prognosis after coma was always grave, yet we met with cases repeatedly in which life was preserved for a long time. Of acute pulmonary œdema the same might be said as of uræmic coma. In his experience the most serious consequence of Bright's disease was dyspnœa, or renal asthma, apparently due to toxic effects upon the respiratory center. He had never known such a case to end in recovery, but he had known life to be prolonged for several years after dyspnœa from pulmonary œdema occurring in the course of chronic Bright's disease.

Recapitulating, Dr. Flint said that subacute diffuse nephritis, having the same seat and characters as acute Bright's disease, exclusive of acuteness, occurred not only after scarlet fever and other fevers, but irrespective of these; and when it occurred as a primary affection, or in connection with other diseases, it was liable to be overlooked, or, if recognized, to be mistaken for the chronic form. Further, acute or subacute diffuse nephritis not infrequently occurred as an intercurrent affection in the course of chronic Bright's disease, and rendered the prognosis temporarily more serious. The disappearance of symptoms and the presence of health did not necessarily indicate that the chronic disease was not still in existence. Again, a susceptibility to the causes of inflammation of the uriniferous tubules, irrespective of the existence of chronic Bright's disease, was to be recognized as an individual peculiarity.

Dr. G. L. Peabody said that from his limited experience he could corroborate all the conclusions drawn by Dr. Flint. He would emphasize the statement that Bright's disease of a serious character might remain latent for a great many years in persons whose circumstances were such that no particular strain was put upon the vital organs. He very frequently found at post-mortem examinations evidence of advanced Bright's disease in people in whom it had not been suspected during life. It seemed to him also very important to calculate the extent to which the kidneys were performing their function of elimination, as Dr. Flint had suggested. It was natural, on finding albumin and casts in the urine, to make in our minds a grave prognosis, and perhaps find the prognosis not borne out by the facts. But, with people who were obliged to expose themselves to hardships, Bright's disease might terminate fatally at almost any time.

Dr. E. G. Janeway had heard only a part of the paper, but said he would speak with regard to prognosis very much in the same strain in which Dr. Peabody had spoken. He had seen cases of chronic Bright's disease which seemed to warrant a prognosis of the gloomiest kind, yet, the patients' circumstances permitting of travel in the South during the winter, and of living according to prescribed rules, life had been prolonged many years. Again, we saw not infrequently an intermittent element in chronic Bright's disease—cases in which, for a considerable period, albumin and casts might be absent, and again present. The co-existence of rigid arteries, especially if there was marked hypertrophy of the left ventricle, rendered the prognosis more serious.

Dr. E. M. Moore, by invitation, discussed the paper, and asked how long any of the gentlemen had known acute or subacute Bright's disease, following scarlet fever, etc., to exist without becoming chronic.

Dr. Flint replied that the duration varied from two or three weeks to four or five weeks, perhaps sometimes longer. When the disease had existed a year it must be chronic.

Dr. Moore mentioned a case in which the symptoms of Bright's disease, as manifested in the urine, had existed at least a year, yet the patient recovered. He thought the period during which the symptoms of Bright's disease could exist and complete recovery take place was greater than was generally supposed.

Forceps Delivery; Death from Typhoid Fever; Malarial Pigmentation in Several Organs.—Dr. E. G. Janeway presented some specimens removed from the body of a woman who had been delivered three weeks before her death with forceps under unfavorable circumstances, giving rise to the suspicion of puerperal septicæmia; the diagnosis of typhoid fever, however, was made in Bellevue Hospital, one symptom in particular pointing to this disease—namely, diarrhœa. The patient had been cured of an attack of malarial fever two months before her confinement. The autopsy showed marked malarial pigmentation of the liver and spleen; also the lesions of typhoid fever in the intestines. The case was interesting from a diagnostic point of view; there had been reasons for believing that it might be one either of puerperal fever, of typhoid fever, or of malarial fever. Dr. Janeway had seen a number of cases in which typhoid fever had developed during the puerperal state, and probably an error in diagnosis occurred not infrequently.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of November 11, 1885.

The President, Dr. John A. Wyeth, in the Chair.

An Enormous Double Hernia.—The President presented a part of the genito-urinary tract, and about ten feet of the large and small intestine contained in the sacs of a double hernia which measured about forty inches in its greatest diameter. The patient, fifty-three years of age, was admitted into Mount Sinai Hospital on the 28th of October, 1885. The hernia on the left side had been present for seven years. It had not been reduced for three years, but had caused no discomfort. The one on the right side was larger, and had existed only three or four weeks. The specimen was interesting chiefly on account of its great size, it being the largest hernia which the President had ever seen. During the past year he had seen a case in which the tumor was not quite so large, having a similar history.

Chronic Myo-Carditis and Chronic Interstitial Nephritis.—Dr. JOHN C. PETERS presented microscopical specimens illustrating these lesions in the case of a bachelor, sixty seven years of age, of regular habits, delicate in appearance, but who had not been sick for thirty years or more.

Dr. W. M. CARPENTER had examined the heart and kidneys, and said that there were also slight changes in the uriniferous tubules, but not such as would lead him to expect to find marked indications of the same in the urine. The epithelial lining of the tubules seemed to be sufficiently sound for them to discharge their function almost perfectly.

Double Hydrocele in an Infant.—Dr. VAN SANTVOORD presented a specimen illustrating double hydrocele in an infant which had died at the age of two months.

Lupus of the Larynx.—Dr. VAN SANTVOORD also presented the larynx of a boy, aged fourteen years, who died of lupus commencing in the nose. The disease had destroyed the nose, the upper lip, the alveolar processes between the canine teeth, and the hard and soft palate. The nasal septum had fallen out, and the sphenoid bone was bare and rough. There was thickening of the mucous membrane of the larynx, and that which lined the ventricles and their immediate neighborhood was studded with nipple-like processes, the summits of which were of the size of the head of a pin. The immediate cause of the death was a feature of interest in the case. The boy had lived with comparative comfort until about five days before death, when he was seized with severe headache, which passed on to delirium, coma, and death. The base of the brain was found coated with a dense layer of lymph, distributed about as was usually seen in tubercular meningitis, but no tubercles were observed. The body of the sphenoid was necrotic, and had given rise to the meningitis. The lungs were œdematous; the liver, spleen, and kidneys were markedly waxy. The case also seemed of to be interest in connection with the alleged identity of lupus and tuberculosis. The local disease was very extensive, yet tubercles had not been found in any portion of the body. The specimen had not yet been examined for bacilli.

Dr. M. PUTNAM JACOBI did not think the clinical history of the case could be accepted as weighing against the alleged identity of lupus and tuberculosis, for it was evident, from the statements of Hüter and König, that a localized tuberculosis in the skin and bones seldom became general. Supposing the lupus in this case to have been a tuberculous process, we need not be surprised that general tuberculosis had not developed.

Dr. T. M. PRUDDEN remarked that tubercle bacilli were found in a large number of cases of lupus, and that, if a tuberculous inflammation could be defined as one in which the tubercle bacillus was present, then the identity of the two diseases was established.

Cancer of the Stomach and Tuberculosis of the Retro-Peritoneal Glands.—Dr. LOUIS WALDSTEIN presented microscopical specimens from a young man who some years before had suffered from chronic pneumonia in the left apex, from which he had recovered. Two years ago he suddenly showed symptoms, as was then believed, of remittent fever, which continued for two years, antipyretics having no curative influence upon the fever. The physician who examined him two years ago detected a tumor in the epigastrium, which he regarded as cancer, although there had been no particular gastric symptoms. The patient was seen by a number of physicians in consultation, and one detected an enlargement in the abdomen, apparently a continuation of that in the stomach. At the autopsy a caseous focus was found in the apex of the left lung, and the bronchial glands were enlarged and contained many caseous spots. In the stomach there was a diffuse scirrhus, which showed no tendency to ulceration. The retro-peritoneal glands were very much enlarged, and had undergone cheesy degeneration. There were no cancerous foci elsewhere in the body.

Dr. PETERS remarked that it had formerly beenc onsidered that the presence of one of these diseases precluded the other.

The PRESIDENT thought that it was now considered that where both were present the one retarded the growth of the other.

Necrotic Cystitis.—Dr. PRUDDEN presented the bladder of a woman who for a month had been paralyzed upon the right side; had complained of pain only in the lower part of the back; and at one time had had difficulty in passing water, but lately had urinated without trouble. There was albumin in the urine; no examination was made for casts. The autopsy revealed a tumor occupying the left half of the pons, basilar meningitis, and pachymeningitis purulenta of the petrous bone and the posterior portion of the sphenoid. The lesion in the bladder was of interest in connection with a specimen presented at a recent meeting by Dr. Boldt, being a cast of the bladder from exfoliative cystitis; here the condition of the viscus was shown just before the stage of exfoliation. The bladder was distended with rather turbid urine. The mucous membrane was moderately red. At the neck of the bladder there was a patch of tissue, about three inches in diameter, denuded of epithelium, which had the appearance of œdematous connective tissue, rather sharply outlined by an irregular band of yellow, the seat of purulent infiltration and softening. The round area was fibrous, and contained some elastic fibers; the white and yellow patches contained urinary salts, and some bodies which would probably be found to be mucin.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of November 23, 1885.

The President, Dr. DANIEL LEWIS, in the Chair.

AN adjourned annual meeting was first held, and after that the stated meeting.

An Address by the President was read, in which he said that medicine had a commercial side, and he called attention to some of the tendencies of recent times to degrade the profession to a trade level. It had once been considered unprofessional to employ or to recommend medicinal compounds the ingredients of which were not known, but now it was nothing unusual to see physicians' names attached to laudations of medical compounds of almost every description. No professional man could afford to place himself in the position of recommending a remedy when it could be suspected that he did so for a monetary consideration. Our materia medica was extensive enough, and our therapeutics sufficiently perfected to enable any intelligent practitioner to prepare his own prescriptions, and to avoid any recognition of the patent-medicine men who infested every community.

Numerous plans for securing patients were now tolerated which had once been unknown—unknown even to the younger men of the profession. We received advertisements of Swedish movement cures and of medicated baths, and read in the papers of infirmaries and sanitary homes conducted by the eminent Professor ——, with a large corps of assistants. There could be but one cause for this unseemly strife for medical business, and that was overcrowding of the ranks. So long as New York city had a physician for every four hundred and fifty inhabitants, the young physician would have to invent a new splint, run for the office of coroner, or start a new life insurance company with the hope of obtaining some patients. In order to attain to any standing in the eyes of the community at the present time it was necessary that the young physician be con-

nected with a dispensary or some other medical institution. Overcrowding of the profession was responsible even for the abuse of medical charity. At a former meeting he had expressed his conviction that a State medical examination would be the most potent means for overcoming these difficulties. Within the past few days a distinguished superintendent of a lunatic asylum, the president of the New York State Medical Association, had publicly declared that the interests of all concerned were best subserved by the present methods of admission to practice. Our leading colleges now furnished better aids than formerly, it was true, but they were too commercial in their organization to be highly scientific, and one or another of them would graduate anybody who applied for a degree; if a student failed to get his diploma at one school, he always succeeded at another. If the proposed State examination should be nothing more than our best schools required, it would at least keep out those who were totally unqualified to obtain diplomas, but which they had nevertheless obtained from schools without the State and had had indorsed here by the payment of twenty dollars. It was Dr. Lewis's belief that if the society would lend its full influence toward securing a State examination, as had been proposed, it would succeed, and the regeneration of the profession in New York would thereby be assured.

The President then thanked the society for the honor it had conferred upon him by electing him to office a second time.

Committees for the Ensuing Year.—The President appointed the following committees: *Hygiene*, Dr. E. H. Janes, chairman; Dr. Alexander Hadden, Dr. Cyrus Edson, Dr. John C. Peters, and Dr. W. L. Hardy; *Ethics*, Dr. George A. Peters, chairman; Dr. M. Blumenthal, Dr. C. C. Lee, and Dr. W. T. Alexander; *Prize Essays*, Dr. F. R. Sturgis, chairman; Dr. F. P. Foster and Dr. W. R. Birdsall; *Auditing Committee*, Dr. P. A. Morrow, chairman, and Dr. G. Bacon.

Cleft Palate.—Dr. Norman W. Kingsley presented a boy with cleft palate, who pronounced as well as he could certain words, that the audience might have an opportunity to contrast his speech at that time with what it would be after an operation, when Dr. Kingsley hoped to present the patient again.

The Mechanical and Operative Treatment of Knock-knee and Bow-leg Deformities; with a Description of New Forms of Apparatus and New Operations.—Dr. M. Josiah Roberts read a paper with this title, which he illustrated with drawings, photographs, and instruments. He said that, however good the results might be in some cases of bow-legs and knock-knee when they were left to nature, better results could always be obtained in a much shorter time by intelligent treatment. Whenever patients came to the surgeon with deformities of this character, although only slight in degree, they should receive treatment. He referred to a paper read before the Medical Society of the State of New York, in which he had described the outlines of the lower extremities when of natural form, and in which, by the use of instruments of precision which he named, any variation from this normal standard could be determined. Minor degrees of deformity, which nevertheless were disagreeable to the patient, might be overlooked by the surgeon unless the patient removed his clothing and went through the motions of walking, running, etc. To do away with the necessity of nudity, he had had a tightly fitting knit garment made.

The author then proceeded to the description of in-knee, and said the deformity might be associated with spinal caries, lateral curvature, hip disease, and various forms of developmental deficiencies. One form of in-knee was associated with exaggerated extension of the joint, another with flexion, the planes of inclination of the right and left thigh and leg being different in these two instances. Cases of the latter deformity were usually of paralytic origin. In still another class of cases knock-knee existed with inversion of the feet; they were usually of idiopathic origin. In another class there was in-knee flexion with outer rotation of the leg on the thigh, due usually to struma, or rheumatic arthritis, or infantile paralysis. Knock-knee might be associated with anterior curvature of the tibia, or of the tibia and fibula. Knock-knee and club-foot might be associated, and, when that was the case, they were commonly of paralytic origin. In another class there was knock-knee with outward bowing of the shaft of the femur—a rare combination. A common deformity was that of bow-legs and anterior lateral curvature or bowing of the lower third of the tibia. Again, cases were met with of rhachitic arrest of development associated with knock-knee or bow-legs, or with both of these deformities. Occasionally one leg was seen affected with in-knee and the other was bowed. Simple anterior curvature of the tibia was likely to be of traumatic origin. Dr. Roberts then presented instruments by which the degree of these various deformities could be determined with exactitude. Among the new ones was one for simultaneously observing and recording any possible combination of angles at a given articulation. By another, the surgeon was enabled to measure the base of a wedge of bone which it was necessary to remove in order to correct any given deformity. It also enabled him to determine the exact size of the wedge-shaped pieces to be removed from the tibia and femur when both bones were deformed. The author then described his form of elastic splint for overcoming knock-knee, which was a modification of that previously employed by Dr. Davis. He also described a simple but efficient osteoclast. The use of this, however, he did not consider justifiable, and he had employed it only to a limited extent. As to chisels, he had obtained and used those acknowledged to be of the best form and quality, and he could say unqualifiedly that it was impossible to remove a clean wedge-shaped piece of bone with any of them, either on the living or on the dead subject. The result was always unworkmanlike. A serious objection to the cross-cut saw was that, under the circumstances in which it was used, its to-and-fro motions were necessarily limited, and the teeth could not clear themselves of *débris;* hence, the operation was very tedious and unsatisfactory. He then exhibited the working of the electro-osteotome, which had been perfected in so far that it was now entirely under the control of one hand, and admitted of the use of either the circular or cross-cut saw, or the gouge.

The Willard Parker Hospital.—A letter from Dr. E. H. Janes, of the Board of Health, again called the attention of physicians to this hospital, which had been established for the reception of patients with certain contagious diseases.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of November 3, 1885.

The President, Dr. W. R. Birdsall, in the Chair;
Dr. G. W. Jacoby, Secretary.

Ophthalmoplegia Externa.—Dr. Leonard Weber read a history of the case of Peter N., aged fifty-two, father of a number of apparently healthy children. He had worked in an iron foundry for the last thirty-two years. His mother died of pulmonary hæmorrhage at fifty-four years of age; his father died, at fifty-three, of typhoid fever. A brother and sister were still living, in good health. He had never had syphilis. Fourteen years ago he was under treatment for hæmoptysis, accompanied by fever and other signs of acute lung trouble. But he recovered in the course of a year or so, and had been able to continue his work since. Nevertheless, the signs of old pulmonary trouble were well marked in the interscapular space,

particularly on the right side. In the course of years the patient sustained various injuries about the head, but no fracture of the skull. At no time did his condition give any evidence of renal or cardiac disease. Since February 1, 1885, he had experienced considerable and lasting pain at the back of the head on the right side. In getting out of bed on the morning of February 23d, of the present year, he felt somewhat dizzy, and noticed a pain in the right temporal, extending to the occipital region. He also found that he could not use his eyes as on the night before. He continued to work, however, and on March 9, 1885, consulted Dr. Mittendorf, who reported that the use of the patient's right eye had been lost early in childhood. The left eye had given him no trouble until recently. On March 9th both eyes were found to have turned considerably toward the nose. Neither could be moved outward. The pupils were slightly contracted, and the accommodation was good. Hypermetropia existed, rendering the use of a strong glass for the left eye necessary to make reading possible. Vision with the right eye, which had a corneal macula, was very poor. The acuity of vision of the left eye—not fairly tested, the patient presenting himself at night—was about $\frac{2}{3}\frac{0}{0}$. There was marked hyperæmia of the left disc. The interior of the eyes was normal. The paralysis extended to the third nerve, but was not complete. The patient would move his eyes downward considerably at times, but he seemed to have lost control over the movements of the muscles, and, if directed to look in a certain direction, he could not do it. On March 17th he first noticed some numbness and a cold feeling from the fingers up to the middle of the arm on the right side. While this sensation was unpleasant, it in no way interfered with his work of using a heavy hammer. But about April 15th the arm became weak. At the same time co-ordinate muscular action became impaired. He was unable to direct blows with precision, often striking an inch to either side of the object. He soon had to quit work.

He consulted Dr. Weber on May 14th. At that time the eyeballs were almost immovably fixed. Nevertheless, there was complete paralysis of the external recti only. The levatores palpebrarum were not affected; neither were the muscles of the iris. The right hand was colder than the left. The sense of touch was diminished, as was also actual muscular power. There was visible trembling, with gradual dropping of the wrist when the extremity was extended horizontally, showing weakness of the extensors. Slight exaggeration of patella tendon reflex existed on the right side. There was some dysarthria, but no dysphagia, and no symptom indicating disturbance of cerebral nerves other than the fifth pair. The gait was unsteady, resembling that described by Nothnagel in connection with certain cerebellar affections. Dr. Weber was inclined to locate the lesion producing the foregoing symptoms in the pons. As to its nature, it was probably a neoplasm of syphilitic or tubercular origin.

The patient was ordered iodide of potassium in doses at first of ten grains three times a day, which were increased by five grains every week. In this way the dose was carried up to forty grains three times a day. Noticeable improvement began in June, and by September 2d the patient's speech had become almost normal, the power of his right arm was much increased, there was no more headache, and the eyes had largely recovered their mobility.

On October 30th it was observed that the eyes could be moved freely, although some paresis of the external recti still remained. The patient was then taking forty-five grains of the iodide three times a day. Some spitting of blood occurring, the remedy was discontinued for two weeks, and resumed with an initial dose of twenty grains.

The anatomical lesion was believed to be situated in the left half of the pons, near the tegumentum, involving the lemniscus, and extending beyond the rhaphe some little distance into the right half of it.

Dr. W. H. Mittendorf said the author of the paper was to be congratulated on the result of the treatment in this interesting case. As had been stated in the paper, when the patient visited him there was this paralysis of the external recti, and he thought there was also a slight defect of the facial nerve, so that he had been inclined to place the lesion in the upper part of the fourth ventricle; but, as motor-oculi paralysis developed, he came to the conclusion that there was a more extensive lesion than he had at first supposed. An interesting feature in the case was the fact that, while there was ophthalmoplegia externa, there was at no time, while the patient was under his care, any affection of the intrinsic muscles, and this fact, according to recent investigations, would point to a lesion below the aqueduct of Sylvius. Cases of ophthalmoplegia externa without other symptoms were very few. He had now under his care a young man with ophthalmoplegia affecting both eyes, in whom there had been no change for two years. The lesion, he supposed, was to be placed in the region of the corpora quadrigemina. At one time he had thought there were real ataxic symptoms, but had been unable to make out a clear case of locomotor ataxia.

Dr. T. R. Pooley had never seen a case of complete paralysis of the ocular muscles with so satisfactory a result.

Dr. Weber remarked, in reply to a question by Dr. Spitzka, that there had been no wasting of the muscles, although the general nutrition had not been at all times equally good.

The President had reported two cases to the American Neurological Society which in some respects resembled this one, but in some others there were important differences. He had reported them as cases of ophthalmoplegia externa, according to Hutchison's nomenclature, and they were, strictly speaking, cases of this sort. The ciliary muscle and the iris were not involved at any time, while the external muscles of both eyes were involved to a greater or less degree. No other nerve-tract in the body could be found defective. The two patients had remained about in the same condition, with slight improvement, for two years. It seemed to him, however, that the cases which Hutchison had reported under the name of ophthalmoplegia externa did not all belong to that class, for in only two or three had the external muscles of the eye alone been affected. Most of his cases were of a complex character. It seemed to him that the pathology must vary greatly. The lesion would probably be found to vary not only in location, but also in character. His cases, he thought, were due to a slow degenerative form of disease, similar to that of progressive muscular atrophy. Certainly some of Hutchison's cases were of a multiple character, and probably in many others the lesions were multiple.

Dr. E. C. Spitzka said that he had been much pleased to find a doubtful point in the past history of this case cleared up by Dr. Pooley's discovery of a residual paresis of the other rectus externus. It added, however, to the difficulties of localization, though not incompatible with Dr. Weber's diagnosis. With regard to Dr. Pooley's suggestion, that the loss of skilled motion on the right side was due to the eye trouble, that possibility had already been taken into account, and disposed of for the following reasons: First, the motor disturbance was not present when the eye trouble was at its height, nor was it present when the latter began. He believed ophthalmologists would agree that locomotor trouble was apt to be proportionate to the intensity of the eye complaint, and, if anything, to be regulated provided the eye trouble remained stationary or improved. In this instance, however, we had eye trouble at its maximum without arm trouble, and arm trouble developing as the eye

trouble improved, and manifested when the eyes were closed. Besides, it must be borne in mind that, as the patient had not had the use of his right eye from childhood, he would not be so likely to be disturbed in his movements as patients with binocular vision would be.

He believed the oculo-motor disturbance could be best accounted for by a regional extension of the lesion in that part of the tegumentum which lay between the trochlearis and abducens nuclei, and where certain co-ordinating tracts ran. He should have an opportunity, perhaps, of demonstrating specimens of a case in which but one special conjugate movement of the eyes was interfered with and there was a neoplasm in and near the abducens level, chiefly unilateral.

Dr. Weber asked Dr. Mittendorf whether there had not for a time been symptoms of hemianopsia.

Dr. Mittendorf said there was no lesion of the retina or nerve when he examined the patient.

Dr. M. A. Starr asked whether there had been any ptosis.

Dr. Weber replied in the negative.

Dr. Starr thought that a lesion lying outside of the cerebral axis, such as a syphilitic meningitis, affecting the abducens nerves at their exit between the medulla and pons, might explain the symptoms better than to suppose a lesion in the floor of the fourth ventricle affecting the nuclei themselves. Of course such a lesion would yield to syphilitic treatment, whereas he could not conceive of a nerve nucleus being destroyed and again restored. If the third nerve were involved it might be supposed that the meningitis had extended a little farther forward. He had had the privilege of seeing a case in Bamberger's wards at Vienna three years ago, in which the third, the fourth, the sixth, the seventh, and the eighth nerves on one side were paralyzed, and Bamberger made the diagnosis of lesion at the floor of the fourth ventricle, involving the nerve nuclei from above downward, especially as there were signs of atrophy in the facial muscles. The autopsy showed localized meningitis affecting these nerve trunks after their exit from the cerebral axis.

Dr. Weber again mentioned the symptoms present, and said that, so far as the oculo-motorius was concerned, there certainly had been an affection of the superior and inferior recti.

Dr. E. C. Seguin had not been convinced, from seeing the patient that evening, that there were any ataxic symptoms in the right upper extremity. The dropping of the fingers might indicate either weakness of the extensors or the loss of a certain amount of muscular sense, which might be due to a lesion situated in many places besides the pons. He was inclined to Dr. Starr's view. The discussion seemed to indicate the vanity of theoretical pathology.

Dr. Spitzka said that in his crude way he had always regarded muscular-sense disturbance as a factor of ataxia, and he believed authorities generally would so consider it.

Dr. Seguin said that Erb had recently described a case in which there was ataxia, but in which all sorts of sensation were perfect.

Dr. Spitzka said that had nothing to do with the question. Ataxia was of different kinds—cerebellar, spinal, due to ordinary contact, to muscle sense, space sense, and co-ordinatory disturbances, sometimes singly, sometimes combined; but muscular-sense disturbance was mentioned in the definitions of ataxia by our best authorities, and he would like Dr. Seguin or any one to formulate a general definition of ataxia which should declare muscular-sense disturbance not to be a factor. It was precisely because there was muscular-sense disturbance that he believed the lesion to be pontile. The interolivary layer happened to run in the deep part of the pons, in those levels where the cranial-nerve symptoms of the case in question were possible. He had shown, if any one case was conclusive, that this layer was the muscular-sense tract, and the case agreed with others of its kind. There was a combination of slight paresis with the muscular-sense disturbance which was almost characteristic of certain pons diseases, it requiring but an extension of the lesion across the deep transverse pons fibers to involve the pyramidal-tract bundles. With regard to the suggestion of a meningitis, it did not seem to him to harmonize either with theory or with experience. It was true that the affection of both abducens nerves might be accounted for in that way, but there were other symptoms which the supposed lesion must accommodate. How to account for the arm symptoms on this ground he did not know. There were too many important nerves near the hypoglossal, whose function was intact, to account for the dysarthria on the ground of meningitis. Besides, there was no true paresis of the hypoglossal. The intrinsic movements under its control were well executed, and there was no evidence of either nuclear or peripheral hypoglossal palsy; in other words, it was some higher tract—the speech tract—that was involved. We knew that this ran somewhere in the pons, near the rhaphe, whereby another nerve -the fifth—was affected in its decussation, thus accounting for the bilateral disturbance of face sensation. But the strongest objection to the meningitis theory was that it would have us believe it possible that the third pair could be diseased so totally in its extra-cerebral course—or intra-cerebral, for that matter—as to cause total paralysis of ocular motion, without any affection of the pupil, the accommodation, or the levator palpebræ. He had never heard of such a case, did not think there was one reported, and did not believe it possible. If there were no other reason for suspecting pons disease, one would, in his opinion, be constituted by the character of the ocular paralysis. But, in addition, we had the almost pathognomonic combination of paresis and ataxia. True, Dr. Seguin called it muscular-sense disturbance, which it was undoubtedly, with this difference in interpretation and definition—that he said it was not ataxia, whereas the speaker considered it to be such.

Dr. Starr thought that the abducens nuclei could not be involved, together with the interolivary layer, without affecting the formatio reticularis, which ought to have caused sensory symptoms if affected.

Dr. Spitzka said the difficulty seemed to be that Dr. Starr had only one particular level of the pons in mind—one not necessarily involved in the case, inasmuch as not the nuclei of the abducentes, but co-ordinating tracts, were supposed to be at fault. Even allowing that the lesion was in the level spoken of by Dr. Starr, the difficulty he discovered did not seem to be as he had stated it. That no symptoms referable to the formatio reticularis were present could constitute no objection so long as the function of that part which lay between the rhaphe and the abducens roots was unknown. The abducens roots, however, skirted and partly perforated the interolivary layer, and so far it was possible to have coincident abducens and muscular-sense disturbance; the real difficulty in this case would be to account for the double involvement of the abducens without bilateral involvement of the interolivary layer. As he understood Dr. Weber when he presented the case to him, he supposed the lesion to lie in the anterior third of the pons, with a dorso-mesad, and possibly caudad, extension to near the ventricular floor. Here the altitude of the tegumentum was extremely low. A comparatively small lesion might involve the interolivary division of the lemniscus—he meant its continuation, the rhaphe, with its trigeminal decussation, the posterior longitudinal fasciculi, the pyramidal tract slightly, and the speech, according to either Raymond's and Artaud's or the other theories. The advantage of this explanation over the others offered was that it required

the smallest lesion to harmonize with the symptoms, while grave objections could be urged against every other theory, particularly the one which would locate the lesion as a meningitis involving peripheral nerves. He repeated that, until the inconsistencies of the oculo-motor paralysis were explained away, insuperable obstacles opposed the meningitis theory. Possibly Dr. Weber's reference to the voluntary control of single ocular muscles might lead to misapprehension. No ocular muscle was capable of isolated movement under voluntary effort, but groups of them were. There was a ready-made co-ordinated mechanism of which the posterior fasciculus was probably the important mediator, which regulated the co-ordination of both globes, and it was here where the trouble lay.

A Contribution to the Study of Landry's Ascending Paralysis.—Dr. Leonard Weber read a paper on this subject and said: It was in 1859 that Landry had described a few cases of ascending paraplegia with negative post-mortem results as regarded the spinal cord, to which he gave the name of *paralysie ascendante aiguë*, and in the same year Kussmaul had reported two rapidly fatal cases of spinal paralysis in which the post-mortem appearance of the cord was apparently normal. Petit-fils's attempt to classify Landry's ascending paralysis among the varieties of polio-myelitis anterior acuta or subacuta had been repeated quite recently by Immermann, but, in the light of later researches, and of the negative results of autopsies made by Westphal, his theory was hardly tenable. Another and perhaps less objectionable theory was that of Roger, who believed that many cases of the favorable form of Landry's paralysis were really polyneuritis acuta, of infectious or other origin, in which the spinal cord was either not at all or only secondarily affected. In an article in "L'Encéphale," No. 2, 1885, this writer had instanced the clinical picture presented in many affections of the spinal nerves, particularly in polyneuritis, in which the symptoms were very similar to those of disease of the medulla spinalis. In cases of simultaneous peripheral and spinal affection a correct diagnosis was of course difficult, but, although we had hitherto, said Roger, paid almost exclusive attention to the central lesions, the course of the disease often bore evidence to the fact that the lesion ascended from the periphery to the center. And he maintained that not only many cases of Landry's paralysis, but also Duchenne's *paralysie générale spinale subaiguë*, and *paralysie diffuse*, belong in the category of peripheral nervous affections.

Dr. Weber then gave Roger's description of the usual course of the disease, and said, regarding the ætiology, that we were still in the dark. Westphal laid much stress upon infection, and Roger drew attention to the frequent coincidence of polyneuritis and tuberculosis. Erb had said, so late as 1879, that cases of progressive polyneuritis ought not to be mistaken for acute ascending paralysis, since the differential diagnosis was sufficiently established by the sharp pains, the anæsthesia and paralysis limited to the affected nerves, and their rapid loss of electrical excitability.

On the strength of these recent observations he thought it might be justifiable to speak of two forms of acute ascending paralysis—the well-characterized spinal and the less well-known peripheral forms. Acute ascending spinal paralysis was characterized clinically by motor paralysis, beginning usually in the lower extremities and advancing with some rapidity to the trunk and upper extremities. The bladder and rectum were but little affected, sensation was nearly normal, and the affected muscles did not waste much, nor suffer any change in their electrical excitability. More or less fever might be present, and death from asphyxia was not a very unusual termination. No cord lesions were found at the autopsy. Landry's paralysis was more common in men than in women, and occurred with greatest frequency between the ages of twenty and forty years. It had been thought by Landry, Westphal, Roger, and others that infection, of an unknown character as yet, might be the real determining cause of the disease, and it was significant to note that in some carefully made autopsies changes similar to those occurring in other infectious diseases had been found in the liver, spleen, lymphatic glands, and intestinal follicles. In the fatal cases death might occur at a period of the disease varying from two or three days to three or four weeks, but the average duration seemed to be from eight to twelve days. When recovery ensued, improvement began usually within a few days after the disease had been fully developed, restoration occurring first in the parts last affected, and progressing very slowly.

Some cases of polio-myelitis anterior subacuta simulated acute ascending paralysis very closely, and it might not be until the development of atrophy and the loss of electrical excitability that we could be certain of the presence of anatomical lesions in the spinal cord. But a well-marked case of polio-myelitis anterior acuta was not progressive, did not attack the medulla oblongata, and did not lead directly to a fatal termination; the loss of faradaic excitability and the muscular atrophy developed rapidly. In very light cases a doubt might arise in diagnosis. In acute central and infectious myelitis we always found fever, marked sensory disturbances, early loss of all the reflexes, paralysis of the sphincter, diminished faradaic excitability, bed-sores, and a rapidly fatal termination. Certain forms of spinal syphilis closely resembled Landry's paralysis, and the diagnosis could often be determined only by the history of the case and the positive results of specific treatment. The prognosis of acute ascending paralysis was always serious, as it was impossible to tell at the beginning whether a case would result in recovery or death. Antisyphilitic treatment had given doubtful results, but better had been obtained from the wet pack or warm baths followed by cold affusions. Of remedies, the best seemed to be iodide of potassium and ergot. The application of a continuous current along the spine had been recommended by Erb.

The author then related the following case, which had been observed by himself: On December 20, 1880, he had been called to see J. H., a butcher, thirty-one years of age, of apparently good constitution, with no hereditary taint, who denied syphilis. In early life he had suffered often from intermittent fever. At the age of twenty-one he went to work in a barometer factory, and after some time he began to grow weak, and had occasional slight tremor and frequent vertigo, but no salivation or other sign of mercurial poisoning. These troubles increased, so that he was compelled to give up this work after four years. He then spent four years in the West, and returned home, in good health, two years ago. About three weeks before he was seen by Dr. Weber his horse ran away with him in his open cart, and he was obliged to exert all of his strength to control the animal. He received no apparent injury or concussion, but felt tired and ill all the afternoon. The next day he kept about with difficulty, and the day following felt somewhat ill and had slight fever, and, after some days of paræsthetic feelings, such as numbness and tingling creeping up from the fingers, gradually lost the use of both arms; and two weeks later, after similar sensations proceeding from the toes upward, the lower extremities became also paraplegic. No paresis of the sphincters was noticed then or at any subsequent time. The stools were retarded. The intercostals and other muscles of the trunk remained intact, and there were no symptoms indicating involvement of the medulla oblongata; but the patient felt some pain along the spine, and continued to have pain and numbness here and there in the extremities. Up to the time of Dr. Weber's visit the patient had not been examined with special care. He found him still unable to do more than move his limbs slightly

while in bed; he could neither stand nor walk, nor had he the power to grasp any object firmly. Cutaneous sensation appeared to be normal, but the patellar and Achilles-tendon reflexes were absent. The limbs were not wasted, and the muscles responded to electrical stimulus. The pulse and temperature were normal, and an examination of the urine gave negative results. The slight improvement of the paralysis, noticeable to the patient at the beginning of the fourth week, had not progressed any further. Ascending myelitis and polio-myelitis were excluded, and the diagnosis was made of ascending paralysis—Landry's. It being impossible to carry out at his home a systematic course of electrical treatment with massage and warm baths, which seemed to be indicated, the patient was removed to Roosevelt Hospital, where the late Dr. Evetzky became interested in the case. He agreed with Dr. Weber as to the probable nature of the disease, and also looked upon the chances of recovery as good. The patient was discharged, cured, on the thirtieth day, and was soon able to resume his occupation. He called at Dr. Weber's office October 30, 1885. at which time he appeared in fair health, could walk briskly and firmly, and said he was well able to attend to his business, but required more sleep than he had five or six years ago. He had occasional backache, but no lancinating pains; the bowels were somewhat constipated; the urine was normal; the patellar-tendon reflex was totally abolished on both sides; and he could not stand very well on one foot when the eyes were closed. The pupils were normal. There were no sensory disturbances and no paræsthesia.

Dr. Weber then related briefly two cases recently reported by Sorgenfrey and H. Mietks, in which there was early loss of the patellar and Achilles-tendon reflexes, but in which, as opposed to his own case, the reflexes returned after the complete recovery of the patients. He also mentioned a case of Immermann's in which the diagnosis had wavered between anterior polio-myelitis and Landry's paralysis, and in which, at the autopsy, there was found recent inflammation of the anterior horns in the cervical, dorsal, and lumbar regions of the cord. It was this case which had led Immermann to conclude, with Petitfils, that both these clinical pictures might be due to the same morbid process, differing only in degree.

Dr. E. C. Seguin had not seen a case of Landry's disease, but he had always had a strong suspicion that there was a great similarity, if not identity, between that disease and polio-myelitis acuta. The mere matter of ascension did not seem to him to be of so great importance in the diagnosis. The views which, when a pupil, he had heard Brown-Séquard frequently express with regard to the ascension of spinal symptoms had always seemed to him very reasonable. They were that ascension of symptoms might be apparent when they did not represent any ascending lesion in the cord; they were due to a change in the depth of the lesion in the cord. Suppose, theoretically, a case of paralysis of the arms, with subsequent paralysis of the legs; it was not at all necessary to suppose a descending lesion in order to explain the descending symptoms; a change in the depth of a lesion which extended but a little way up and down the cord could account for the descent of the symptoms. In the same way we could account for ascending symptoms without supposing an ascending lesion in the cord. Many authors laid stress upon the value of negative symptoms in the diagnosis of Landry's paralysis—such as absence of degenerative reaction and muscular atrophy; but it was equally true that in many cases of polio-myelitis these symptoms were retarded. He regarded Immermann's case as instructive, inasmuch as it showed the similarity, if not the identity, of the two diseases; the difference might be in the exact location or in the virulence of the affection.

Dr. Grace Peckham described the symptoms in the case of a girl sixteen years of age, whom she had seen only once, and made a diagnosis of acute polio-myelitis following exposure by sitting on a rock. She had given a favorable prognosis. The case was reported by Dr. Rockwell before the American Neurological Society in June last as one of transverse myelitis, with recovery. Considerable discussion had followed with regard to the nature of the disease.

Dr. Sachs thought that, while Immermann might entertain the idea that the pathological process in Landry's disease and polio-myelitis was the same, he did not suppose that he believed the lesions to be identical in localization. While the question of infectious origin had not been demonstrated in either acute myelitis or Landry's disease, the speaker thought it deserved investigation.

Dr. Weber closed the discussion, reviewing the differential diagnosis between Landry's paralysis and polio-myelitis anterior acuta.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of November 5, 1885.

The President, Dr. B. F. Baer, in the Chair;
Dr. W. H. H. Githens, Secretary.

Lymphatic Leukæmia in Childhood.—Dr. J. M. Keating read a paper on this subject, and related a case, which he prefaced with some remarks on the blood in children in health, and also its diseases, briefly reviewing the literature of the subject.

Oophorectomy for Ovaralgia.—Dr. William Goodell exhibited the ovaries from two cases of oöphorectomy with the following histories: When the first patient, an unmarried woman aged thirty, first consulted him she weighed two hundred and thirty-six pounds, but at the same time she was very weak and could barely walk. She suffered excessive pain at her catamenial periods, which appeared only at long intervals. She had cataleptic and hystero-epileptic fits, and complained of very constant and acute ovarian pains. Her urine was passed but once a day, and was attended with much suffering. The womb was enlarged and the ovaries were very tender indeed, but nothing else abnormal was discovered. Assafœtida and the bromides were prescribed in large doses, and she was advised to try the rest treatment. Fourteen months later she was again brought by her physician to consult Dr. Goodell. She then weighed only one hundred and twenty pounds, having lost one hundred and sixteen pounds, and she was in every respect worse, her ovarian pains being constant and very acute, and requiring large doses of morphia to control them. Her catamenia had not appeared for about four months, and tonics seemed to have no effect whatever on her. Her physician was compelled to be in constant attendance on her, and was liable to be summoned at any hour of the day or night to give her a hypodermic injection. Masturbation was suspected, but she always denied practicing this habit. Nothing further could be done than the operation of oöphorectomy, which was accordingly performed a few days later at the hospital of the University. The ovaries were found much enlarged from cystic and interstitial degeneration, but there were no evidences of peritonitis or of cellulitis which had been suspected. A corpus luteum existed in one ovary. A rectal hæmorrhage or vicarious menstruation having taken place a few days before the operation, her ovarian pains at once left her; she needed but very few doses of opium, which was given by rectal suppositories. Her convalescence was prompt, and she returned home in less than four weeks free from all pain, and in a fair way to get perfectly well. The case was a typical

one of the advantages of oöphorectomy, yet he (Dr. Goodell) thought that the operation was being performed altogether too frequently.

Oophorectomy for Bleeding Fibroid of the Womb.—In the second case the lady was thirty-seven years of age and had been married eleven years. She gave birth to a child about seven years ago, and since then has had one premature birth at seven months and one miscarriage. She first noticed an abdominal tumor nine years ago, but her catamenia began to be free some time before this. Late in the year 1881 the catamenia began to be excessive. As nothing served to check them, early in the following year Dr. Goodell was consulted. He found multiple fibroids of the womb. Six tumors could be readily made out, of which two seemed peduneulated. The sound gave a measurement of 4·5 inches. Under ergot and ammonium chloride the patient improved for several months, then the menorrhagia became worse, and finally a dribbling of blood kept up between the periods. In May of the present year she again consulted Dr. Goodell. She had been dribbling continuously from January, and was much reduced in strength. Being a brunette, she exhibited the facies uterina in a most marked degree, the pigmentation being very dark and extensive. The womb now measured 7·5 inches. She was admitted into Dr. Goodell's private hospital, and on May 24th both ovaries were removed without difficulty. They were greatly enlarged by follicular degeneration, a condition which Dr. Goodell had repeatedly seen in cases of fibroid tumor. The effect of the operation on the tumor, and especially on the main one, was astonishing. After two weeks that fibroid had diminished in length nearly a hand's breadth. Her recovery was prompt, and she was sent to Atlantic City to recruit. On July 10th, just forty-seven days after the operation, she called on Dr. Goodell, who found the tumors very greatly reduced in size and the uterine cavity measuring only 3·25 inches, a diminution of 4·25 inches. This extraordinary amount of diminution, in spite of the fact that the obliteration of the ovarian blood-vessels cut off only a small portion of the blood-supply to the womb, forced upon him the conclusion that the ovaries were the important factors in inviting blood to the womb. Every successful case in which he had removed the ovaries for fibroid tumor of the womb had been followed by the menopause and by rapid diminution in the size of the tumor. But in his hands and in those of others this operation was more fatal than that of ovariotomy. During the ten months of the present year he had had twenty-five cases of ovariotomy with but one death, and that one in a lady operated on at her home, two hundred miles from Philadelphia. For simple cases of oöphorectomy the mortality should not be greater than that of ovariotomy. But, when complicated with the presence of a large or an adherent fibroid tumor, the operation was often one of great difficulty. Twice during the past year he was unable to reach the ovaries, and was compelled to abandon the operation, because in neither case was the woman willing to undergo the risk of having hysterectomy performed. Each case recovered, and while the women were under observation the tumors appreciably lessened in size, as if the shock of the exploratory incision had temporarily suspended the ovarian influences.

Dr. Montgomery was glad to hear the good results in Dr. Goodell's cases. In a few of the cases upon which he had operated the menopause did not at once occur—sometimes not for two years after the operation. In such cases the tumor did not decrease in size while menstruation continued. In the case of hysterectomy for fibroid tumors, reported by Dr. Montgomery at the last meeting, the temperature at no time exceeded 101·6°, and the patient left the hospital that day perfectly well. He preferred removal of the uterus and its appendages entire when the ovaries could not be removed in consequence of previous inflammatory changes. Ligation of blood-vessels supplying the tumor might be useful when nothing better could be done.

Dr. Baer thought that when the ovaries could be removed it was the preferable operation.

Dr. Goodell had been so uniformly successful in removing the ovaries for the cure of fibroid uterine tumors that it was his choice. He had been notified that he would be called in consultation in a case of fibroid tumor of the womb in a woman aged thirty-three years. This would be the third. He should advise removal of the ovaries. If at the time of operation that was not found possible, he should close the incision, as the other operation was very dangerous, and the patient could certainly live a few years as she was. In one case only of his oöphorectomies had the menses continued, and he thought in that case there must have been some supplementary ovarian tissue.

Ovariotomy.—Dr. Montgomery exhibited for Dr. Warder a large ovarian tumor, and related the following history: The patient was a young woman. Her menses commenced at seventeen years of age, and had always been irregular. They ceased entirely for twelve months, and at the same time the abdomen was enlarging until the tumor reached above the navel. Fluctuation was doubtful; the mass seemed quite solid, and pressed the uterus down into the pelvis. Anæsthesia did not relax the abdominal wall, and diagnosis was doubtful. An exploratory incision, showing the pearly tint of an ovarian tumor, made it sure. Nothing would pass through the trocar, but some of the jelly-like contents of the tumor escaped beside it and passed into the abdomen. The large cyst was filled with small cysts. The patient did well for one week, then the pulse became rapid; but she had since been doing well, and was then rapidly recovering.

Dr. Goodell thought the danger from the escape into the abdomen of cyst-contents was overrated.

Dr. Baer said that in the early stage of ovarian tumors metrorrhagia was sometimes present; sometimes the menses were entirely absent. He should like to hear from the society some reason for this inexplicable difference.

Dr. Goodell had observed the same facts, but could throw no light upon it.

Dr. Montgomery remarked that in this case both ovaries had undergone cystic degeneration. The second ovary contained numerous small cysts.

Dr. Baer inquired about the treatment of the second ovary.

Dr. Montgomery replied that it was removed.

Some Uses of Cocaine in Gynæcology.—Dr. C. H. Thomas read a paper on this subject, in which he related some personal experiences in the use of the drug in various gynæcological operations. He recommended it highly for local anæsthesia, and did not think that any toxic effects were likely to be produced even by a saturated solution.

Miscellany.

The International Medical Congress.—At the semi-annual meeting of the Camden County, N. J., Medical Society, held November 10th, the following resolutions were unanimously adopted:

Resolved, That this society approves of the action of the American Medical Association in enlarging the Committee of Arrangements for the Ninth International Medical Congress in 1887.

Resolved, That the rules regulating the membership and business of

the Congress, adopted by the Committee of Arrangements at the meeting in New York, September 3d and 4th, and the transference of the future management of the Congress to an executive committee, composed of the President of the Congress, the Secretary-General, the Treasurer, the Chairman of the Finance Committee, and the Presidents of Sections, be considered by this society sufficient to silence criticism and enlist the sympathies and support of the profession throughout the United States.

Resolved, That the Secretary be instructed to forward copies of these resolutions to the county medical societies of New Jersey.

The Present System of appointing Medical Examiners in Massachusetts.—At a meeting of the Boston Society for Medical Improvement, held November 23d, Dr. W. C. B. Fifield read a paper in which he alluded to the old coroner system still in vogue in most of the States, and the cause of its abolition in Massachusetts—the unfitness of most of the appointees by reason of ignorance, whereby the course of justice was impeded, and great and unnecessary expense was entailed upon the State. But, he asked, was the new system of medical examiners so great an improvement as had reasonably been expected? It was not, because in many cases political and social influence led to the appointments. He cited instances in which, on account of the ignorance of the examiners, innocent persons had languished in jail and been put to great expense. He alluded also to ridiculous reports of causes of death. To protect the State, and save the expense of unnecessary inquests, it had recently been ordered that a medical expert should be employed in every case where an autopsy was made. What was the remedy? An examination by a commission, to make sure that the appointees were properly qualified, that honest men, of integrity and ripe judgment, should hold these offices. In every county the medical examiner should submit his report to a chief medical examiner, and then, together with the latter's supplementary report, it should be passed upon by a commission of three, amply paid and selected for their special fitness—all this before any case went to a district attorney.

In the discussion, Dr. G. K. Sabine took the ground that in country districts it was impossible to secure men of the high attainments demanded by Dr. Fifield. The expenses allowed were meager, and the State discouraged autopsies on account of the expense involved. After an autopsy, the medical examiners lost days of time in attendance at court at $1.30 a day. If a body had to be disinterred, all expenses of disinterment and re-interment had to be borne by the examiner. The office was laborious and ill-paid.

Dr. Bowditch moved a further discussion at a specified time, the medical examiners to be invited to be present, and that a committee of three be appointed to report on the proper mode of appointment. The motion was carried, and the Chairman appointed Dr. C. D. Homans, Dr. R. H. Fitz, and Dr. G. B. Shattuck to constitute the committee.

Dr. Draper, one of the examiners for Suffolk County, thought that no great fault could be found with the present board of examiners. Many of those now serving were or had been officers of the Massachusetts Medical Society; they understood their duties fully, and performed them without fear or favor. Dr. R. H. Fitz also spoke in defense of the present system.

THERAPEUTICAL NOTES.

Ditana Digitifolia as a Galactagogue.—Professor Giurleo, of Naples (cited in "Nouveaux remèdes"), speaks in decided terms of the galactagogue powers of this Mexican plant, alleging that it not only increases the secretion of milk, but causes it to take place in cases where it has been altogether lacking. It must be used continuously. The author gives the following formula for making a "galactophorous syrup":

Flowers and leaves of *Ditana digitifolia*		4½ ounces;
Sulphuric ether, 85 per cent. alcohol,	each	7½ "

To be kept over a water-bath for two hours, in a strong and well-stopped flask, and a tincture made by displacement. The portion of the plant which remains in the digester is then to be exhausted with 4 pints of water, in which 10¾ pounds of sugar are to be dissolved. Strain, and add 8 ounces of glycerin, and, finally, the ethereo-alcoholic tincture obtained by the first operation. Two or three tablespoonfuls of this syrup, diluted with a pint of water or infusion of chamomile, are to be taken daily.

The Pharmaceutical and Therapeutical Uses of Algin.—Mr. Watson Smith ("Jour. of the Soc. of Chem. Industry"; "Nouveaux remèdes") calls the attention of pharmacists and physicians to a new product, *algin*, discovered by Stanford. It is the residual product of the wet way of obtaining iodine from certain marine *Algæ*, being a nitrogenous principle closely resembling albumin, except in not being coagulated by heat. It forms perfectly definite *alginates* with metals. The alkaline and earthy-alkaline alginates are soluble, but the others are insoluble. The double alginates are easy of preparation, and almost all of them are very soluble. Besides possessing many curious chemical properties, giving promise of extensive applicability in pharmaceutical and other processes, algin has a notable alimentary value, and may be advantageously substituted for gum arabic in the preparation of a great number of dietetic and medicinal products.

Salicylate of Sodium in Supra-orbital and Infra-orbital Neuralgia.—Devlezersky and Finkelstein ("Wratsch"; "Rev. méd.") report cases which they think tend to show an ætiological connection between articular rheumatism and hemicrania and other neuralgias. Theirs were cases of hemicrania. Trivus has extended the treatment to neuralgia of the ophthalmic branch of the trigeminus, and reports three cases in which salicylate of sodium, given in doses of thirty grains at the onset of the pain, promptly caused the disappearance of the latter.

Formic Acid as an Antiseptic.—Schulz ("Dtsch. med. Wchnschrift."; "Ctrlbl. f. klin. Med.") commends this substance highly as an antiseptic. He has found very weak solutions effectual in preventing the decomposition of organic substances, and, although he speaks cautiously on this point, he thinks that their use is not likely to entail unpleasant effects.

Cocaine as a Remedy for Seasickness.—Mr. A. J. Duffield writes to the "Medical Times and Gazette" as follows: "If a layman's experience be of any worth, let me say that twenty years ago, when returning home from Peru, I brought with me some fifty pounds weight of fresh leaves of the cucu, and proceeded to experiment on some miserable fellow-passengers, who were suffering from seasickness, by means of a straw-colored decoction of these leaves. They were all adults—ladies, priests, and Peruvian poets. Every one of the patients fell asleep on drinking a large breakfast-cupful of my tea. They were all cured. But, on changing from the Pacific to the Caribbean Sea, the malady again attacked the priests and the poets—the women were not attacked—and again a single cup of cucu-tea had the same effect as before. Much, of course, depends on the leaves being freshly gathered."

Lime in the Treatment of Bronchial Catarrh.—Trastour ("Union méd.") recommends the following mixture:

Iodide of calcium	75 grains;
Lime-water	3 ounces;
Distilled water	12 "

A soupspoonful should be taken at the beginning of the two principal meals, in a glass of wine and water or in milk, and the use of the preparation should be continued for a long time, together with frequent counter-irritation and the repeated use of laxatives and balsamics. In case of asthma-like oppression, antispasmodics and calmatives will be needed, especially morphine.

The Administration of Antipyrine.—After a number of trials, M. Dumolard ("Lyon méd.") gives the preference to the following formula:

Antipyrine		20 parts;
Jamaica rum		30 "
Syrup, Water,	each	150 "

In typhoid fever, he gives a teaspoonful three times a day.

Diaphoretic Boluses.—A contributor to the "Union médicale" gives the following formula:

Sublimed and washed sulphur, Powdered bitartrate of potassium,	each	30 grains;
Powdered gum guaiacum		15 "
Syrup		q. s.

Divide into four boluses. All to be taken in the course of a day.

Original Communications.

UNILATERAL HALLUCINATIONS.*

BY WILLIAM A. HAMMOND, M. D., LL. D.

THE fact that hallucinations of sight and of hearing may be unilateral—that is, perceived by one visual or auditory center only—has long been known, though the subject has not even at this day attracted so great a degree of attention as it appears to me to require. Several writers have, however, considered the matter from a more or less philosophical standpoint, and have brought forward interesting cases in support of the views to which they have given their adhesion.

The first reference to the fact that hallucinations may be one-sided that has come under my notice is made by Calmet,† who describes the fright experienced by a gentleman who, passing some time in a haunted house, heard a voice in one ear—the left—which came from a corner of a closet and seemed to him to be about a foot above his head. This voice spoke to him very distinctly during the space of half a *miserere*, and ordered him, *theeing* and *thouing* him, to do some one particular thing which he was recommended to keep secret.

Calmeil ‡ alludes to the fact that some persons, the subjects of hallucinations of hearing, declare that the sounds are heard first in one ear, and then in the other, or exclusively in the right or left ear.

Baillarger # cites two cases of hallucinations of hearing occurring in but one ear. In the first of these, a woman, who was under the delusion that she was being taken to a cemetery, imagined that she heard a mysterious voice encouragiug her and telling her not to be afraid. In the other, a woman, affected with religious monomania, perceived in the right ear the sound of celestial music, which caused in her the highest degree of mental exaltation. Baillarger does not refer to one-sided visual hallucinatious.

Michéa,‖ who had previously written an excellent monograph △ on hallucinations in which, however, he did not consider those of a unilateral character, refers to them specifically in his subsequent work, and attempts an explanation of their *rationale*. He says:

"In the fantastic or subjective perception which constitutes the phenomena of hallucination the mind experiences a modification identical with that which takes place in the normal or objective perception. The false representation, the deceitful appearance, of which he has conscience, seems to it to be the result only of an exterior impression produced simultaneously on the two symmetrical or homologous portions of a sensorial apparatus. The attention is directed to the imaginary body, and not to the instruments by which the impression is produced. The mind interprets as single the double action of the sensorial organs that receive and transmit the impression of the fantastic image and by which it is brought to the consciousness and understanding. Nevertheless, it is not always thus. In certain cases the mind can be affected in such a manner that it perecives an imaginary object in the same way that it perceives a real body, the impression of which is effected on one alone of its two symmetrical and homologous portions; in a word, although always the same so far as regards characteristics and form, an hallucination may sometimes lose its unity of correspondence and be doubled and dichotomized, so to speak, relative to one single sensorial apparatus."

In accordance with this view, Michéa gave to the erroneous perceptions in question the designation of *divided hallucinations*.

Schroeder van der Kolk * cites a case, the only one, as he says, within his experience, in which the hallucination occurred in one ear. A poor woman complained to him that she was continually persecuted by the devil, who let loose at her all sorts of blasphemies, and indeed all the worse the more she exerted herself not to attend to them, but often also when she was talking and active. She had already been to a clergyman to have him exorcise the devil before she came under Schroeder van der Kolk's observation. On his asking her in which ear the devil always talked to her, she replied that it was invariably the left ear. He told her that her disorder was due to an affection of the ear that sometimes occurred.

Dr. Alexander Robertson,† in an interesting monograph, cites several cases of unilateral hallucinations occurring especially with the subjects of alcoholism. According to him, they are more frequent on the left than on the right side. He regards them as being the result of an independent action of the two hemispheres.

Dr. E. Régis ‡ enters at some length into the history of the subject, and adduces several cases in support of the view that unilateral hallucinations are always due to some derangement of the sensorial apparatus—the eye or the ear—on one side. His attention was first attracted to the subject by the case of a patient who heard himself abused in opprobrious terms, but only in the right ear. He was able to induce these hallucinations at will by closing the left ear and concentrating his attention on some particular idea, when very soon this idea would be expressed vocally to him in the right ear. This patient had been affected since he was twelve years old with a purulent otorrhœa, localized in the right ear, due to chronic catarrh of the cavity of the tympanum. A case cited by Pick sustained his view, and the others occurred in his own experience, both as regarded the eye and ear.

* Read before the New York Neurological Society, December 1, 1885.

† "The Phantom World," etc., Augustin Calmet. Edited by Mr. Henry Christmas, London, 1850, t. ii, p. 291.

‡ Art. "Hallucination" in "Dict. de médecine."

"Des hallucinations," etc. "Mémoires de l'académie royale de médecine," t. xii, pp. 295 and 300.

‖ "Du délire des sensations," Paris, 1851, p. 106.

△ "Des hallucinations," etc. "Mém. de l'acad. royale de méd.," t. xii.

* "Pathologie und Therapie der Geisteskrankheiten," Braunschweig, 1863, p. 157, note.

† "British Medical Journal," 1875, vol. ii, p. 274.

‡ "Des hallucinations unilaterales." "L'Encéphale," t. i, 1881, p. 43.

An exceedingly interesting form of unilateral hallucinations is that in which erroneous impressions different in character occur on either side. M. Magnan,* at the meeting of the Medical Congress in Rouen in 1883, read a paper on this form of the affection, the patients having had hallucinations in both ears, occurring simultaneously, but opposed to each other in the nature of the impressions communicated. One patient heard through one ear—always the same—threats and abusive language, which gave him ideas of persecution, while through the other ear the perception was of flattering words, and others of a character calculated to excite in him ambitious delirium, and this antagonism of sensorial auditory impressions was maintained without change during the whole course of his disease. M. Magnan reported four cases of the kind occurring in his own experience. In one the painful impressions came through the right ear, while the pleasant ones were produced on the left side. In the three others this relation was reversed. He regards these cases as affording a new proof of the functional independence of the two cerebral hemispheres, and as presenting a great analogy with the facts obtained by experimentation with certain hysterical subjects.

Of course, as is well known, the sense of touch can be the seat of unilateral hallucinations just as it is readily and normally affected by actual impressions. So far as concerns the present subject of inquiry, such derangements are of no moment, as they originate ordinarily from subjective irritations. Sometimes, however, especially in hysterical and hypnotized persons, they may have a central origin. M. Dumont-Pallier† had a patient in La Pitié whom he hypnotized, and in whom he could determine at will anæsthesia, hyperæsthia, or sensorial delirium alternately in one half of the body and the other. One of the cerebral hemispheres, it is stated, appeared to preserve its power to act while the other was deprived of all activity. By other experimental combinations he could bring the two hemispheres into simultaneous action, but in an opposite way. Thus, the patient being in the unconsciousness of hypnotism, he could, by whispering in one ear words conveying sad ideas, give to one half of the countenance the expression of pain, while, by suggesting cheerful words in the other ear, the corresponding side of the face showed satisfaction.

I have given this short *résumé* of the subject mainly for the purpose of showing the state of the inquiry at this time, and not with the idea of submitting anything like a complete history of the researches and observations made. In the next place I have to bring forward my own cases, and to make such remarks upon them as they may appear to require.

So far as I am aware, no case of unilateral illusions has yet been reported. One case of the kind has come under my notice, and, though the subject of illusions is not under direct consideration, its relations with the present inquiry are so intimate that it seems proper to refer to it here with somewhat more of amplitude than I gave to it when I first brought it forward,* nearly three years ago:

Case I.—A gentleman, in good general health, contracted the illusion that the ticking of a clock on the mantel-piece consisted of articulate words. At first he only had this erroneous perception at night after he went to bed, but in a few weeks the ticking of any clock sounded to him like human speech. There was no uniformity either of the tone or of the language employed, but sometimes a particular phrase would be repeated hundreds of times. As soon as he got beyond the range of the sound from the clock the words were no longer heard.

Generally the expressions were in the form of commands. For instance, if at dinner, they would be "Eat no soup," "Drink no wine," or "Eat your soup," "Drink some wine," and so on. One day he made the discovery that if he closed the right ear firmly the illusion disappeared, but if the left ear was closed the words were still distinctly heard. It was, hence, clear that the center for hearing on the right side was the one affected, and that that on the left side was normal. On neither side was there the slightest impairment of the capacity for hearing other words. A watch would be readily heard to tick at the distance of three feet from either ear.

These false impressions were not by any means unpleasant to him; on the contrary, he was rather inclined to attend to them and to amuse himself with suggesting new phrases for the clock to simulate. He did not allow himself to be deceived with the idea of regarding them as realities, but, though he strenuously resisted their acceptance, he began, after a time, to be influenced by them to the extent of acting upon them as guides, though he tried to conceal the circumstance. When, for instance, asked whether or not he was going to the theatre that evening, he would reply in a nonchalant way to the effect that he had not thought about the matter; and then, after a little while, when he thought the matter forgotten, he would saunter toward where the clock stood and shortly afterward give his answer either affirmatively or negatively, according to the words conveyed to him by the clock. Eventually he put clocks into every room in his house and proposed to be governed altogether by the directions they gave him, not, as he said, from any belief that the ticks were real words, but because there was some influence, spiritual or other, that caused them to seem like words to him.

During the whole time that this case was under notice there was no change in the unilateral character of the illusion nor in its distinctness. At this time the condition remains unaltered. The sounds made by the clock have all the appearance of words spoken into the right ear, while to the left ear they possess only their normal characteristics. Yet, though he is guided by them, he does not for a moment regard them as words. His intellect is free from any delusion of fact, though he is superstitious enough to accept them as conveying to him indications as to how he should act.

Case II.—This case is also referred to in my "Treatise on Insanity." A young lady of good mental development but of delicate physical organization was for several months almost constantly troubled with apparitions of various kinds of faces, which she saw no matter where she turned her eyes. She had, while looking through her father's library a few weeks before they first appeared, come across a book containing many engrav-

* "Annales médico-psychologiques," November, 1883, p. 356.

* Cited from "L'Union médicale" in "Annales médico-psychologiques," November, 1883, p. 357.

* "A Treatise on Insanity in its Medical Relations," New York, 1883, p. 297.

ings of Greek and Roman masks, and these had made a great impression upon her. The pale faces beset her on all sides. Sometimes they would peep at her from around the corners of the streets as she was driving or walking. Again she would see them coming out of the shelves in the shops she visited, and again they would start up from the street just before her. They never passed out of her range of vision suddenly, but gradually faded away without changing their positions. Some of them she saw with one eye and some with the other, for if she shut either eye they decreased in number, about half of them disappearing; and if she closed both eyes they all vanished for a little while, though generally in either case they reappeared in a short time, but less distinctly. On opening the eyes, a new set appeared. They were of all colors and nationalities, and a good many were of the same description as the masks of the ancients, being of various degrees and character of grotesqueness and hideousness. She never saw them after dark except in well-lighted rooms or other places. The gaslight of the streets was not sufficient to develop them, but the electric light brought them out very distinctly. By repeating the experiment of Sir David Brewster—pressing on the outside of the globe of either eye so as to produce temporary strabismus—she could make any face appear double; but this was only when it had been visible for several minutes. A newly appearing one she could not duplicate in this way. There was no derangement of the vision of any other kind, and no abnormal ophthalmological appearances.

The peculiar features of this case are that the hallucinatory images were divided between the two eyes, part being seen with one and part with the other, showing, therefore, the distinctness and divisibility of the action of the two visual centers, and the fact that the stimulus of a strong light was necessary in order that they should be developed. The circumstance that by pressing on one eyeball so as to throw it out of its parallelism with the other any image was duplicated showed the permanence of the impressions made upon the retinæ—impressions that must necessarily have been transmitted from within and projected outward.

Case III.—A young man received a severe blow on the head just above the left ear. A few weeks subsequently—while engaged at his business, that of a salesman in a large mercantile establishment—he saw a large black cat sitting on the floor immediately before him. He had no doubt of the reality of the occurrence, and for several minutes wondered where the animal could have come from. At last he made a step toward where the cat was apparently sitting, and was surprised to find that the image remained as far from him as before. He then recognized the fact of the falsity of the perception. After this the cat seemed to follow him wherever he went, and sometimes appeared to jump on his lap or shoulder. His sense of touch was never deceived.

Being possessed of a considerable degree of intelligence, he had, by observation and experiment, settled several interesting points to his satisfaction. Thus, he found that the image was always larger and more distinct in the evening than soon after getting out of bed in the morning. Occasionally at this latter time it was entirely absent, but not often. Again, it was always clearer, larger, and apparently nearer to him when he suffered from pain at the seat of the injury, as he did in paroxysms several times a day. When he was free from pain the image disappeared when he shut his eyes, but when the paroxysms were present he saw it just as well when his eyes were closed as when they were open. Pressing on either eyeball so as to destroy the parallelism of the visual axes did not cause the production of two images, and then he made the discovery, by alternately shutting the eyes, that the hallucination only existed on the side corresponding to that on which he had been injured.

In this case there were no abnormal ophthalmological appearances, nor any impairment of the faculty of vision in either eye. That there was serious brain lesion involving, probably, the left optic thalamus, I have no doubt. I was also of the opinion that there had been a fracture of the inner table of the skull at the point at which the blow had been received, and proposed trephining. He, however, declined to submit to the operation, and I finally lost sight of him.

Case IV.—A lady, about fifty years of age, became the subject of a most malignant persecution through anonymous letters which were sent to her in large number and from various parts of the country. The outrage had gone on, however, for several weeks before there was any other result than intense annoyance. But she finally began to worry greatly in regard to the source of the abusive communications, endeavoring to represent to her mind the man or woman guilty of the indecencies of which she was the victim. In this she was not successful. In fact, she could not determine whether the sender was a man or a woman, much less bring before her mind's eye his or her image. One day, however, as she lay in bed with a sick headache, her mind reverted to the question that had so often disturbed her—"Who was the person that sent her the anonymous letters?" Happening to look in the direction of the large bay-window that filled up nearly the whole front of the room, she saw a man and a woman standing in the opening.

For the moment she did not doubt the reality of the appearances, but as she raised herself in bed to look at them better she was astounded to perceive that they slowly faded out of sight—dissolved, as it were, so gradually that they scarcely seemed to get less distinct. She got up, dressed herself, and did not see the images again for several days.

But at last they made their appearance (this time while she was at the dinner-table), and presenting exactly the same aspect in every respect as they had at first. After that she saw them several times in the course of a month, and then they disappeared never to return again.

The most curious circumstance about the hallucination was that the man was perceived with the right and the woman with the left eye. Thus, if she closed the right eye she saw only the woman; and if she shut the left eye the man only was visible. If she had, by moving actively about the room, caused them to disappear, she could often bring them back by lying down on a bed with her head rather low. If, on these occasions, she kept the right eye closed, it was the woman only that appeared; and, if she opened only the left eye, she saw but the one image, that of the man. Again, if she had in this manner brought back one image, and then endeavored, by opening the other eye, to cause the other one to appear, it was several minutes, generally, before she succeeded, and thus for a time only one image was present.

Nothing, it appears to me, could be more confirmatory of the case of the independent action of the two visual centers than such hallucinations.

And, indeed, it appears to me that unilateral false perceptions of the kind in question afford strong evidence of the correctness of the theory originally proposed by Wigan,*

* "The Duality of the Mind," London, 1844.

but since his time adopted by many others, that there are in fact two brains, the two hemispheres having independent though similar functions, ordinarily acting together, though capable of isolated and even different action. Wigan had no facts of this character to allege in favor of his theory of the duality of the mind, for which, nevertheless, he has addueed many striking proofs and convineing arguments, and toward the truth of which science seems to be tending.

Régis, in the memoir to which I have previously referred, advanees the opinion, in which he is apparently borne out by the cases he has adduced, that unilateral hallucinations are due to disease or derangement of the organ of speeial sense involved. That this is not always the ease I am very sure. In none of the instanees I have cited was there any ocular or auditory trouble. It is diffieult to see what connection can exist between disease of the eye or ear and an hallucination existing in the corresponding side. For, if such disease caused a unilateral hallucination, we should expect bilateral hallucinations to be the result of disease of both eyes or ears.

I do not believe that hallueinations are caused by lesions of the organs of special sense, but that they are produced by disease or disorder of the eentral organ of perception, probably of the optic thalamus, and that sneh erroneous sensorial impressions, when limited to one side, are evidenee that the visual, auditory, or other sensorial center, as the ease may be, of the corresponding side, is the starting-point.

EXCISION OF THE TARSAL BONES.*

By CHARLES T. POORE, M. D.,
SURGEON TO ST. MARY'S FREE HOSPITAL FOR CHILDREN.

Disease of the tarsal bones is not an uneommon oeeurrence among children who apply for admission into hospitals. The following paper is based upon the cases of nine patients operated upon at St. Mary's Free Hospital for Children. Although there is nothing very noteworthy in any of the cases taken individually, yet, when taken together, they form a group from whieh one may draw a few praetieal deductions.

The following plan of operation was followed in all but one case, to which referenee will be made further on: After rendering the limb bloodless by an Esmareh bandage, if the os calcis is to be removed, an ineision is made from a point corresponding to the inner edge of the tendo Achillis and about an ineh above its insertion, outward and then forward on the outer aspeet of the foot to a point midway between the external malleolus and the proximal end of the fifth metatarsal bone, the incision being made direetly down to the bone. The only tendons denuded are the tendo Achillis and that of the peronæus longus where it passes over the lateral surface of the os calcis. No vessel of any size requiring ligature is divided. The incision will be found to afford plenty of room. The periosteum is then divided and separated from the bone as far as possible with an elevator; it will then be found that the bone can be removed either as a whole or in pieces, the ligaments being divided as they present themselves. After removing all the bone and well washing out the cavity left by the operation, the constricting bandage is removed, and any bleeding points are secured. The edges of the ineision are brought together with silver wire, except at the posterior part of the wound, which is left for a drainage-tube. I use silver wire because, in my experience, it is often neeessary to hold the parts in eoaptation longer than can be done with catgut. The foot is usually put up in a tin leg-splint, with a foot-piece at right angles to the leg. The cavity left after the removal of the bone is in some cases swabbed out with chloride of zinc, in others dusted over with iodoform. None were put up in a permanent dressing. The following is an abstract of the eases:

Case I.—F. M., three years of age, came to the hospital in 1874. She was an unhealthy-looking child. There was a large sinus, from which there was a considerable discharge, situated upon the dorsal aspect of the right foot, over the upper border of the cuboid bone. There was also disease of the first metacarpal bone of the left hand. In September, 1874, the patient was etherized, and the disease was found to be confined to the os calcis. This was freely gouged so as to remove all diseased bone. The portion left seemed hard, and was supposed to be healthy. In January, 1875, as the wound did not close, more diseased bone was removed. In April, as the foot was no better, an incision was made by splitting the tendo Achillis and then extending the incision forward upon the plantar surface of the foot, so as to afford room to remove the remains of the os calcis. The cavity thus left was stuffed with lint. The wound gradually filled up, and she was discharged with her foot in good condition, the heel somewhat flattened and with a deep cavity behind.

November 1, 1885, eleven years after the operation. Upon examination, it was found that the foot was in good condition. There had been no return of disease, no pain about the foot, and the child walked with but a very slight limp, scarcely perceptible. The heel, where there had been a deep depression at the time of her discharge, had now filled out, so that the point of excision was represented by a mere line occupying the posterior rather than the plantar aspect of the foot. The contour of the heel had filled out. There was an obliteration of the plantar arch. I do not think that there had been any reproduction of bone.

Case II.—M. D., aged three years and a half, had had disease of the os calcis for some time. The bone had been gouged twice before the patient came to the hospital, but without any permanent relief. He was a healthy-looking boy. There was a sinus on the external aspect of the foot over the os calcis, through which diseased bone could be detected. In February, 1879, the old line of incision was reopened. There was found a sinus in the os calcis leading to a cavity in which was a loose piece of bone of about the size of a filbert. The walls of this cavity were smooth and hard. The necrosed bone was removed and the wound closed, in the expectation that, the cause of irritation being removed, recovery would take place; but after a time the parts assumed the same condition that had existed before the operation. In May the bone was excised. It was found harder than normal. After the last operation the patient made a good recovery, and was discharged, walking well. He has not been seen since his discharge from the hospital.

Case III.—M. R., aged seven years, was admitted in February, 1879. Three months previous she began to complain of pain in the heel of the right foot. It then began to swell, and three weeks before she came under observation an abscess opened

* Read before the New York Surgical Society, November 24, 1885.

posteriorly, and had continued to discharge since. Diseased bone could be detected with the probe. In March the os calcis was removed. It was found entirely diseased. She was discharged from the hospital in June, able to walk well. She was seen November 20, 1885. She then walked well, with scarcely a limp, had had no pain, and the old line of incision had not reopened. About one year ago, five years after she left the hospital, an abscess formed on the dorsal aspect of the foot, and has continued to discharge ever since. There is now a sinus at this point. The patient seems healthy, and experiences no inconvenience from the foot. I presume there is diseased bone. There has been some reproduction of the os calcis.

Case IV.—Sarah J., four years before admission, received a cut on the plantar surface of her right foot from a piece of glass. The wound had never closed. Three years ago some diseased bone had been removed, and since then several small pieces had come away. In November, 1879, the os calcis was removed. The bone was extensively diseased. In February she was discharged, able to walk well. A week after her discharge she was brought to the hospital with a superficial abscess about the point of operation, caused, it was said, by walking with a badly fitting shoe. She was sent home in a few days. In May, 1883, her friend reported that she had had no further trouble, and that she walked well.

Case V.—C. R., ten years old, came to the hospital in March, 1881, with the following history: Six months before, without any known cause, a swelling had appeared at the back of the heel; an abscess had formed and opened, and had continued to discharge ever since. The os calcis was removed, and was found to be much diseased. He was sent home in June with a useful foot. He was seen November 20, 1885. There has been no change in the foot since he left the hospital; he can walk well, with but little, if any, limp, and is now employed as an errand boy in an apothecary's shop. There is, however, limited motion at the ankle joint. There does not appear to have been any new bone formed.

Case VI.—Peter H., an unhealthy-looking boy, about six years of age, was admitted in September, 1881. He had disease of the right os calcis, and carious bone in various portions of his body. In October the os calcis was removed. He did well for a time, then his foot began to swell, the old line of incision opened, and he was in a worse condition than before the operation. Other tarsal bones became involved in the disease. The bones were gouged, but with no improvement. In March, 1883, Syme's amputation was performed. The flap did well for a time, but finally sinuses began to form, and he was removed from the hospital. On examining the parts after their removal, there was found considerable reproduction of bone.

Case VII.—K. A., three years of age, was admitted in January, 1882, with disease of the os calcis of some duration. The bone was removed in February, 1882. She was discharged April 20th, with the wound all closed, and able to walk well. Nothing has been heard from her since she left the hospital.

Case VIII.—Joseph M., six years of age, came under observation in February, 1882, with a history of disease of the bones of the left foot of some duration. There was a sinus over the astragalus through which carious bone could be detected. The foot was much swollen. On March 20, 1882, the sinus over the astragalus was enlarged, and that bone removed by gouging. It was then found that the anterior portion of the os calcis was diseased. The anterior two thirds were removed through an incision on the external aspect of the foot, leaving the posterior portion of that bone. The foot did well for a time, the anterior wound closing, but a sinus persisted posteriorly. In October, as the portion of the os calcis left was evidently diseased, it was removed. After this the wound closed, and he was discharged with a sound and useful foot. He has not been heard from since.

Case IX.—Edward L., two years and a half old, was admitted in September, 1882, with an extensive swelling on either side of the left ankle joint. Fluctuation was marked. He had been lame for some months. The abscess in the ankle joint was opened under ether, and the lower end of the tibia and the articular surface of the astragalus were found denuded of cartilage. The diseased bone was gouged and the joint drained. The abscess continued to discharge for some time, and then the sinus closed about the ankle joint, but a new opening formed over the anterior surface of the astragalus in front of the ankle joint. Subsequently the astragalus and the os calcis, which were found diseased, were removed. At the time of the operation there was no disease about the end of the tibia, and the bone was well covered. The patient was discharged from the hospital with a useful foot, all sinuses being closed. November 19, 1885, he was seen at the hospital. He has had no trouble with the foot since. Can walk well with a slight limp. The end of the tibia occupies a lower plane than that of the sound limb, so that the ankle joint is depressed. There has been some reproduction of bone.

Of these nine cases the os calcis was alone removed in seven, the os calcis and astragalus were removed in two. A useful foot was obtained in eight, and in one amputation had to be performed. In but one of these eight cases has there been any return of the disease in the other tarsal bones, and in this not until five years after the operation. All but three of the patients have been seen or heard from within the past year, and in all, with but one exception, has the foot continued in good condition, and the patient been able to walk and be about with other children without any inconvenience except a slight limp. In all there has been an obliteration of the plantar arch, with a tendency to walk upon the inner border of the foot. All complain that the inner side of the shoe is worn out first, but there has been no pain.

In regard to a partial removing or gouging of the os calcis for disease, my own experience has not been flattering. Although a faithful trial of this procedure was made in four cases, no permanent cure was obtained, and only after total extirpation of the diseased bone did the sinus close. In one case the bone had been operated upon three years before the patient's admission, with no apparent benefit.

Case II, where there existed a sinus leading into the center of the os calcis, in which was imprisoned a loose piece of dead bone, seemed very favorable for such an operation, yet it failed to stop the disease, and a total excision of the bone had finally to be performed. In another case the posterior third of the os calcis was left, as it was apparently healthy, but recovery did not take place until this, too, had been removed. I am well aware that others have obtained good results from partial excision or gouging, but perhaps it was in older subjects and under more favorable circumstances. My own experience is entirely opposed to a partial operation in children. Perhaps one cause of the want of success in these cases is the fact that the bone was sclerosed and incapable of filling up the cavity left by gouging.

I have never made a resection of the ankle joint in

children, although I have seen some cases of disease of this articulation—I mean in which the lower end of the tibia and fibula was extensively diseased. The patients made a good recovery.

THE PROBLEM OF ACCLIMATIZATION.*

By ISAAC HULL PLATT, M. D., Brooklyn,

ASSOCIATE PHYSICIAN TO THE DEPARTMENT OF THE DISEASES OF CHEST, ST. MARY'S GENERAL HOSPITAL, AND TO THE HOSPITAL FOR NERVOUS AND MENTAL DISEASES, BROOKLYN; MEMBER OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS, THE BROOKLYN PATHOLOGICAL SOCIETY, ETC.

Although the subject of acclimatization is a long-vexed one, and has led to much discussion from the various standpoints of the biologist, the anthropologist, and the physician, it appears to be in a very unsettled condition in the scientific mind, both as regards the limits of the changes classed under that head and the physiological laws by which they are governed.

This seems to be due, in a great measure, to the fact that the subject has never been approached in the light which the advance in the sciences of biology and anthropology in recent years is capable of affording.

While I have no new facts to offer, and no personal observations to record, it has occurred to me that a few suggestions in relation to the lines of thought by which the subject may be approached would not be out of place, nor devoid of interest to us, as students of medicine and climatology, and might, perchance, serve as a ferment in some mind more capable of the task to set in operation processes of thought and observation tending to the elucidation of the matter.

That such thought and observation are called for will be manifest to any one even glancing over the literature of the subject. While one class of writers speak of acclimatization of plants and animals as a matter of course, and of man as being the animal most capable of adaptation, others scout the idea of the human race being, in any degree whatever, subject to the modifications grouped under that head.

Mr. Alfred Russel Wallace, in the ninth edition of the "Encyclopædia Britannica," has, in his usual interesting and able way, presented the subject as it stands at present, with the arguments *pro* and *con*, but with the result of showing that we are still far from understanding the problems involved.

Mr. Wallace defines acclimatization as "the process of adaptation by which animals and plants are gradually rendered capable of surviving and flourishing in countries remote from their original habitats, or under meteorological conditions different from those which they have been used to endure, and which are at first injurious to them." The definition is important because much of the argument which has been adduced against the possibility of acclimatization will be seen to have no bearing upon the subject when brought to this test.

Many anthropologists and climatologists have denied the existence of acclimatization altogether. Knox even went so far as to assert that the white population in America and elsewhere out of Europe would die out if not replenished by immigration. Probably no one would make such an assertion at the present day; but Parkes, in his "Practical Hygiene," and Turner, in Buck's "Hygiene," deny, in a general way, the possibility of acclimatization in the human race, especially as regards malarial fevers, and they are far from standing alone in their position.

Common experience certainly seems opposed to this view. Nearly every one who has traveled has learned that, in undergoing even slight changes in atmospheric and telluric influences, slight disturbances of the system occur which pass away in a short time. It is a matter of common observation and remark that, while the natives of a region subject to any endemic disease show but slight susceptibility, new-comers fall its easiest victims, and foreigners who have been long resident enjoy comparative immunity.

The fact to which Dr. Westbrook called attention in his paper before this society last year—namely, that recent immigrants, more especially the Irish and their children, are peculiarly liable to consumption—must be a familiar one to all physicians whose practice brings them in contact with that class, and yet our fifty millions of people, probably as healthy and rapidly increasing as any in the world, are the descendants of immigrants, and a large proportion trace their ancestry to the Emerald Isle. After a few generations they show no special tendency to phthisis, certainly no more than the inhabitants of many of the old countries, including the British Islands.

Wallace, in the paper already referred to, quotes from notes furnished him by Dr. Richard Spruce, who resided many years in South America, to show the perfect acclimatization of the Spanish race in the equatorial regions of that continent. In Guayaquil and Piura, from latitude 2° to 5° south, where the mercury rarely falls below 80°, even at night, for months at a time, the white population is of Spanish descent, and of a high moral standard as regards the relations of the sexes, thus preserving it from admixture with the native races. The women are considered the finest on the Pacific coast; they are tall, handsome, healthy, and prolific; the men are large, stout, strong, and well nourished.

Dr. Spruce's notes also show examples of different portions of the same race of Indians, who have taken up their abodes in regions widely divergent in climatic conditions, and each become thoroughly adapted to its new environment. He says: "The warmth-, yet shade-loving Indian of the Amazon; the Indian of the hot, dry, treeless coasts of Peru and Guayaquil, who exposes his head to the sun with as much zest as an African negro; the Indian of the Andes, for whom no cold seems too great, who goes constantly bare-legged and often bare-headed, through whose rude straw hut the piercing wind of the *paramos* sweeps and chills the white man to the very bones—all these, in the color and texture of the skin, the hair, and other important features, are plainly of one and the same race.

"Now," he goes on to say, "there is a zone of the equatorial Andes, ranging between about 4,000 and 6,000 feet altitude, which is very desirable to cultivate, but where the red man sickens and dies. Indians taken down from the

* Read before the American Climatological Association, May 28, 1885.

Sierra get ague and dysentery; those from the plains find the temperature chilly, and are stricken down with influenza and pains in the limbs," thus showing that, while each has become acclimated to his peculiar habitat, even a partial change toward the conditions of the other branch of the race proves deleterious and in many cases fatal.

The history of the colonization of Algeria by the French is interesting and to the point. After the conquest, about 1845, continual attempts were made by the French to plant colonies there, and, for a number of years, with very little success. The mortality far exceeded the increase by births. The colonists died off, the fertility of the survivors became reduced, and it was prophesied by physicians and anthropologists that the attempt would prove a failure. After the first few years, however, the tide turned, the births exceeded the deaths in number, and the census of 1870 showed a large increase in French population, only a small proportion of which could be attributed to immigration.

Instances might be multiplied indefinitely of the adaptation of races to new surroundings, but it seems profitless in view of the fact that is now undisputed that the Aryan and Semitic races, springing from neighboring regions in southwestern Asia, have made for themselves homes and established nations in every quarter of the globe, proving conclusively that acclimatization as a race phenomenon has been co-extensive with the colonization of the greater part of the planet.

It has frequently and strenuously been denied that acclimatization can or does take place with regard to malarial and endemic fevers, and the argument to prove it is that Europeans are rapidly and fatally attacked by these fevers upon taking up their abode in the regions where they prevail. This certainly does not prove that acclimatization is impossible, but only that it is necessary, for by the definition we have seen that acclimatization is a process of gradual adaptation to influences at first injurious. If this susceptibility of new-comers did not exist there would be neither its need nor its possibility.

If we accept the modern views in biology we can not escape the conviction that acclimatization is not only a possibility, but an inevitable consequence of a change of climatic surroundings within certain limitations.

"The broadest and most complete definition of life will be," says Herbert Spencer, "the continuous adjustment of internal relations to external relations." * It is a universal principle with living organisms that within certain limitations they have the power of adaptation to their environment, and, if exposed to unaccustomed surroundings which fall short of producing such commotion as to terminate its life, the organism will, by a gradual process, undergo such functional and structural changes as to better fit it for its new environment. In fact, the biological law of adaptation is but one phase of an even more general law, for, according to Spencer, "it is a corollary from the persistence of force that any deviation effected by a disturbing cause, acting on some other member of a moving equilibrium, must (unless it altogether destroy the moving equilibrium) be eventually followed by a compensating deviation." †

* "Principles of Biology," § 30. † *Op. cit.*, § 68.

Nearly all the physical influences surrounding a human being, or any of the higher animals, are those which go to make up what we know as climate. The air he breathes, and in which he is constantly bathed; the temperature to which he is subjected; the moisture of the atmosphere, with its effect upon his cutaneous and respiratory organs; the emanations from the soil; the water he drinks; the food he eats; and the clothing he wears—are all either elements of climate or are determined by it. In fact, the climate to which he is subjected is practically co-extensive with his environment. Acclimatization is, therefore, as regards the human race and the higher animals, practically an equivalent expression with adaptation to environment which Mr. Spencer has shown is the fundamental law of biology.

Admitting, then, that acclimatization is a reality, it is evident that it will present itself in two different aspects—as a phenomenon in the life history of an individual and as affecting the races of mankind. In its ethnic aspect, it has been a concomitant of those great streams of emigration which have from prehistoric times poured out from the source of the Aryan race in the valleys of the Himalayas, ever advancing, carrying all obstacles before them, until they have overrun nearly the whole of Europe, portions of Asia and Africa, besides both Americas and Australia. In a lesser degree it has been illustrated by the career of the Jewish race, which, starting from Palestine, has wandered far and wide upon the earth, making itself homes in strange lands.

As students of climatology, and, as all physicians must be to some extent, of anthropology, this ethnic acclimatization has its interest for us, but, as practitioners, the matter of individual acclimatization is of more vital importance. Let us for a moment consider the new forces brought to bear upon the human organism by a new climate, the effect produced upon the organism, and its reaction.

Climates differ in their temperature, their humidity, the weight and density of the atmosphere, and in the degree of variation of each of these; also in the composition of the atmosphere and its impurities, and closely associated is the nature of the food and water-supply. Of course, in a paper like the present it would be impossible to analyze the effects of changes in each of these climatic elements upon the human organism, even if the physiological data were sufficiently well understood, and a mere suggestion is all that will be attempted.

As a general principle, any decided change in the climatic influences brought to bear upon the body will result in a change in the relative demand for functional activity of the various organs. The increased functional activity of one set will result in increased growth and development, while diminished activity of another set will lead to a corresponding atrophy, and in this manner a considerable amount of adaptation will be accomplished. For instance, suppose a person to go from a temperate to a hot climate. The demand upon the skin for increased work, in keeping down the body temperature, is at first greater than it is able to perform. In some manner the liver is deranged, our imperfect knowledge of the functions of that viscus not enabling us at present to say exactly how, but with the effect of caus-

ing hyperæmia and intestinal derangements. Without attempting to go minutely into the physiological changes induced by the increased temperature, certain things are evident. The relative activity of the excretory organs is deranged, greater work is called for upon the part of the skin, less is demanded from the lungs and kidneys. The call upon certain organs for work for which they are not prepared can not but result in its imperfect accomplishment, and consequent derangement of the system. But, upon the same principle that a muscle develops by increased use, or the eye or the hand becomes trained to greater skill by exercise, the organs upon which the greater demand is made must, if the organism survive the change, gradually adapt themselves to the increased activity by increased growth and development. The organs which are partially relieved of their function will undergo a corresponding structural involution, the balance of the system will be restored, and the organism adapted, so far as these disturbing elements go, to its new habitat. Accordingly, we find that in the inhabitants of hot climates the lungs and the kidneys are less developed than among the dwellers in the temperate zone, the skin and the liver more developed. In illustration of the changes wrought in the structure of the body by climatic influences, it has been shown that among the dwellers in high altitudes—for example, the Peruvians at an elevation of from 7,000 to 15,000 feet in the thin, cool atmosphere of those heights—the lungs become greatly hypertrophied and the body short and compact.*

There are many other elements in the series of changes which the body undergoes. The physiological action of heat upon the sympathetic and cerebro-spinal system of nerve-centers is first that of stimulation, followed by a secondary sedative action, which leads to diminished functional activity of the various organs considered collectively, and consequently the heat production of the body is diminished, as it should be in the course of adaptation to a tropical climate. Probably the effect produced by the climatic influences upon the nervous system has a large share in the adaptive changes. The food demanded by the tissues is of a less stimulating and less heat-producing character, less meat and fat, more fruits and vegetables. This change in an Englishman, for instance, accustomed to his roast beef and mutton-chops, will call for a training of the appetite and of the digestive and assimilative organs, and approximation to those of the herbivorous and fruit-eating animals. Much of the intestinal disturbance consequent upon residence or sojourn in hot climates is probably due to the need of adaptation in this respect. More or less change in other habits of the individual would become necessary, and would be made when experience had taught him its need.

Until the science of physiology is more fully understood, and the function of every organ and the histological changes going on therein are made a matter of more nearly exact demonstration, and the action and reaction of each organ upon every other clearly seen, we can not expect to ascertain the precise manner in which the innumerable influences which go to make up climate do their work. For the present, we must be satisfied if we can discern in them a harmony with general principles.

Turning again to the subject of race acclimatization, we find another factor of prime importance at work—namely, the principle of natural selection. By the dying off of the individuals whose vital energy is insufficient to endure the changed conditions of life, and the survival of those who have become best adapted to the change, the race would be propagated only by those individuals who, either by an accidental correspondence with the new conditions or by a process of adaptive changes, have come into harmony with them, and the progeny, inheriting the peculiarities of their parents, would continue down the generations, as race characteristics, the modifications of structure and function which render them suitable to their new habitat. That this process of race acclimatization does occur is shown by the rapid increase of the negro race in the Southern States, and by the fact that members of that race taken from temperate climates back to the tropical regions whence their ancestors came sicken and die of the same disorders as the whites who go there.*

One phenomenon has been often cited against the doctrine of acclimatization of races which, rightly considered, will be seen to be one of its most important factors. It is the fact that children of emigrants from any region to one widely differing from their own in climatic conditions are frequently deficient in vigor, especially as regards the function of reproduction, the women being sterile in many instances, and the race consequently nearly or quite dying out in the course of a few generations.

To a certain extent the power of procreation may be considered as an excess of vital power over and above that required to maintain the life of the individual; consequently, when the vital power becomes reduced by struggles with adverse surroundings, the reproductive function is the first to suffer, and, of course, if the change in climatic conditions is sufficient to extinguish it, the race will of necessity die out; but this only shows the limitation of the power of adaptation, not its non-existence; for, if the reproductive function be not extinguished but only limited, this very limitation will aid the process of natural selection by allowing the race to be propagated only from those individuals whose power to resist the injurious effects of the changed conditions has been greatest, and thus gradually bringing the race up to their standard.

Natural selection, then, has been an important factor in the changes produced in a race by change of climate. Is it not possible to regard it as taking a part even in the modifications of the individual organism? It is sometimes difficult to determine exactly what constitutes an individual. Of course it is easy enough to tell the difference between one man and two, but in some of the lower forms of life it is often a question whether an organism should be considered as an individual or as a community of individuals. Now, the body of man or any of the higher animals may be considered as a highly organized community, composed of distinct masses of protoplasm or cells generated one from another, each of which is in a sense an individual living

* D'Orbigny, "L'homme américain," i, pp. 96–113. Waitz, "Anthropology," p. 37. Walshe on "Diseases of the Lungs," 4th ed., p. 337.

* Martin on "Tropical Climates."

being, and each of which assimilates, excretes, reproduces, performs its function in the animal economy, and dies. The growth and multiplication and functional activity of these cells are dependent upon the play of molecular forces in the cells—that is to say, upon the entrance and exit of nutritive fluids into and from their interior, and the changes effected by the cells in such fluids and in their own walls.* If, therefore, we conceive of these forces being affected by the environment, as it would seem they must, it will be obvious that the law of natural selection has its part in the modifications wrought in the various organs of the body. For, if the cells going to the formation of any given organ or part of an organ differ in any degree among themselves, no matter how slight that difference may be, some of them must be better suited to the new conditions of life than others. From these, therefore, cell generation would be carried on to a greater extent than from the others, and the organs which they constitute, and the organism itself, would be correspondingly modified.

A change from a cool or temperate climate to a warmer one has been considered; other changes would operate in a similar manner. The converse, removal from a warm to a cool climate, would result in converse changes. Differences in humidity, acting upon the skin and respiratory organs in a somewhat similar way, would effect corresponding changes, and climates of wide and sudden fluctuations in regard to temperature or moisture, or both, would demand still further modifications of the organism, which would be brought about by the operation of the same laws which we have been considering.

The question of acclimatization to malarial influences is an exceedingly interesting one, but one which involves problems beyond our present power to solve. Admitting immunity from endemic malarial diseases, partial or complete, to follow long residence on the part of either an individual or a race in a region subject to their influence, we can scarcely do more than call attention to analogies between this phenomenon and certain other immunities from the injurious effects of noxious influences acquired by custom. Such is the toleration established for certain poisons —for instance, opium, arsenic, and tobacco—in those accustomed to their use. Of apparently like nature is the immunity from variola afforded by vaccination, and from various zymotic diseases by a prior attack. These are problems still awaiting solution; but, whether it shall be proved that these influences have added something to the protoplasm of the cells, or taken something from it, or produced changes in it by catalysis, or whether the changes shall be found to be in the constituents of the blood, all of which theories have been advanced to account for the phenomena, the phenomena themselves must of necessity be found to result in some manner from the changes in arrangement and composition of living matter, brought about by the new conditions to which they are exposed.

Enough has been said to show that the problem is a complicated one, but one which lies properly within the scope of physiological science. Its mastery will involve the solution of many of the most profound questions of biology—the actions of heat and cold, of dryness and moisture, upon the functions of the skin and lungs, the digestive and blood-making organs and the circulation, the kidneys, the glandular system, the cerebro-spinal and sympathetic nerve-centers, upon the action of the vaso-motor and trophic nerves, and the mechanism governing the production of animal heat, together with the reactions of the changed conditions of each of these upon the functions and structure of the organism. The influences of changes in the atmospheric pressure and consequent density upon the respiratory organs and the body in general must be considered, as well as the effect of sudden or gradual fluctuations in each of the climatic elements. The effects wrought upon the organism by the presence of diseased germs, the influence of changes in food and water, in clothing and habits of life, must all be considered.

It is evident, and becoming more fully recognized every day, that in the manifold conditions grouped under the term climate we have at our command, not one, but a host of hygienic and therapeutic agents, capable of exerting upon the human body influences potent for good if rightly used, but, like all other therapeutic agents, powerful for harm when used improperly. Hence it must be evident that any progress made in this branch of climatology will be of inestimable value, not only in the treatment of disease, but in the determination of the forces which are to go to the improvement and development of the human race.

DISCUSSION.

Dr. Shattuck thought the paper was extremely interesting, and suggested some points for discussion. Regarding acclimatization of the negro in the Southern States, he was reminded of what had been said by Dr. Miller in conversation last year. Dr. Miller said that consumption, which was formerly almost unknown among the negroes while they were slaves, had, at least in large districts of the South, become extremely prevalent, and was increasing in frequency and fatality. Of course the climate remained essentially the same. The explanation seemed to be that under slavery the negroes were all well cared for, their masters employed good physicians, and it was to their interest to look after the health of their slaves, and to provide them with enough to eat, sufficient clothes, and suitable dwellings. In other words, the negroes were entirely removed from the operation of the law of the struggle for existence and the survival of the fittest. At present their welfare was nobody's interest but their own, practically; there was nobody to look after them, and they were subject to the law before named. This seemed to be a sufficient explanation of the spread of consumption among this class of the Southern population. The speaker could not understand how any one could deny that there was such a thing as acclimatization. If one would simply take a walk in England and then in one of the New England cities he would no longer have any question about it. The New England population was originally of perfectly pure English blood, and the contrast in the appearance of the inhabitants of the two countries at present was certainly great. Something had brought about the change.

Dr. Westbrook wished to ask a question regarding the negro race of this country. He had understood the author of the paper to say it was increasing. He had recently seen some statistics going to show that it was not increasing. The mortality among the negroes in various parts of the States was very great, and the writer in question thought there was a tendency for the

* Carpenter's "Physiology," 8th ed., p. 437.

race to die out. Probably the reason was to be found in what Dr. Platt had stated concerning the negro's present and former condition.

Dr. Platt said he had not made a study of the increase of the negro race in this country, but the census showed a very great increase from 1870 to 1880. He had noticed recently in one of our magazines an article intended to quiet apprehension created by some alarmists that the whole nation was in danger of becoming Africanized by the rapid increase in the negro race, and the author showed that the great increase was only apparent, from the fact that the census of 1880 was much more complete than previous ones.

AN ACCOUNT OF A SUIT FOR DAMAGES

IN A CASE OF ALLEGED INJURY BY A BLOW ON THE EAR.

By GORHAM BACON, M. D.,

and D. B. ST. JOHN ROOSA, M. D., LL. D.

In this case both of the writers were called as witnesses, and, for the sake of convenience, we will give the circumstances relating to it according to our respective testimony.

Dr. Bacon's account of his experience in the case immediately follows:

I was consulted, about April 1, 1885, by Mr. X., who said that a suit for assault and battery with injury to the hearing was to be begun against him shortly in the courts, and he asked me if I would examine the child, whose hearing was said to have been injured by the blow, if permission were granted by the plaintiff. Having consented to do so, Mr. X. said that his lawyer would call in a few days and give the particulars of the case. The defendant's lawyer having written to the plaintiff's counsel, and not having had any reply, he made an appointment with me to call at the plaintiff's house and request an examination of the child whose hearing was said to have been damaged. On our arrival at the house, we found that the father of the child was out of the city, and had an opportunity of questioning the boy, who seemed to hear conversation addressed to him in rather a loud tone of voice. He seemed to be about eight years of age, poorly nourished, with a decided nasal twang to his voice, and breathed with the mouth wide open. His mother came in and said that her husband, Mr. Y., was out of town, but would return in a few days, and that he was perfectly willing to have a doctor examine the child, provided he were present himself at the time.

On the return of Mr. Y. to the city, he called at my office and made an appointment to bring his boy. He called on the appointed day, but without the boy, whom he was unable to bring, as he had contracted a severe cold in his head and he was in bed. He was obliged to shout at him in order to make him hear. He said he would call in a few days, which he did, but, as the boy was still unable to come with him, he asked that the proposed examination be made at his house. April 18th I called to see the child, Master Y. He was still confined to the house and was so hard of hearing that I had to shout to make him hear. Both parents were present and told me that Mrs. Y. and children passed the summer of 1883 at a hotel on the Long Island shore, Mr. Y. being absent, however, in Europe. The assault on the child by Mr. X., who, with his wife and children, was also staying at the same hotel, occurred during a week in August while Mrs. Y. was away and the children were left in charge of a colored nurse, who witnessed the blow. Mr. Y.'s children were in the habit of playing with those of Mr. X., and they said that the cause of the assault was a dispute between one of Mr. X.'s children and Master Y. over the possession of a butterfly. Mr. Y. said that his child was a year older than Mr. X.'s and much brighter. Mr. X. became very angry on hearing of the trouble between the children, and at first was going to cane Master Y., but instead brutally assaulted the boy, about an hour after the dispute, hitting him severely across the left side of the face and ear with his hand. Mrs. Y. returned from her trip in about a week after this and learned of the trouble from the colored nurse. After the blow, the nurse said that the boy complained immediately of pain about the left ear and of a buzzing noise. He was put to bed, and remained there that day and the following. The ear broke, but soon stopped running, and, when Mrs. Y. saw him on her return, the boy seemed to feel badly and still complained of a buzzing noise in his ear. The nurse applied some vaseline to the ear and side of his face. The boy played about after he got up from bed, but did not seem so bright as before. No doctor saw the child at this time. The parents stated, further, that the child had never had any aural disease previously, and that his hearing had always been good. He had measles and whooping-cough when three or four years old. He had always been a healthy child. They deny any hereditary tendency to deafness on the child's part, although I noticed, in talking with his father, that the parent's hearing was not perfect. Master Y. was in the habit of bathing and diving in the salt water during the summer. The noise in the ear, complained of after the blow, troubled him at times till about the middle of September, since which time he has not complained of any noise in either ear. In the early fall Mrs. Y. went with the boy to the mountains, where his hearing seemed to improve, but grew worse again on returning to New York. In October she took the boy to her family physician, who treated him for a short time. Since the occurrence of the blow Master Y. has been subject to head colds, and whenever he has had one of these colds his hearing has been affected; "it has gone to his ears." He hears better on dry, clear days. He breathes with mouth open during sleep. As the deafness seemed to increase, the parents took him to see Dr. Rounds, at the Ophthalmic Hospital, in March, 1884. He is under the doctor's care at present, and has been since the first visit in March. The hearing has been gradually improving of late, and two weeks ago he heard quite well. He has been confined to the house during the past week on account of a severe cold in the head, and the deafness has been very marked. There has been a discharge from the left ear, but none from the right one. He has had pain in both ears, but more in the right one. Mrs. Y. applied an onion to each ear and dropped camphorated oil into both canals.

Examination.—Master Y., aged eight, anæmic, poorly nourished, has a dazed or stupid appearance; breaths with mouth open. On closing the mouth, he breathes with difficulty through the nose. He has chronic naso-pharyngeal catarrh with hypertrophy of the tissues in the nasal passages. The left nasal passage is more obstructed than the right. The septum nasi deviates to the left side. He has chronic pharyngitis with thickening of the palatal folds; tonsils not enlarged; uvula elongated.

Right membrana tympani congested and swollen; epidermal layer sodden and coming off; also from the inner end of the canal. Left membrana tympani presents almost the same appearances, although less congested. No perforation seen in either ear.

Hearing distance, watch, right ear, contact; left ear, contact. When very close to him he hears loud voice in the right ear and very loud voice in the left ear. Tuning-fork, when vibrating and placed on the vertex cranii and teeth, heard with

the same intensity in each ear. The bony conduction is much better than the aërial.

After inflation by Politzer's method the hearing distance was much improved, and the difference in the hearing power between the two ears was then much less marked. By means of the diagnostic tube it was perceived that air passed more readily through the right than through the left Eustachian tube.

At the trial both parents told their side of the story substantially as I have given it, with one exception, however, that after the blow they said the boy had pain in the ear and side of the face; but they did not mention any buzzing noise or discharge from the ear at the time.

The colored nurse who had charge of Master Y. in the absence of the parents testified that Mr. X. made a sudden attack on the boy while he was at her side; that he struck him such a severe blow that the boy fell over against her, and that he was ill for several days and complained of pain about his ear. The plaintiff produced four or five witnesses who testified that they had frequent opportunities of observing Master Y. up to the summer of 1883, when he left town, and that they had observed no difficulty with his hearing. Among these were his two school-teachers and a lady at whose house he was frequently engaged in playing with the children.

The defendant, Mr. X., testified that he saw Master Y. at the hotel on the Long Island shore in July, 1883. He was boarding there at the time for a few months with his wife and three children. He went back and forth occasionally to New York. His oldest child was four years old, his second two years and a half, and the youngest only eighteen months. There were thirty or forty guests at the hotel. He said, further, that a few days preceding the occurrence for which this action was brought he saw Master Y. annoy his youngest child and attack his children. He used obscene language to them. He saw him run down his youngest child on the lawn. Two days after he saw Master Y. walk up to his second youngest, who was standing under a tree playing with a toy express-wagon, and snatch the wagon away from him with such force as to throw him down and injure him. He then said to the boy, "If you hurt my child again I shall be obliged to punish you." On the day of the occurrence of slapping the boy Mr. X. testified that he was sitting reading on the hotel piazza. A lawn was in front of it about four hundred feet wide, on which were a number of trees and bushes. About 11 A. M. he suddenly heard screams from the opposite end of the lawn, and immediately afterward the nurse who had his child in charge came running toward him alone and called him. He ran to the child and found him lying on the ground and panting and very blue in the face. He had been ill and had been carried out to the place on the lawn. Mr. X. carried him up stairs, and, while doing so, saw Master Y. running from the spot. The witness further said that he looked then for Master Y., but, not finding him, returned to the piazza to read. About half an hour after, while still on the piazza together with his wife and several other ladies, the colored nurse who had charge of Master Y. came up leading the boy by the hand and said, "Here is ——." Mr. X. then said, "——, have I not told you that if you hurt my children again I would punish you?" He did not reply, and, thinking that the nurse had brought him up to be punished, Mr. X. with the right hand gave him a slap on the left cheek, which did not stir him an inch. The nurse did not say anything about hurting the child. The boy walked away with the nurse and was crying a little. The defendant further testified that he did it simply to protect his children; that he had no malice, but rather pitied the boy. He saw him coming into dinner that day, saw him repeatedly in the afternoon the next day, and every day as long as he remained at the hotel. He did not notice any difference in his actions or condition after that day, except that he did not go near his children again.

The nurse having charge of Mr. X.'s children testified that Master Y. was in the habit of annoying the defendant's children; she told of the quarrel between the children over the possession of the butterfly, how Master Y. kicked her child, and how she called to Mr. X. for help.

Mrs. X. and other ladies on the piazza at the time testified that they saw Mr. X. carry his child in when hurt, and that he did not injure Master Y. at all by the slap he gave him. They further said that the boy was playing around as usual all of that day, and they noticed no difference in the child's actions; noticed no mark about the face or ear. The wife of the proprietor of the hotel said that she examined the boy's face soon after the slap and saw no swelling of any kind; that he sat beside her at dinner that day and ate and seemed as well as ever.

A gentleman who was in the habit of being frequently with the children at the hotel said that before the boy was slapped he noticed that Master Y. at times did not hear well, and he had to repeat his questions to him; that the boy was in the habit of bathing and remaining in the water a long time.

The foregoing is substantially the testimony that was presented in regard to the nature of the blow, although not a verbatim report. The following testimony is from the stenographer's notes, but with some verbal omissions:

Testimony of Dr. William T. White, a witness sworn on behalf of the plaintiff.—I have attended Mr. Y.'s family. I am not a specialist in diseases of the ear. In my practice as a physician I have treated diseases of the ear. I treated Master Y. in October, 1883, for trouble with the ear. There was an abscess, and I treated him five days and then dismissed him.

Cross-examination.—I mean by an abscess a discharge of pus. I can't tell from which ear, but there was a discharge of pus.

Re-direct examination.—I can not tell the primary cause of the pus; there was inflammation, of course, preceding the formation of pus. A severe blow on the ear might create inflammation of the drum of the ear.

Re-cross-examination.—I can't tell what I did for the ear. I treated it on general principles. I examined the ear, but not with Politzer's inflation, etc. I found there was an abscess there, or running of pus from the ear, and I treated it as I did any other abscess. I never was called in afterward that I recollect.

Testimony of Dr. W. E. Rounds, a witness sworn on behalf of the plaintiff.—I have made a special study of diseases of the ear. I am connected with the New York Ophthalmic Hospital as surgeon. I became acquainted with this boy (Master Y.) in April, 1884. From that time to the present I have seen the boy on an average once a week. I have treated him for deafness in both ears, I believe more especially the right ear. Both ears were affected. He has catarrhal inflammation of the ear-drum. I have known inflammation of the drum to result from a blow. There is inflammation of the drum.

Q. Suppose a boy had been suffering from catarrh in the head and was struck a severe blow on the ear, in what way would that affect his hearing?

A. It might set up an inflammation of the drum, I think such an inflammation as I observed in this boy. I could not positively swear that that condition was due to a blow, although I would say that it might be.

Q. Assuming that the boy's hearing was perfect up to the time he was struck, and from that time complaint was made as to defect in his hearing, and, when he came to you, you found him in the condition that you have stated, and suppose you had been told that prior to the summer of 1883 this boy's hearing

had been apparently perfect, and that then he had received a severe blow on the right ear, and that succeeding that you had, in April, 1884, found the boy's hearing in the condition that you found it, to what would you attribute his condition?

A. Unless there were evidence, I could not in fairness answer that. I could attribute it to anything which had produced the inflammation. If there were evidence of a blow there, I might attribute it to a blow. I did not find any such evidence of a blow. A blow might set up an inflammation which would continue and produce deafness. I believe inflammation might exist as the result of a blow without my finding, seven months after the blow had been struck, the traces of a blow itself.

Cross-examination.—I found this boy suffering in April, 1884, with naso-pharyngeal catarrh and an unnaturally opaque condition of the drum-membrane. I have seen such conditions produced by a catarrh. Catarrh is an affection of the middle ear, the drum. Catarrh is an inflammation of the mucous membrane wherever you find it. In connection with the middle ear, it is not always an inflammation of the Eustachian tubes; it may be of the drum-cavity, and sometimes of the nasal passages also. When I examined this boy I found that he did have a catarrhal condition of the nose, pharynx, and ear. I think that condition had existed for some time: I couldn't say how long. It was a chronic condition. It had existed, I should say, for a number of months. I should say in his case it had been standing eighteen months or a year; I wouldn't say positively. Some cases become chronic sooner than others. That condition may come from other causes than a blow, but I have known of cases of inflammation of the drum being set up by a blow upon the ear. An inflammation of the drum must be catarrhal. The most common causes of a catarrhal condition of the ear are sudden atmospheric changes, colds in the head, and anything which produces an inflammation of the mucous membrane. I recorded this case in my note-book at the hospital as one of chronic catarrh of the middle ear. Of course, I couldn't see the drum-cavity. The drum-membrane had an unnaturally thickened or opaque condition and was drawn in, pushed in farther than normal. That is all I remember about the case. I think that catarrh might be produced by a blow under certain circumstances. I think a blow upon the ear might produce an inflammation of the middle ear. I don't say that it could produce a catarrhal condition of the Eustachian tubes and the nasal passages. I have recorded that the right ear was more inflamed than the left, that the hearing was more diminished in the right ear than in the left. He is deaf in both ears. Inflammation in the ear opposite to the side of the face on which a person was struck probably could not be produced by a blow upon the side of the face opposite to the ear in which the inflammation appears. There was inflammation in both ears. A blow might produce an acute inflammation in the ear that was already affected. Inflammation in the right ear-drum would not of necessity affect the left ear; I don't think it would naturally; one would not of necessity depend upon the other. If I had a case in which there was a catarrh of both ears and the trouble was acute in one, I could readily see how that trouble could have been aggravated by a blow upon the ear on the side where the blow or slap had been given. In this case it was in the right ear. All that I remember about the case, when I saw it at first, is as it is reported in the records. As nearly as I can remember, the deafness then was greater on the right side; and as to the inflammatory condition, there was no apparent difference between the ears. It was a chronic condition. I have treated him off and on since then for catarrhal deafness.

Re-direct Examination.—I think a blow would be more likely to set up an inflammation where a person was suffering from chronic cold in the head and his nasal organs were affected than if the ear was healthy; it would be more likely to aggravate the disease. I can't swear from memory in which particular ear this deafness was. I can only swear to my impression.

Testimony of Dr. Gorham Bacon, a witness sworn on behalf of the defendant.—I devote my attention to diseases of the ear. I am surgeon at the New York Eye and Ear Infirmary. I made an examination of Master Y. two weeks ago. (The testimony in regard to the boy's condition, as given on the witness stand, is similar to that already given at the beginning of this paper.)

Catarrhal deafness is a disease of the middle ear and the Eustachian tubes. (The witness here explained on the model presented to him the location of the different parts of the ear.)

Chronic naso-pharyngeal catarrh affects the middle ear by means of the Eustachian tube, which is lined by mucous membrane, as well as the nose and posterior part of the pharynx. The Eustachian tube (one on either side) opens into the side of the naso-pharynx or back part of the throat, so that catarrhal inflammation affecting the nose and naso-pharynx proceeds up the tube to the middle ear. The Eustachian tube allows a proper ventilation of air to the middle ear, so that the pressure on both sides of the drum-membrane may be equal. When the Eustachian tube is closed by catarrhal inflammation and the parts are swollen, the air does not properly enter the Eustachian tube, and, consequently, the pressure of the atmosphere pushes the drum-membrane inward and interferes with the hearing. The ventilation is also communicated through the nasal passages. A healthy patient should breathe with the mouth closed, and the air should pass through the nose and Eustachian tube into the middle ear. A catarrhal inflammation, when the patient is not able to breathe through the nose, and he breathes through the mouth, interferes with the proper ventilation of the middle ear, so that changes take place there and the hearing is interfered with in that way. I found in my examination of this boy that there was a closure of the Eustachian tube of each ear, and, by forcing air through the tubes into the middle ears, and in this way removing the obstruction of mucus, that the patient heard very much better; it improved the hearing very materially. That introduction of air was by Politzer's method of inflation. I inflated both ears, and, by means of a tube, I connected my ear with the ear of the patient on either side, and heard in each middle ear the bubbling sound characteristic of the presence of mucus in the middle ear. I tested the boy's hearing with regard to the condition of the internal ear by means of the tuning-fork.

By vibrating a tuning-fork and then holding it just a little in front of the ear, and afterward placing it back of the ear on the bone, if the patient hears the tuning-fork louder when it is placed on the bone than when it is held directly in front of the ear—that is, when a patient is deaf—it shows that the trouble is in the middle ear, and not in the labyrinth or nerve. This boy heard the tuning-fork better by bone conduction in each ear, showing that the trouble in each ear was dependent upon middle-ear disease, and that the nerve was not affected. I couldn't tell how long this chronic catarrh of the middle ear had existed. I could only say that in this child's case it had probably existed several years on account of the obstruction and thickening of the mucous membrane in the nasal passages and naso-pharynx. An opaque condition of the membrane, accompanied with inflammation, is an indication of chronic catarrh. The usual symptoms of rupture of the drum-membrane include sharp pain at the time; there may or may not be some bleeding from the ear; there usually is. The patient is apt to be dizzy, and often vomits; is sick at the stomach, has a staggering gait, is unable to walk, and has a ringing noise in the ear. I should say that a slap upon the face of a child such as this boy was two years ago, which was not sufficient to move him from

a perpendicular line or throw him over, would not in any way affect his hearing. Catarrhal deafness can not be produced by a blow. Mouth-breathing is invariably a sign of the presence of catarrh when a patient habitually breathes with the mouth open. A slap or blow upon one side of the face could not produce deafness on the other side of the head unless it produced concussion of both nerves, and, from an examination of the patient, there was no trouble with that part of the ear. The indications of catarrhal deafness were precisely the same in both middle ears. Repeated immersion of the body in water during a series of days or weeks in one predisposed to catarrhal deafness increases it, and, in some cases where the water enters the auditory canal so that it passes down against the drum-membrane, it produces inflammation of the drum-membrane and middle ear. In summer we have a great many patients at our hospital that suffer from inflammation of the middle and external ears from sea-bathing and diving. If a slap or blow is given a boy on the first of August, and is followed by a discharge of pus in the latter part of October, it could not be attributed to the blow unless the boy had a chronic discharge from the ear from the time of the blow. Otherwise there would be no connection between the two. An abscess in the ear usually means a discharge from the external ear. The discharge may come from the middle ear, but, in order to come from there, there must be mucus in the discharge, as the lining of the external ear is not mucous membrane, and, consequently, unless there is rupture of the drum-membrane, there can not be a discharge of mucus. A very frequent cause of a discharge of pus from the ear is the presence of a boil or small abscess in the external auditory canal—that is, in that portion of the ear outside of the drum-membrane. Catarrh is a frequent cause of deafness in children, especially in the climate of New York, where the changes in the weather are so frequent.

Cross-examination.—Mr. Y. was to have brought the boy to my office for an examination, but he said that the boy had been confined to the house on account of a recent cold in the head or catarrhal attack, and gave me permission to examine him at his house. Mr. X. had asked me to make the examination.

Q. Be kind enough to tell us if that was not the reason why you were employed, because the defendant doubted that there was any trouble with the boy's hearing?

A. He had his doubts. I don't remember Mr. X. saying that he didn't believe there was any trouble with the boy's hearing. He had a letter of introduction to me, and asked me if I would examine the boy and find out exactly what was the matter with him—whether there was any deafness. On the first occasion when I called with Mr. ——, Mr. X.'s lawyer, Mr. Y. was not at home. I did not then make an examination. I saw the boy playing in front of the house in the area. I did not speak to him then.

Q. In which ear is there the greater trouble?

A. There is no difference, so far as I know. There was an affection of both ears—a catarrhal affection. When I made my first examination, I found that the deafness was greater on the left side. After forcing air, however, through both Eustachian tubes into the middle ears, the deafness on both sides was very nearly equal; it was a little greater on the left side, owing to there being more catarrhal trouble on the left side of the nose, which would account for that. In nasal catarrh there are usually changes in the middle ear; there may not be any appreciable deafness, but, on testing the patient with the tests that we have for hearing, we find that the hearing very often is greatly impaired.

Q. You know that the hearing of any two people is not the same?

A. In the normal ear there is very little difference in the hearing distance. Patients very often don't know that they are deaf, the same way that they don't know that the eyesight is not good.

Q. You would call a man that didn't know he was deaf, scientifically deaf?

A. I would, although he thought he was not deaf. A person afflicted with chronic catarrh in the head is apt to have his hearing affected, although you can not tell without an examination of the ear. This boy had chronic catarrh in the head, nose, and back part of the throat. I do not know that a person's hearing is more sensitive when he is afflicted with a chronic catarrh of the head, and that a blow upon such a person is more liable to interfere with the hearing. I don't understand what you mean by sensitive. If you mean that the drum-membrane is more liable to be ruptured in a patient who has chronic catarrh, and there are changes in the drum-membrane, I say yes. The ear is not necessarily more liable to become inflamed. There is a very great difference between an inflammation of the drum-head and a rupture of the drum-head. A congestion of the drum-head is what is usually termed a redness; the vessels are more dilated, and the part, by examination, appears red and dry, and afterward may throw out some exudation. A rupture is an opening in the drum-membrane—a hole in the membrane. In certain rare cases I have known of people becoming deaf from a blow on the ear. A little child is not more sensitive than a grown person, and his organs of hearing are not more liable to be affected by inflammation from a blow; they are not so liable to be injured. In a climate like this almost everybody has some slight catarrhal trouble. I know there is a sympathy between the organs of the body through the sympathetic system. An affection of one eye will affect the other in certain diseases. That is not necessarily so with the ear, though there is apt to be in a catarrhal patient more or less sympathy between the ears; in catarrhal diseases there is usually an affection of both ears. A deafness from meningitis very often affects one ear. Meningitis is an inflammation of the membranes of the brain that may affect the nerve of one side and not in any way impair the other.

Q. Suppose you had been told that a little boy about six years old who had previously been free from any impairment of hearing (he may have been scientifically deaf, but not in fact) had received a severe blow on the left ear, and that from that time on, or from within two months after that on, his hearing in that ear had been impaired, would you ascribe that impairment of hearing to the blow?

A. I should not. The blow might affect his hearing, but I couldn't say it was necessarily the blow that did it, because I have so many patients come to me complaining of deafness from such a cause, and I find catarrhal difficulty in both ears.

Q. A person suffering from catarrhal difficulty can be more readily made deaf by a blow or shock?

A. If it affects the nerve or ruptures the drum-head.

Q. How if it inflames the drum-head?

A. There is no such thing as inflammation of the drum-head alone. A rupture of the drum-head may be followed by inflammation immediately. Inflammation of the drum-head is not generally classified separately now. There is such a thing as the drum-head being inflamed. It can result from a blow, or from what is called salt rheum or eczema of the external auditory canal, or from an abscess in the external part of the ear extending down to the drum-membrane.

Q. What would create such an abscess?

A. Some constitutional tendency to the formation of pus. It is possible for inflammation of the drum-head to be caused by a blow, but an inflammation of that kind does not in any way affect the hearing in the other ear unless it produces con-

cussion of the nerve of the opposite ear, which it does not do as a usual rule. As a rule, it does not affect the other ear at all. The blow does not affect the catarrh, although a person suffering from chronic catarrh in the head is more liable to deafness from a blow under certain conditions. In this case the blow might possibly have affected the hearing in both ears if it had produced concussion of the nerve. I couldn't tell whether it had produced concussion of the nerve at the time of the blow, if he had recovered from that. I could only say that the nerve was all right in both ears at the time that I examined them. Nobody could tell whether he had suffered from concussion of the nerve at the time of the accident unless he had examined him then.

Q. So that after the lapse of two years you couldn't really tell what had affected the boy's hearing?

A. You couldn't absolutely tell.

By the Court.—Q. Would there or would there not be an indication of a concussion of the nerve so late as when you made this examination?

A. I tested with the tuning-fork and found that at the time of the examination there was no trouble with the nerve. He might have had concussion of the nerve at the time, but it might have been entirely recovered from. There was no evidence that there had been any concussion of the nerve on either side at the time I examined him. If there had been any concussion of the nerve, it could not have caused the deafness that existed at the time I examined him. I could tell absolutely that the trouble was in the middle ear at the time of the examination. I couldn't tell whether there had been an inflammation of the drum-head at the time of the accident. I found inflammation in both drum-heads. He had a fresh attack of catarrh. I found more inflammation in the right ear. He heard better in the right ear, although there was more inflammation in the drum-head, shown from the discharge in the right ear. He heard better on the side where there was the most inflammation. Inflammation of the drum-head does to a certain extent cause deafness in certain cases, but it does not make people absolutely deaf. A chronic catarrhal inflammation of the nasal organs is apt to interfere with the hearing materially; it generally does; it is very apt to extend up the tubes to the ears. Some patients are absolutely deaf from catarrhal deafness, from catarrh of the nasal organs, when it extends up the Eustachian tubes. If it does not extend up the Eustachian tubes to the ear, it does not affect it. I have never heard of catarrhal affection of the nasal organs alone making a man deaf. People are deaf who do not suffer from any catarrhal affection of the nasal organs. I placed the tuning-fork in this case back of the ear and on top of the head. The patient very often does not hare it at all when placed on top of the head if the hearing is normal. It does not follow if he does not hear it that he is deaf, but it is an indication of deafness, and shows that either he has some trouble of the internal ear, or else that his hearing is perfect.

Q. If he does hear it, it shows his hearing is imperfect?

A. It does not. It shows the nerve is affected if he does not hear it, or else it is a normal ear. A patient with normal hearing hears the tuning-fork, if placed alongside of the ear, quite plainly in either ear; if it is then placed on top of the head, he may hear it very slightly or not at all. If you place a tuning-fork on a man's head and he does not hear it, it is an indication either that his hearing is good or else that both nerves are affected.

Q. If he does hear it, is that an indication that his hearing is bad?

A. Not necessarily—under certain conditions. If a patient complains of deafness, and the auditory nerve is not affected, he will hear the tuning-fork much better, if placed on the top of the head, in the affected ear, while, if the nerve is affected, he will not hear it on that side by bony conduction. In this case, when I placed the tuning-fork on the top of the head and behind the ear, he heard it much louder in both ears than when I held it at a distance from each ear. He said he heard it when I placed the tuning-fork on the head and on the bone behind each ear. I then held the tuning-fork about three inches in front of each ear, and he said that he heard it not at all or very faintly. This experiment with the tuning-fork indicates whether there is any trouble of the internal ear or of the middle ear if the patient complains of deafness.* The boy was not in bed at the time. I was told that he had been. I found the hearing worse in the left ear than in the right. All I know is from what the boy answered and the expression of the patient's countenance, as they generally express some pleasure when they hear the sound. I noticed each time from the expression that he heard it. I have heard of catarrh becoming chronic in six months. From the condition of the passages of the nose, the back part of the throat, and the upper part of the pharynx, where the Eustachian tubes enter, I am able to say, in this case with accuracy, that the naso-pharyngeal catarrh had existed more than six months. I found much more thickening, much more obstruction of the nasal passages, than there would have been in six months. I discovered that by getting him to breathe and inspecting the parts with a speculum. I am positive that it had existed more than six months. I don't remember whether Mr. Y. told me, but I was told that the patient had had frequent colds in the head. It was either Mr. or Mrs. Y.; they were both in the room; and they told me that, when he had cold in the head, his hearing was apt to be affected. They told me that condition existed only since the accident. I concluded that it had existed before the accident. I could say that it had existed two years—from the condition of the nasal passages and of the throat—and probably three or four years. Everybody that bathes does not become deaf, though it is very frequent in summer for people who bathe to become deaf. Most of the acute cases that come to the hospital in summer are from sea-bathing, either ruptured drum-head, from the force of the waves in surf-bathing, or inflammation of the drum-membrane or middle ear. It is not necessarily from a single shock, though it does result from a blow of the wave on that side of the ear. It will develop immediately if it ruptures the drum-head, but the presence of the water itself in the ear may set up a gradual inflammation, or it may result from particles of sand in the ear, or things that are apt to be in the water in surf-bathing. The chronic thickening of the nasal passages in this case, and of the back part of the throat or naso-pharynx, where the Eustachian tubes enter, indicated that this was not a sudden cold. There was a good deal of what is called connective tissue thrown out, or thickening of the parts there, and the nasal passages were very much congested, so that he could only breathe with extreme difficulty. I had no means of determining how long this condition had existed but my experience in similar cases of catarrh. You do not have such changes, such thickening and narrowing of the nasal passages, and thickening of the naso-pharynx, in a boy of that age, in six months. I should say that had existed

* From the stenographer's notes the testimony in regard to the use of the tuning-fork is not very plain. What I intended to say was that, in some patients with normal hearing power, when a tuning-fork in vibration is placed on the head, it is not heard at all or very slightly. If, however, the patient suffers from deafness in both ears, and the tuning-fork is heard not at all or very slightly by bony conduction, while by aërial conduction it is heard fairly well, it is probable that the internal ears are affected.—G. B.

at least three or four years. I examined the boy about two weeks ago. Of course I could only tell what I found at that time.

(*To be concluded.*)

Book Notices.

A Reference Handbook of the Medical Sciences, embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by Chromo-lithographs and Fine Wood Engravings. Edited by ALBERT H. BUCK, M. D., New York City. Volume I. New York: William Wood & Co., 1885. Pp. vi–808.

WHEN it became known that Dr. Buck had undertaken the preparation of this cyclopædia, it was generally expected that the work would prove to have been exceedingly well done. This expectation will not be disappointed; the volume before us is quite worthy to be ranked with those issued in French by Jaccoud and Raige-Delorme and Dechambre, and with Eulenburg's "Real-Encyclopädie." The pages are very large, double-columned, and closely printed. The subjects are treated of in alphabetical order, and the volume closes with the article on "Cataract." The work is freely illustrated, and most of the cuts are very good. We must say, however, that we attach but little value to the colored plates, four in number; except the second one, showing the spectrum of blood, none of them, we think, give a very accurate idea of what they are intended to represent.

Within the space at our command, a detailed criticism of the work is out of the question. We can only say that the writers seem to have been judiciously selected, and their articles carefully prepared. Besides the choice of authors, the difficult problem has had to be solved by Dr. Buck of how much space should be allotted to the various subjects; and in this matter, it seems to us, he has shown rare discretion. The work is unquestionably one of the most important that have ever been published in this country, and it constitutes a storehouse of information that no one interested in medicine can well afford to do without.

The contributors to Volume I are the following: Willis J. Abbot, LL. B., of Chicago; Gorham Bacon, M. D., of New York; Frank Baker, M. D., of Washington; Elias H. Bartley, M. D., of Brooklyn; E. A. Birge, Ph. D., of Madison, Wis.; Albert N. Blodgett, M. D., of Boston; W. P. Bolles, M. D., of Boston; L. Bremer, M. D., of St. Louis; William N. Bullard, M. D., of Boston; Frank Buller, M. D., of Montreal; Charles H. Burnett, M. D., of Philadelphia; Arthur T. Cabot, M. D., of Boston; Donald M. Cammann, M. D., of New York; Russell H. Chittenden, Ph. D., of New Haven; W. J. Conklin, M. D., of Dayton, O.; William T. Councilman, M. D., of Baltimore; Edward Curtis, M. D., of New York; Charles L. Dana, M. D., of New York; N. P. Dandridge, M. D., of Cincinnati; D. Bryson Delavan, M. D., of New York; Hasket Derby, M. D., of Boston; Henry Fleischner, M. D., of New Haven; William H. Flint, M. D., of New York; Eugene Foster, M. D., of Augusta, Ga.; Frank P. Foster, M. D., of New York; George B. Fowler, M. D., of New York; James M. French, M. D., of Cincinnati; William W. Gannett, M. D., of Boston; William Gardner, M. D., of Montreal; George W. Gay, M. D., of Boston; H. Gradle, M. D., of Chicago; John Green, M. D., of St. Louis; Charles E. Hackley, M. D., of New York; Allan McLane Hamilton, M. D., of New York; Charles Harrington, M. D., of Boston; Frederick P. Henry, M. D., of Philadelphia; William B. Hills, M. D., of Boston; Charles B. Kelsey, M. D., of New York; William G. Le Boutillier, M. D., of New York; Henry Leffmann, M. D., of Philadelphia; George W. Leonard, M. D., of New York: R. L. Macdonnell, M. D., of Montreal; Lewis L. McArthur, M. D., of Chicago; Walter Mendelson, M. D., of New York; T. Wesley Mills, M. D., of Montreal; James L. Minor, M. D., of New York; Charles Sedgwick Minot, M. D., of Boston; William Oliver Moore, M. D., of New York; William H. Murray, M. D., of New York; John H. Musser, M. D., of Philadelphia; William Oldright, M. D., of Toronto; Henry F. Osborn, Sc. D., of Princeton, N. J.; Roswell Park, M. D., of Buffalo; T. Mitchell Prudden, M. D., of New York; Mary Putnam Jacobi, M. D., of New York; Leopold Putzel, M. D., of New York; Joseph Ransohoff, M. D., of Cincinnati; J. C. Reeve, M. D., of Dayton, O.; Huntington Richards, M. D., of New York; M. H. Richardson, M. D., of Boston; Henry A. Riley, of New York; George Ross, M. D., of Montreal; Irving C. Rosse, M. D., of Washington; T. E. Satterthwaite, M. D., of New York; William T. Sedgwick, Ph. D., of Boston; N. Senn, M. D., of Milwaukee; Samuel Sexton, M. D., of New York; Francis J. Shepherd, M. D., of Montreal; Charles Smart, M. D., of the army; M. Allen Starr, M. D., of New York; Thomas L. Stedman, M. D., of New York; Henry W. Stelwagon, M. D., of Philadelphia; George M. Sternberg, M. D., of the army; James Stewart, M. D., of Montreal; Lewis A. Stimson, M. D., of New York; Samuel Theobald, M. D., of Baltimore; William G. Thompson, M. D., of New York; William H. Thomson, M. D., of New York; L. McLane Tiffany, M. D., of Baltimore; Arthur Van Harlingen, M. D., of Philadelphia; William L. Wardwell, M. D., of New York; Charles Ware, M. D., of New York; J. Collins Warren, M. D., of Boston; Leonard Weber, M. D., of New York; Edmund C. Wendt, M. D., of New York; Moses C. White, M. D., of New Haven; George Wilkins, M. D., of Montreal; Charles F. Withington, M. D., of Boston; John McG. Woodbury, M. D., of New York; and W. Gill Wylie, M. D., of New York.

BOOKS AND PAMPHLETS RECEIVED.

Lectures on the Diseases of the Nose and Throat, delivered during the Spring Session of Jefferson Medical College. By Charles E. Sajous, M. D., Lecturer on Rhinology and Laryngology in the Spring Course of Jefferson Medical College, etc. Illustrated with One Hundred Chromo-lithographs, from Oil-paintings by the Author, and Ninety-three Engravings on Wood. Philadelphia: F. A. Davis, Atty., 1885. Pp. xii-439.

The Blot upon the Brain: Studies in History and Psychology. By William W. Ireland, M. D., Edin., formerly of H. M. Indian Army, etc. New York: G. P. Putnam's Sons, 1886. Pp. viii–374. [Price, $3.]

The Transactions of the Medico-chirurgical Society of Edinburgh. Vol. IV—New Series. Session, 1884–'85. Edinburgh: Oliver & Boyd, 1885. Pp. xxvi–286.

Lehrbuch der Physiologie für akademische Vorlesungen und zum Selbstudium. Begründet von Rud. Wagner, fortgeführt von Otto Funke, neu herausgegeben von Dr. A. Gruenhagen, Professor der medizin. Physik an der Universität zu Königsberg i/ Pr. Siebente, neu bearbeitete Auflage. Mit etwa Zweihundertundfünfzig in den Text eingedruckten Holzschnitten. Siebente Lieferung. Hamburg u. Leipzig: Leopold Voss, 1885. Pp. 273 to 432, inclusive.

The Extra Pharmacopœia, with the Additions introduced into the British Pharmacopœia, 1885. By William Martindale, F. C. S., etc. Medical References, and a Therapeutic Index of Diseases and Symptoms, by W. Wynn Westcott, M. B. Lond., Deputy-Coroner for Central Middlesex. Fourth Edition. London: H. K. Lewis, 1885. Pp. 416.

The Medical News Visiting-List, 1886. Philadelphia: Lea Brothers & Co., 1885. Pp. 240.

Aids to Medicine. Part III. By C. E. Armand Semple, B. A., M. B., Cantab., etc.—Aids to Gynæcology. By Alfred S. Gubb, L. R. C. P., M. R. C. S., etc.—Aids to Surgery. By George Brown, M. R. C. S., L. S. A., etc.—Aids to Obstetrics. By Samuel Nall, B. A., M. B., Cantab., etc. New York and London: G. P. Putnam's Sons, 1855. Pp. viii–112; iv–76; iv–72; viii–142. [Prices, 25 and 50*c.*]

Bodily Posture in Gynæcology. By S. J. Donaldson, M. D., New York. [Reprinted from the "American Journal of Obstetrics."]

Announcement of the Twenty-sixth Annual Course of Instruction at the Miami Medical College.

The Diseases of Sedentary and Advanced Life. A Work for Medical and Lay Readers. By J. Milner Fothergill, M. D., Physician to the City of London Hospital for Diseases of the Chest, etc. New York: D. Appleton & Co., 1885. Pp. viii–296. [Price, $2.]

Rationalism in Medical Treatment; or the Restoration of Chemism, the System of the Future. By William Thornton. Boston: Published by the Author, 1885. Pp. 46. [Interleaved —Price, $1.]

Transactions of the Medical Society of the State of New York, for the Year 1885. Published by the Society, 1885. Pp. iv–400–16.

Note on a Form of Post-neuralgic (Encephalatrophic or Cerebrasthenic) Insanity. By C. H. Hughes, M. D., St. Louis. [Reprinted from the "Alienist and Neurologist."]

The Rôle of Bacteria in Parturition. By Henry O. Marcy, M. D., Boston. [Reprinted from the "Journal of the American Medical Association."]

Iritis: its Relation to the Rheumatic Diathesis, and its Treatment. By Charles J. Lundy, M. D., etc. [Reprinted from the "Physician and Surgeon."]

Treatment of Eczema. By Henry J. Reynolds, M. D., Chicago. [Pamphlet.]

How a Lesion of the Brain results in that Disturbance of Consciousness known as Sensory Aphasia. By Morton Prince, M. D., etc. [Reprinted from the "Journal of Nervous and Mental Disease."]

Thirty-eighth Annual Announcement of the Hahnemann Medical College and Hospital of Philadelphia.

Transactions of the American Otological Society, Eighteenth Annual Meeting, . . . 1885. Vol. 3, Part 4. New Bedford, Mass., 1885.

Notes on the Care of Infants. By Francis H. Rankin, M. D., Newport, R. I. [Pamphlet.]

Report of the Surgeon-General of the Navy for the year 1885. Washington: Government Printing-office, 1885.

Correspondence.

LETTER FROM LONDON.

General Parliamentary Election.—Medical Candidates.—The Royal College of Surgeons and its would-be Reformers.—The Want of a Degree for London Students.—The Recent Addresses of Dr. Wilks and Dr. Hughlings Jackson.

London, *November 23, 1885.*

Our parliamentary elections take place this week, and the final result of them will be known to you before this letter is in type. The chief interest of the present general election to a medical writer lies in the possibility, and I hope I may say probability, that the new House of Commons will include a larger proportion of medical members than it has ever done before. The chamber which has just been dissolved contained only four doctors; that number, we hope, will be at least doubled in the new House. Some members of the profession are putting up for election, who, if successful, would be a real gain to Parliament. Mr. Erichsen, the well-known surgeon and surgical author, is standing in the Liberal interest, with a good prospect of success, for the Universities of Edinburgh and St. Andrews. Mr. Ernest Hart, the clever editor of the "British Medical Journal," is standing for a division in the East End of London. Sir Guyer Hunter, a retired Indian surgeon and professor of medicine at Bombay, who got his knighthood for services in connection with the outbreak of cholera in Egypt in 1853, also stands for an East End division, but in the Conservative interest, and therefore I fear with small prospect of success. Dr. Alfred Carpenter, the well-known authority on sewage-disposal, is putting up for a rural district, and other unknown medical men are courting the electors in other parts of the country. The seats of at least two of the doctors who sat in the last Parliament are safe, so that we shall all be very much disappointed if the new House of Commons does not contain a strong enough band of medical and sanitary authorities to prevent important measures of public health from being strangled by the press of other business, or shuffled into law without sufficient discussion.

It is not possible for any one on this side the water, who has not carefully studied your medical journals, to understand the exact merits of the unfortunate dissensions which are tearing your body asunder, but I am sure that the sympathies of all, except a few whose vanity is upset by the slightest waving of the red rag of ethics, are with the known and honored men who have withdrawn from the Congress organization. Rightly or wrongly, we, who have been brought up in an old and well-disciplined community, are influenced more by names than by numbers, and I fancy that most of us would rather take the chance of erring in company with Bowditch, Weir Mitchell, and Bartholow than make common cause with a legion of unknown practitioners. On one point, I believe, we should all be found unanimous, and that is that it is in the highest degree unadvisable that an international Congress should be "run" by any medico-political association of the host country, however powerful. Our British Medical Association is, as you know, as large and as influential as any medical society in the world, but no one in this country would think for a moment of allowing it to interfere in the organization of an international Congress. Successful as it is, the association is overshadowed and its influence balanced by bodies which came into the field before it, and which include the *élite* of the profession, both as regards character and ability. The Royal College of Physicians and the Royal College of Surgeons are universally admitted to represent the highest medical knowledge and the strictest medical honor, in spite of oligarchical constitutions which you would not tolerate for an instant. The popular cry here now is for their reform, but there is a very strong feeling against converting them into bodies like the British Medical Association, in which numbers shall swamp tried judgment and ability. The College of Surgeons is at present under attack. The college, as you may know, has the best medical licensing business of any corporation in the three kingdoms. It examines many hundred candidates *per annum*, and last year it received over twenty thousand pounds in examination fees. About half this sum is enough to provide for the expenses of the examinations; the rest goes to maintain the magnificent museum and library, and meet other working expenses of the college. By far the greater part of the college in-

come is derived from the fees paid by the members, of whom there are nearly 17,000. The higher grade—the Fellows—who have to undergo much stiffer examinations than the members, number less than 1,200. And yet the right of choosing the governing body of the college is restricted to these 1,200 Fellows, while the 17,000 members, from whom the college has derived the main part of its princely income, have no voice whatever in its administration. The injustice and unwisdom of this arrangement have long been felt, and at length an association has been formed with a view to inducing or constraining the Council of the college to allow the members to vote for, and, if chosen, to sit upon, the governing body. One additional privilege has already been conceded to the members by the Council, viz., that of meeting once a year in the college theatre to receive and discuss a report from the Council, though no right of rejecting or amending the report is allowed. On October 29th this meeting took place, and a strange scene it was. The large theatre of the college was crowded by Fellows and by members who had been whipped up by the association. Tier above tier of the amphitheatre, and all the seats in the galleries above, were filled with men, each of whom had paid some £20 for the college diploma, but who were now little more than strangers within its gates. In the central well the members of the Council sat, sphinx-like in their silence, while the pent-up indignation of years burst forth from speaker after speaker, many of whom had come from distant towns to join in the demonstration. It was a painful scene, for the Council is composed of the most respected men in the profession; but they have been caught in the toils of a bad system, and have to suffer for the sins of their predecessors, of which, you may be sure, angry speakers did not omit to remind them. Many of the Council are men of most liberal minds, and in all other respects eager for advance (I need only mention the names of Mr. Savory, the president; Sir James Paget, Sir Spencer Wells, Sir Joseph Lister, Mr. Jonathan Hutchinson, and Sir W. MacCormac, to prove this); but as soon as they take their seats on the College Council they seem to say good-by to their liberalism, and to identify themselves with the narrow traditions which the college has derived from the time when it was a simple city company. At the meeting in question they all sat impassive and silent, as though by previous arrangement, and allowed their system to be arraigned and motions to be passed over their heads without a single word of explanation or defense. A resolution was passed, by something like three hundred votes against eight, that it was desirable that the members should be allowed to take part in the meeting of the Council, but the great men said never a word. They had their revenge, however, for, on November 14th, they met together and decided unanimously that the demands of the members should not be granted. The reason for this decision will be made known at another meeting of Fellows and members, to be held on December 17th. The members are, of course, disheartened by their defeat; but, if they will press on, victory is assured them sooner or later. I am afraid I shall weary your readers with this long account of what may appear to them a tempest in a teapot. But the Royal College of Surgeons is really our most important medical body, and is destined, through the munificent bequest of the late Sir Erasmus Wilson, to take a still more prominent part in the advancement of medical science than it has hitherto done. It bids fair to become the center of pathological research in this country, and to be a really worthy monument of John Hunter. In conjunction with the Royal College of Physicians, it proposes to seek university rank and the degree-giving power, so that the licentiates of the two bodies shall be able to write the coveted M. D. after their names instead of the cumbrous L. R. C. P., M. R. C. S. And, probably, in the not very distant future, it may actually combine with the College of Physicians to form one Royal College of Medicine, which would then be far and away the most important and influential medical body in the empire. Under these circumstances, I think it will be admitted that it is highly important that the administration of the college should be conducted on a large and liberal basis, and that it should be able to make sure of the loyalty and to dispose of the administrative ability of all its licentiates, instead of remaining, as it is now, a practically close corporation, under the irresponsible government of a handful of hospital surgeons.

The entries of new students at the London hospitals this year do not show any marked increase on the comparatively low figures of previous years. It is disappointing, as year after year goes by, to find the prosperity of London as a center of medical education still under a cloud; and every one is now beginning to see that, unless London students are afforded the same opportunities of acquiring a medical degree that the students of other schools have, there is no prospect of any great increase in their numbers. London, with its many splendid hospitals, its immense mass of clinical material, and its eminent clinical teachers, ought to be able to take the place of a "finishing-school" for students from all parts of the country, and even from the colonies and from the United States. As it is, we find even our own students running away from London by the score, just at the period of their curriculum when they are in a position to make good use of its wealth of clinical material and talent, in order to spend a year or two at some northern university which will give them a degree. At the same time the medical students at the Scotch universities and the English provincial schools are steadily increasing in numbers, while the number of London students remains practically stationary. A cry has thus arisen for a medical degree for London students, and, somehow or other, we shall obtain it. The University of London examinations are so severe that only a small percentage of students can take that degree. Fifty-one have obtained the M. B. degree this year, out of an average annual entry of six hundred. It is for the other five hundred and more, or for the greater part of them, that a degree is wanted, and there are several proposals on foot for dealing with this want, of which I hope to say something in a future letter.

Important lectures have just been given by two London physicians well known for their contributions to neurological medicine, and they are both worth careful reading. The one was addressed to the Midland Medical Society by Dr. Wilks, one of our leading pathologists and most philosophical physicians, whom another year or two may very probably see in our chief seat of honor, the presidency of the College of Physicians, in succession to Sir W. Jenner. Dr. Wilks's address mainly dealt with the proper place for drugs in the treatment of disease. It will not, possibly, commend itself to the enthusiastic pharmacologist who still cherishes the hope to find a specific to cure every disease, and a drug to touch every symptom, but it will, I think, be read with pleasure and assent by every observant and thoughtful practitioner. The other address—the Bowman lecture, by Dr. Hughlings Jackson—is more "caviare to the general," and requires a previous study of Herbert Spencer to render it plainly intelligible. Dr. Jackson is a profound student both of philosophy and of disease. His disquisitions are spoken of with bated breath by the most distinguished of his colleagues, who are not ashamed to confess that he often takes them beyond their depth. His accepted *métier* is to bring morbid phenomena within the scope of the Spencerian philosophy, to act in some sort as the medical exponent of Herbert Spencer; but, with all regard for Dr. Jackson, it seems as though he would have to find an exponent himself before his profound thoughts are brought within the reach of the average medical intellect.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, DECEMBER 12, 1885.

A NOTABLE DEPARTURE FOR PARIS.

Last Wednesday may perhaps become as prominent in the chronology of preventive medicine as it certainly will in that of philanthropy, for on that day a ship left this port having on board four little children who within a week had been bitten by a mad dog, and, by the generosity of a few citizens, were enabled to start upon a voyage of which the purpose was to bring them into the presence of M. Pasteur, who had kindly undertaken to do his best to rescue them from a horrible death.

In brief, the circumstances are these: One day last week six children, living in Newark, New Jersey, were bitten by a dog that was supposed to be rabid. As usual, unfortunately, the dog was killed, but this disturbing element is in great part compensated for by the fact that so capable a veterinarian as Mr. Billings, of the New York Polyclinic, has declared his conviction that the animal was really suffering with rabies. As good luck would have it, the children fell into the hands of a physician who evidently keeps himself informed of what is going on in the world, and is not so consumed with doubt as to fight against what may prove to be a good thing, simply because it has not yet been irrefragably proved to be one—Dr. O'Gorman, of Newark. The doctor at once made up his mind that the children ought to be sent to Pasteur, and he backed up this sensible conclusion by contributing liberally toward the necessary expenses of the trip, and by inciting others to do likewise. The result has been, not only that an abundance of money was promptly forthcoming, but even that there has been such emulation in the work that one gentleman's offer to defray the whole expense has had to be declined.

Not the least satisfactory feature of the affair is the fact that the children are accompanied by Mr. Billings, who will look out for them on the trip, and will constitute one of the very best observers of M. Pasteur's system of inoculation that this country could have sent. It is not unlikely, too, that a representative of the Carnegie Laboratory, Dr. Biggs, will be enabled to witness the treatment, for we understand that he also has sailed for Europe, presumably with that object in view. Indeed, that institution, backed by its founder, is said to have stood ready to undertake the whole cost and responsibility of the pilgrimage; only, as we have said, this had been rendered unnecessary by the prompt subscription of the funds needed and by Mr. Billings's readiness to go. There is one drawback to what we all hope may be the glad outcome of the voyage, and that is that two of the children have been left behind, their parents having refused to allow them to depart. Another fact that is perhaps calculated to dampen our ardor is the report of the death of one of the persons on whom M. Pasteur's system has been tried. This, however, may be susceptible of a satisfactory explanation; at all events, we may be sure that it will not be glossed over, for never did a man in Pasteur's position show more candor or a greater desire not to carry assertion beyond the warrant of facts. For our part, we are still hopeful that his plan of protective inoculation will be demonstrated to be successful.

Persons who have been bitten by mad dogs are reported to be flocking to Paris, even from such distant countries as Algeria, but a pilgrimage across the Atlantic for that purpose must still be considered a most notable event. If Pasteur's treatment stands the test, familiarity with its technical details can not long, in the interest of humanity, be confined to Paris or to any great center, for it is not to be supposed that circumstances always and everywhere will be such as to enable victims to be sent there without dangerous delay; but for the present this ought by all means to be done whenever it is possible.

THE ARMY MEDICAL SERVICE.

The annual report of the Surgeon-General of the army, recently issued, although not bulky, being but a pamphlet of not quite a hundred pages, is sufficiently full to contain valuable data and to prove interesting reading. The first part of the report is devoted to a synopsis of the condition of the force from the point of view of health. It seems that, as during the preceding year, the cavalry has suffered disproportionately from typhoid fever. The rate for venereal diseases in general remains the same as it was the year before, but that for syphilis is two per cent. lower. Respiratory diseases were the most prevalent of all; diarrhœa and dysentery were also prominent. Of the infectious diseases, there were sixty-eight cases of mumps, sixty-one of measles, two of varioloid, sixty-one of erysipelas, one of chicken-pox, and eight of diphtheria. The percentage of mortality among native-born white troops was 6·6, among foreign-born white troops 12·9, and among colored troops 14·1, thus, as the Surgeon-General remarks, bearing out the popular belief that the native white American has a greater proportion of vital force, and greater resisting power to disease and death, than foreigners and negroes.

A table is given of the surgical operations performed during the year, and histories of a few individual cases have been appended to the report. Sections are devoted to the work of the Record and Pension Division, to the Medical Museum and Library, and to various other matters of interest to the profession. It is stated that the manuscript of the third volume of the "Medical and Surgical History of the War of the Rebellion," which is to be the last of the series, is now well advanced toward completion, and that it will probably be ready for issue before the close of the winter. Much interesting statistical matter, illustrated with graphic representations, is given at the close of the report. We must congratulate Surgeon-General Murray on the excellent condition of his corps, as shown in the report.

MINOR PARAGRAPHS.

THE MANAGEMENT OF STRAY DOGS.

The "Lancet" commends a London institution known as the Temporary Home for Lost and Starving Dogs. Owing to the present prevalence of hydrophobia in London, there has lately been a great increase in the number of stray dogs cared for by the institution, for they are brought to its doors by the police. As many as nine hundred were received in the course of six days. Our contemporary points out a conspicuous service to humanity rendered by the home, in addition to the benefit to the dogs—that, namely, of keeping sick animals under watch until it can be determined positively whether they are or are not affected with rabies. If London, in the face of almost an epidemic of hydrophobia, can afford to be so humane to vagrant dogs, what excuse is there for our annual period of legalized brigandage, when the chief occupation of a set of miserable ants termed dog-catchers is to steal or forcibly capture animals that are in no sense vagrant, merely that they may exact ransoms?

THE DISINFECTION OF RAGS.

Up to the time of going to press we have not heard of any special effort having been made to secure the approval of the American Public Health Association, which began its meeting in Washington last Tuesday, for the process which, as one of the daily papers puts it, oppresses the importers at this port. The paper in question has thought it best to warn the meeting against the blandishments of persons who are openly or secretly interested in the company that works the process, and were likely to attend the meeting. The hint was certainly not uncalled for, and we hope that nothing will come to light to show that it has been unavailing.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 8, 1885:

DISEASES.	Week ending Dec. 1.		Week ending Dec. 8.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	3	0	0	0
Typhoid fever	22	8	18	5
Scarlet fever	33	5	25	8
Cerebro-spinal meningitis	3	3	4	4
Measles	8	1	10	1
Diphtheria	75	29	92	45
Small-pox	3	2	12	1
Yellow Fever	1	1	0	0

The Carnegie Laboratory.—Dr. Herman M. Biggs, instructor in the Carnegie Laboratory, sailed for Europe in the Ems last Wednesday. The object of his mission is to visit the laboratory of Pasteur and learn all that he can from him in reference to the preparation of the virus for the inoculation against hydrophobia. He will then visit Koch's laboratory in Berlin, and obtain from him his views upon this subject of inoculation. He will then go to Cambridge, and pay his respects to John Burdon Sanderson, whose work in this department has a world-wide reputation. After a visit to Edinburgh, Glasgow, and London, he will return in two months to institute some elaborate experiments on a large scale. A small farm will be provided in connection with the Carnegie Laboratory where a system of inoculations can be perfected and some observations made in reference to diseases due to a special microbe.

Mr. Carnegie has just presented the Bellevue Hospital Medical College with six thousand dollars for the purchase of more scientific apparatus in addition to the five thousand dollars for this purpose which he gave last year. He has further signified his willingness to contribute annually for the support of this institution and for the purpose of encouraging scientific work. Dr. Biggs has gone to Europe independent of the Newark children, and his entire expenses have been defrayed by Mr. Carnegie. It is a matter of no small importance that an institution can send to Europe a scientific man for any special observation, and this fact with many others betokens a great future for American medicine and surgery. There are now three paid assistants in the Carnegie Laboratory, and one hundred and forty students and practitioners daily at work in the building, and great results are to be expected from an institution which is carried on upon such a liberal basis.

Within the next six months four original papers will appear which will represent original work done in the Carnegie Laboratory.

The Boston Water-Supply.—It is said that an idea originated by Dr. Thomas L. Jenks, a member of the Massachusetts Medical Society, has lately been brought to the attention of Mayor O'Brien and the Water Board, by which, it is thought, a great improvement can be brought about in the quality of the water. The plan is to build an open conduit, a mile or more in length, from the outlet of the system, in which large, rough bowlders are to be placed. The water, rushing swiftly over and between these rocks, will be so agitated, it is presumed, as to do away with that impurity which depends upon partial stagnation.

The Harvard Medical School.—We learn that Dr. John P. Reynolds, who for ten years has been professor of obstetrics, has resigned the chair. He succeeded the late Dr. Buckingham, having previously been an instructor. We understand that Dr. Reynolds's resignation is a matter of general surprise, coming as it does so soon after the opening of the term, and that his successor can not be appointed in less than a month. Meantime President Eliot has asked Dr. William L. Richardson to perform the duties of the position, and it is thought that he will undoubtedly succeed to the chair. Dr. Richardson has been connected with the department for a number of years, and it has been owing largely to his work that the instruction in obstetrics at Harvard has been so satisfactory. Dr. C. M. Green assumes the duties that have heretofore fallen upon Dr. Richardson.

Information concerning a Thief has been given to the police by a Madison Avenue physician, the offender being a young man of good appearance, stout of build, about five feet eight inches tall, with a smooth red face, who summons physicians to call on imaginary patients, and robs their premises while they are away.

The Illinois State Board of Health and the Regulation of Medical Practice.—A decision is reported to have been made recently by one of the Illinois courts which, it is thought, will have the effect of greatly abridging the board's power in the administration of the Medical Practice Act. It seems that a graduate of the Rush Medical College, of Chicago, was licensed by the board in 1877, but that the board subsequently revoked the license for an alleged violation of the law. A suit brought by the practitioner has resulted in a decision which practically limits the board's power to that of the verification of diplomas and the identification of their holders, without power to revoke any license it may issue. If this decision is final, it can not but be looked upon as a severe blow to the spirit of the law, however it may accord with its letter, and is on all accounts very much to be regretted.

The Law concerning Medical Testimony, which prohibits physicians from divulging their patients' secrets on the witness-stand, when they have been communicated to them as information necessary to an understanding of the case, was lately put forward by an Oswego practitioner as a reason for his refusing to give certain testimony in an action for assault. He was fined for contempt, and committed on his refusal to pay the fine. It is thought that an appeal will be taken.

Society Meetings for the Coming Week:

Monday, *December 14th:* New York Ophthalmological Society (private); New York Academy of Medicine (Section in Surgery); New York Medico-Historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *December 15th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Society of the County of Kings; Ogdensburg, N. Y., Medical Association.

Wednesday, *December 16th:* Northwestern Medical and Surgical Society of New York (private); Medical Societies of the Counties of Allegany (quarterly) and Tompkins (semi-annual—Ithaca), N. Y.; New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (Clinico-Pathological); Stafford, N. H., District Medical Society (annual—Dover).

Thursday, *December 17th:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private); Medical Society of Addison County, Vt. (annual).

Friday, *December 18th:* Chicago Gynæcological Society.

Saturday, *December 19th:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Roman Medical Society (private).

Letters to the Editor.

PAYING ONE OF OUR 'PENALTIES FOR THE LOW STANDARD OF MEDICAL EDUCATION IN AMERICA.

To the Editor of the New York Medical Journal:

Sir: Now that the failure to hold the Ninth International Medical Congress in America is passing into history as a fact, one is rather disposed to look over the field with the view of discovering, if possible, some hidden cause for this lack of success. Something behind personal ambition; something behind the untimely action of the American Medical Association; something behind the code controversy. We must believe that these can be nothing more than the prominent symptoms of some deeper-seated disease, that has led to the fatal issue. If any or all of them had been successfully treated, would it have made an iota's difference with the final result? Would not the cancer still have had its own way, and death been unavoidable?

We see representatives of other departments of science hold their congresses, while their members flock from all parts of the world, to invariably convene their councils in harmony, and transact their affairs with success. Hardly a year passes without some such meeting, whether it be of geologists, astronomers, naturalists, or ornithologists, yet in these days we never hear of any serious jars at their gatherings, and I can attest to the fact that it is not for the lack of disputed questions. It certainly seems strange, then, that such a disaster as has befallen the efforts of the representatives of American medicine this year should lie within the range of possibilities. A profession, too, that has so noble a goal for its object, and one upon which humanity has so many claims. Can it be that the disciples of Darwin, of Herschel, or of Linnæus have a greater love for their work, seek more closely after the truth, and more rarely look for pecuniary gain in their pursuits than do the advocates of physic? These facts may all have more or less to do with it, but the root of the matter is still deeper, for I believe it involves the question of education. I mean by this that we are now reaping in this disgraceful contention some of our deserts for the way in which medicine has been permitted to grow up in this country. Our dishonor is due to our second- and third-rate medical colleges, which have been allowed to flourish, and turn loose upon us for years hosts of semi-educated men, who hold a vote for weal or woe in the profession quite as potent as the one cast by a Gross or a Sims.

This becomes the more evident when we regard in an unprejudiced light the issue as it now stands. With at least one notable exception—and every rule, it is said, must have its exception—we find one, and by far the smaller, faction represented entirely by men who have, through their works and influence, made American medicine what it is; while, on the other hand, we see arrayed against them another faction, which includes medical men of the association totally unknown to the profession at large—the aforesaid exception—and an enormous constituency, largely the outcome of the class of colleges alluded to above.

It has been the clamorous charge of this latter element for a representation in the Congress, and the American Medical Association, or rather the unprincipled part of it, have been their mouth-piece, which has succeeded in routing the movers and defeating the efforts of the original committee.

A great deal might be said touching this point, as we come to examine into it more closely, which lack of space forbids entering upon, though, as we ponder upon it, its truth, I think, will become more and more clearly revealed to us as time rolls by.

R. W. Shufeldt.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of December 3, 1885.

The President, Dr. A. Jacobi, in the Chair.

Nominations were made as follows: For Vice-President, Dr. H. D. Noyes and Dr. William H. Draper. For Recording Secretary, Dr. A. M. Jacobus, Dr. George L. Peabody, and Dr. Frank P. Foster; Dr. Katzenbach declined to be renominated. For Corresponding Secretary, Dr. H. J. Garrigues, Dr. A. R. Robinson, and Dr. Wesley M. Carpenter. For Treasurer, Dr. W. F. Cushman, Dr. J. D. Bryant, and Dr. D. B. St. John Roosa. For Committee on Admissions, Dr. J. H. Emerson and Dr. Laurence Johnson. For Committee on Ethics, Dr. S. O. Van der Poel and Dr. Joseph D. Bryant. For Committee on Education, Dr. D. B. St. John Roosa, Dr. David Webster, and Dr. Charles Heitzman. For Committee on the Library, Dr. W. H. Katzenbach for the full term, Dr. J. H. Andrews for the short term, Dr. Laurence Johnson, Dr. R. W. Amidon, and Dr. C. T. Poore. For Trustee, Dr. S. T. Hubbard was renominated, but declined; Dr. George A. Peters and Dr. James H. Anderson were nominated. For Delegates to the State Medical Society, to serve four years, Dr. W. R. Birdsall, Dr. H. J. Boldt, Dr. H. C. Coe, Dr. J. W. Howe, Dr. R. W. Amidon, Dr. Bullard, Dr.

Goodwillie, Dr. E. Herrick, Dr. C. Heitzman, Dr. J. A. Andrews, Dr. A. S. Hunter, Dr. G. Bacon, and Dr. W. L. Hardy.

A Review of the Life of Dr. Louis Elsberg and of the Advancement of our Knowledge of Diseases of the Throat during his Professional Career was then read by Dr. M. H. Henry. [See page 621.]

Original Deductions based on a Study of One Hundred Cases of Fracture of the Upper Extremity, excluding the Hand.—Dr. Samuel W. Smith read a paper with this title. He professed no originality in the general plan of treatment, except in the use of splints which he had invented, and which he believed had never been used before. His constant aim in treatment had been to place the fragments in such a position as would be most likely to result in complete union without deformity, allowing the patient as much ease and comfort as possible. He then presented his tabulated list, and said that nearly half of the fractures had occurred to children under twelve years of age. Of these, twenty-five were of the clavicle, eight of the condyles of the humerus, and one of the lower end of the radius. In patients over twelve years of age, twelve were of the clavicle, three of the condyles of the humerus, and twenty-four of the lower end of the radius. Of the twenty-five fractures of the clavicle in children, twenty-two were transverse with and occurred near the outer edge of the middle third, there being only slight displacement of fragments; in the three others the fracture occurred near the middle of the bone, was oblique, and was accompanied by considerable deformity. Of the eight fractures in persons between twelve and fifty years, three resulted from great violence at the upper and outer portion of the shoulder, the line of fracture commencing near the inner edge of the middle third and running from above downward and inward, causing great displacement of the fragments, the outer fragment being drawn downward and inward. Of the five other cases, in three the fracture was oblique, running from the outer portion of the middle third backward and inward, causing less deformity than in the other three mentioned; in five other cases the fracture was in the outer portion of the middle third.

In speaking of fractures of the humerus, he confined his remarks to fractures of the condyles or separation of the epiphysis. Of eleven fractures of the condyles, two occurred in children under six years of age, one of the external and the other of the internal condyle; six between the ages of six and twelve, including one of the epicondyle, three of the external condyle, one of the internal condyle, and one so-called "T" fracture. Three occurred in persons between twelve and fifty, one being of the epicondyle, one of the external condyle, and one of both condyles.

Regarding fractures of the radius, the author confined his remarks to Colles's fracture, and said he conceived a marked difference between this fracture and a transverse or short oblique fracture. In the latter the characteristic deformity described by Mr. Colles did not exist unless there was also impaction of the upper fragment. The kind of splint used and the after-treatment depended largely upon the obliquity of the fracture; if the obliquity was great, the action of the supinator longus and the extensors constantly drawing the lower fragment upward, its carpal end and the carpal bones backward, and the hand outward, there would be difficulty in retaining the fragments in good position, and there would be danger of posterior deformity and the appearance of dislocation of the ulna.

There were in his list twenty-five fractures of the lower end of the radius; of these, two occurred to children under twelve, one of which was transverse and one a separation of the epiphysis with no deformity. Eleven patients were between the ages of twelve and fifty; of these, eight had short oblique or transverse with some deformity, and three had Colles's fracture, deformity being well marked; twelve fractures occurred to patients over fifty years of age, and of these two were short and oblique or transverse, with considerable of the characteristic deformity of Colles's fracture, but easily reduced and readily held in position. The remaining ten were Colles's fractures, the characteristic deformity being well marked in all of them.

The main object to be attained in the treatment of fracture of the clavicle was to lift the shoulder upward, outward, and backward, and to hold the fragments in apposition. The three methods most commonly in use were Desault's, with the axillary wedge, Dr. Sayre's adhesive-plaster splint, and to some extent Dr. Moore's figure-of-eight splint. Desault's method interfered seriously with the circulation in the arm. Dr. Sayre's method had been inefficient in cases in which the bone was fractured in the great convexity, and the obliquity was downward and inward; it also interfered in these cases with the circulation in the arm. A very great objection was the irritation of the skin produced by the plaster. Dr. Moore's method answered the purpose only where the fracture was near the outer edge of the middle third, and was transverse or short-oblique in character; but where the fracture was near the inner third, and oblique, it did not answer its intended purpose, but did the opposite, for, the end of the shawl, passing backward over the shoulder, pressed the outer fragment downward instead of holding it in apposition with the inner fragment. Nor did it suffice to draw the elbow backward and inward enough to overcome the action of the subclavius muscle, which the author thought was the main factor in drawing the outer fragment inward. This had led him to carry Dr. Moore's idea a step farther by making a clove-hitch with a scarf around the forearm well up to the bend of the elbow, passing the loose ends across the back and over the uninjured shoulder. This enabled him to draw the elbow of the injured side farther backward, inward, and upward, and to make the os brachii a lever and the side of the chest a fulcrum by which he could lift the shoulder of the injured side upward, and throw it outward and backward. It was for this fracture, oblique downward and inward, and through the great convexity of the bone, that he alleged for his new splint for fracture of the clavicle all the advantages of any other, as well as some advantages which no other possessed. The improved splint was described as follows: "It is a padded, gauntlet-shaped piece of leather, laced to fit the forearm, running on either side back of the bend of the elbow. To this part are attached a strap and buckle. A padded collar, with strap, buckle, and ring, is fitted to the uninjured shoulder. Through this ring the strap from the elbow-piece passes, and, by tightly drawing this strap, the arm of the injured shoulder is brought under sufficient control to bring the fragments into perfect apposition. A sling is made to pass from the ring to the collar on the uninjured side of the neck for the hand of the injured side."

Fractures of the condyles of the os brachii extending into the joint were generally caused by direct violence, with much injury to the soft parts; hence it was of special importance in treating them to use means that would most effectually promote absorption of the resulting inflammatory products in and around the joint, as well as the speedy coaptation of the fragments and holding them firmly in position, thus avoiding gun-stock deformity. His experience in treating injuries of the elbow joint, whether with or without fracture, had taught him that prompt and vigorous treatment, to combat local inflammation and effusion into and around the joint, and appropriate treatment for absorption, constituted our only safety against false ankylosis.

A varied experience, full of disappointments, in the use of the known splints for the severer fractures of the condyles had set him to work to make a splint with the following requisites:

1, to hold the fragments in apposition; 2, to lengthen or lessen the external lateral angle of the arm, with fixation; 3, to leave the entire elbow joint exposed for local treatment during the whole time of wearing the splint without disturbing it.

He then described his splint. It consisted of two rods of untempered steel, extending from the upper part of the arm to the wrist, with a ball-and-socket joint at the elbow, and screws for fixation; the lower ends passed into a sheath screw on either side of the wrist. The upper ends passed through two iron posts set in tin and made fast to the arm by plaster-of-Paris bandages, the rods being made firm in the posts by thumb-screws. On each side of the wrist was a post through which the sheath-screw passed, and it was made fast to the wrist in the same manner as the upper parts, and fastened with fixation-screws. By moving the sheath-screws the lateral angle of the arm could be contracted or widened as needed, thus overcoming any tendency to loss of the carrying point, or gun-stock deformity. A turn of the fixation-screws at the elbow and wrist would allow the forearm to be flexed, extended, pronated, supinated, and fixed at any desired point without other interference with the splint.

Regarding the time for passive motion, he thought it depended in each case on the extent of the injury to the soft parts and our ability to hold in check and reduce the inflammation following the injury. Thus, while it might be wisely begun within a week of the injury in one case, in another case it would be better not to begin for three or four weeks.

He would leave the discussion of the application of his splint to Colles's fracture for a future paper. He then cited some cases in illustration of the points made in his paper.

Dr. J. D. Bryant thought the function of the clavicle was essentially to hold the shoulder backward, upward, and outward, and, whenever the bone was broken in a position to allow the fragments to override each other, the shoulder would fall downward and forward. If fracture took place at the anterior border of the deltoid and trapezius muscles on the one hand, and at the sterno-cleido-mastoid and pectoralis major on the other, there would be marked deformity. He could not agree with the author of the paper that the subclavius muscle played an important part in the production of the deformity. As to treatment, any apparatus which secured the fragments in their reduced position would fulfill the indications. He had used Sayre's method by adhesive plaster successfully; Moore's method also fulfilled the indications, and he should judge, from a casual examination, that the apparatus employed by Dr. Smith would likewise fulfill the indications, and if it would it was superior to the others mentioned in being free from certain disadvantages which they possessed.

Dr. A. C. Post thought the most important distinctions with regard to location of fractures of the clavicle were those which occurred at the inner side of the coraco-clavicular ligament, those which occurred between the coronoid and trapezoid ligaments, and those which occurred on the outer side of the trapezoid ligament. In the first situation fracture of the clavicle caused considerable deformity as a rule, the bone being shortened and allowing the shoulder to fall, the outer fragment being below the level of the inner fragment; in the second situation there was little deformity, and little treatment was required except rest and support by a sling; in the third situation there was considerable deformity, but entirely of a different character from that accompanying fracture on the inner side of the coronoid ligament. The shoulder was thrown forward, and the short fragment, connected with the acromion, was placed at nearly a right angle with the long fragment, and was almost on the same level; there was no falling.

Dr. A. H. Goelet had used a bandage similar to that employed by Dr. Smith, but made of roller bandage, in a case of fracture of the clavicle in which the adhesive plaster employed in Sayre's method of treatment had given rise to great discomfort. The change gave the patient complete comfort.

Dr. Smith, in closing the discussion, said he had followed Hamilton's division of the clavicle into thirds. His cases had led him to believe that the subclavius muscle played an important part in the production of the deformity. Only one of his fractures was in the outer third of the clavicle.

Reports of Infectious Diseases.—Dr. C. R. Agnew offered the following resolution:

Resolved, That it is the opinion of the Academy of Medicine that any judicial or other action which in its effect discourages members of the medical profession in making early reports to the Board of Health of cases of supposed contagious or infectious diseases is contrary to public policy and most detrimental to the interests of public health. Carried unanimously.

NEW YORK SURGICAL SOCIETY.

Meeting of November 24, 1885.

The President, Dr. Charles McBurney, in the Chair.

Excision of the Tarsal Bones.—Dr. Charles T. Poore read a paper on this subject. [See p. 652.]

Dr. H. B. Sands said that it seemed to him that a distinction must be drawn between tubercular inflammation and osteomyelitis of the os calcis. So far as he had been able to judge while listening to the paper, Dr. Poore had reported only one case of true necrosis of the bone. In this there was a cavity with healthy walls, inclosing a piece of dead bone, which was removed by operation because the cavity would not close. It was further stated that in this case when the os calcis was removed it was found to be firmer than normal, which would imply that it was not carious, and that the previous failure to obtain a cure was, as Dr. Poore had intimated, due to a refusal on the part of the bony cavity to fill up. The speaker doubted the necessity of removing the whole os calcis in cases of necrosis unless the necrotic process involved the entire bone, the indication being to remove only the loose sequestra. He recalled a case which had occurred about fifteen years before in a lad ten years of age, who was supposed, by the late Dr. Van Buren, the late Dr. Parker, and himself, to be suffering from caries of the tarsus. There were several sinuses in the foot, and it was advised that the foot should be amputated. But an exploratory incision was made, and the os calcis was found to be a shell, containing a large number of pieces of dead bone within a cavity which had a smooth lining, such as was usually found in bones containing necrotic tissue. The pieces of dead bone were removed, and, although the walls of the os calcis were exceedingly thin, the cavity filled up within a few months, and the wound healed. He had not had much experience in dealing with the os calcis in children, but he thought that in adults partial excisions were often successful. He was somewhat surprised to learn that caries was so often limited to the os calcis. His own experience had been that this disease was apt to attack the astragalus and scaphoid, and other bones of the tarsus, rather than the calcaneum alone. He thought the tendency nowadays was to avoid excisions in cases of caries, and that the use of the gouge or sharp spoon, as it was called, often gave satisfactory results. He believed that in one of the children presented the condition of the foot corroborated the statement which he had made a month ago—that after the removal of a large portion of the tarsal bones, provided the periosteum was left, considerable reproduction would occur. It was evident in that case that, although the entire os calcis had been

removed, there had been a considerable reproduction of bone. It seemed to him to be a point worthy of consideration whether, in caries, excision should be preferred to an operation which was partial, and which aimed to remove only the diseased tissues. It might occur, however, that, if a large part of the interior of the os calcis was removed, the space would remain open, although much might be done to overcome that difficulty by nailing down the soft parts or fastening them by deep sutures. He was willing to admit, however, that the results obtained in Dr. Poore's cases had been excellent.

Dr. POORE said that in almost all the cases he had reported the patients were in the hospital for a long time, and that where gouging had been performed the interval between the gouging and the excision was in some cases a year at least. He had given the patients all the chances of recovery he could, but, as suppuration had continued, the condition of the tarsus had not improved, and small pieces of bone had worked out, he had resorted to excision.

Dr. SANDS asked if it was good practice to leave a case for a year after an operation. Was it not rather desirable to follow one operation by another, with a view to removing all the diseased tissue as quickly as possible?

Dr. POORE said he had performed gouging in one case four times within a year. He had been very much disappointed in this operation. He had certainly expected to see some patients get well after it, but he had never seen such a result. It might be because he had dealt with young children, the patients having been mostly under four years of age.

Dr. LANGE recalled a very limited number of cases of tuberculous affections of the os calcis and astragalus in which the disease had been so limited that it had not been necessary to remove the bones entire. He had had one such case where the principal seat of the disease was in the bones of the ankle joint. There was also a tuberculous sequestrum in the os calcis, which was removed, and the entire shell of the bone left, and finally recovery took place. He thought that in a good many cases of tuberculous necrosis recovery would eventually take place after the removal of sequestra and scraping. It seemed to him that in Dr. Poore's cases a striking point was the difference between the reproduction of the os calcis and that of the astragalus; there had not been a reproduction of the astragalus. In some of his own cases of total excision of the ankle joint he had observed the same thing, and probably it had been this which had caused the amount of shortening in Dr. Poore's cases. He had twice excised the tarsal bones during his service in Bellevue Hospital, the first and second rows, and in one instance cut away also the surface of the os calcis and astragalus; in the other the extirpation was not so extensive, but the result was a good one, although the patient was an adult. The result in the first case he could not give, for the patient was removed from the hospital because she refused to submit to a secondary operation. The results of other surgeons were rather encouraging for operative interference—for instance, those reported by Neuber some years ago.

Osteo-sarcoma.—The PRESIDENT presented a specimen of large osteo-sarcoma, removed post mortem from a colored boy fifteen years of age. He had shown the boy to the society two years before. The history of the tumor was that it first appeared as a small swelling on the right side of the lower jaw eleven years ago. Its growth since that time had been uninterrupted. The boy remained in good health up to last July, when the interference with deglutition became so great that it was necessary to feed him *per rectum*. He died of inanition August 24th.

The microscopical examination was made by Dr. Frank Ferguson, who made the following report: "The tumor is an osteo-sarcoma with much fibrous tissue and fat. It arises from the right ramus and body of the lower jaw, to the right of the median line. Extending from this location is a mass of bone, the antero-posterior measurement of which is seven inches, and transversely it measures eight inches and a half. Vertically it measures four inches. This large mass of bone has crowded the left half of the lower jaw and a portion of the right half of the bone much to the left. The inferior maxillary bone is bent at the symphysis, forming an acute angle. An inch and a half of the body of the bone on the right side, containing two teeth, passes directly backward (from the symphysis) in the median line. The condyle of the right ramus is found just beneath the right external auditory meatus. The right half of the superior maxillary bone is much distorted. The last molar in this bone is half an inch below the floor of the right orbit, and three fourths of an inch from the median line. The œsophagus and trachea are pushed much to the left, being only an inch from the surface of the neck on that side. The neck extends directly backward, at right angles from the normal line of the vertebral column. The large mass of bone above described is covered by lobulated soft tissues, composed of fat, fibrous tissue, and numerous medium-sized spindle-form cells. The bone is simple compact bone tissue. The tumor is limited by a fibrous capsule. The greatest circumference of the tumor is twenty-nine inches. From the highest level to the most dependent portion of it it measures eleven inches. It weighs, as presented, seventeen pounds, three ounces and a half."

The Bacillus of Syphilis.—Dr. R. J. HALL presented the following report: In May, 1885, Dr. Süssgarten had published his pamphlet stating that by a new method, devised by him, of staining and bleaching syphilitic tissue he had found in sections of all the specimens examined, sixteen in all, a distinct bacillus; these bacilli were found in small numbers. In August, 1885, there was published ("Fortschritte der Medicin," Bd. 3, No. 16) an article stating the giaconic method of staining for the same bacillus. Both methods had been used by Mr. Freeman, under the guidance and with the supervision of Dr. Hall. The Süssgarten method, though more troublesome, was the more satisfactory. The statistics given below had been obtained from specimens stained by the Süssgarten method.

Seven specimens of syphilitic tissue had been examined. Five were primary—all typical hard chancres. Two were secondary—syphilitic papules.

Specimen No. 1.—No history. Sections received already cut. A typical hard chancre from the prepuce. Section No. 1: Found 1 bacillus in a cell; 2 bacilli in a cell; 3 bacilli in a cell.

Specimen No. 2.—No history. A typical hard chancre from the prepuce. Section No. 1: Found 1 bacillus in a cell; 1 bacillus in a cell; 3 bacilli in a cell. Section No. 2: Found 2 bacilli in a cell; 18 bacilli in a cell. In a flat cell in a condition of granular degeneration, no nuclei being visible, eighteen bacilli were counted, exactly corresponding to Süssgarten's description, and one or two dots which might be portions of bacilli partially concealed from lying obliquely. Section No. 3: Found no bacilli.

Specimen No. 3.—A typical hard chancre. Six weeks prior to August 11, 1885, a sore appeared on the peno-scrotal junction of a boy sixteen years old, with a simple balanitis. He had had connection one or two weeks before. Three weeks before the date mentioned the inguinal glands enlarged and an eruption appeared on the legs. There was a typical hard chancre, accompanied by a primary roseola on the abdomen and syphilitic buboes. The chancre was excised.

Microscopic Examination.—Section No. 1: Found no bacilli. Section No. 2: Found 2 bacilli in a cell, and 1 bacillus in a cell. Section No. 3: Found no bacilli.

Specimen No. 4.—A syphilitic papule was excised, August 11, 1885, from a boy aged nineteen, who five months before had had an extensive chancroid with phimosis, and had been circumcised. The lymphatics were now swollen. There were two characteristic syphilitic ulcers on the right forearm and several indurated papules on the scrotum. The specimen examined was a large indurated papule, ¾ inch in diameter, greatly resembling a primary chancre, on the line of circumcision. There were no other secondary symptoms. The induration on the penis was excised.

Microscopic Examination.—Section No. 1: 2 in a cell. Section No. 2: None. Section No. 3: None.

Specimen No. 5.—A typical hard chancre was excised from a man, aged thirty-six, which had first been noticed eight days before, the connection dating back four weeks. There was no eruption.

Microscopic Examination.—Section 1: Found none. Section 2: Found 1 bacillus in a cell; 2 bacilli in a cell; and 3 in three cells. Section 3: Found 1 bacillus in a cell.

Specimen No. 6.—A syphilitic papule was excised from a man, aged twenty-nine, who had had gonorrhœa eighteen months before, and had last had connection two months before. Two weeks before, he had noticed an indurated sore on the prepuce and enlarged glands in the groin. A few days ago there was roseola. All these symptoms were present when the induration was excised.

Microscopic Examination.—Section No. 1: Found 3 bacilli in 3 cells. Section No. 2: Found none. Section No. 3: Found 1 bacillus in a cell.

Specimen No. 7.—A syphilitic hard chancre was excised, September 21, 1885, from a boy aged nineteen, ten days after connection. Four days before, a sore had appeared on the prepuce, of the size of a split pea, having a hard base covered with yellowish material.

Microscopical Examination.—Section No. 1: Found 3 bacilli in a cell, and 2 in a cell. Section No. 2: Found none. Section No. 3: Found 2 bacilli in 2 cells.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of November 25, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Cocaine Poisoning in a Cat.—Dr. H. J. Boldt presented the brain and medulla of a cat which had died in convulsions twelve minutes after an injection of eleven minims of a thirty-three-and-a-third-per-cent. solution of cocaine. The first effect noticed was a sort of leaping gait with dragging of the hind extremities, followed by convulsions. There was simulation of the Cheyne-Stokes respiration. The temperature in the rectum after death was 104° F. At the autopsy, made half an hour after death, the vessels of the pia mater in both brain and cord were much congested, and there was extravasation of blood in the fourth ventricle, also a small amount in the anterior part of the medulla, and there were minute extravasations throughout the brain. The lungs were collapsed, and contained no blood; the right ventricle of the heart was overdistended, the left one empty. There was congestion of the gray substance of the cord. Dr. Boldt said death seemed to have taken place from paralysis of the respiratory center.

Dr. M. Putnam Jacobi thought the phenomena pointed rather to contraction of the blood-vessels from vaso-motor irritation, and thus to death from obstruction to the pulmonary circulation.

The President said that respiratory and cardiac shock was more likely to occur from invasion of the surface in the neighborhood of the fifth nerve than in any other locality. He also spoke of the danger of using chloroform or ether after cocaine. A prominent surgeon had lost a patient by administering chloroform after the unsuccessful use of cocaine; and the same surgeon had told him of a similar accident after the use of ether following cocaine.

Carcinoma of the Uterus.—Dr. R. Van Santvoord presented a cancerous uterus, the disease having apparently commenced in the cervix and involved the body of the organ afterward. The patient had given birth to a child three days before her death. There was pigmentation of the intestines, omentum, retro-peritoneal glands, and broad ligament. The pelves of the kidneys and ureters were dilated; the ureters were somewhat obstructed by thick, dense fibrous tissue. The uterus was firmly fixed, the cervix had been eaten away, the urethra had been ulcerated into, and there was infiltration of the vagina and endometrium.

Tuberculosis of the Pharynx.—Dr. Van Santvoord also presented a pharynx, the seat of tubercular ulceration, removed from the body of an infant about two years of age, which had been admitted to Randall's Island Hospital about four months before its death with a large mass of enlarged glands under the angle of the jaw upon each side, accompanied by cachexia. A slight cough was noticed two months and a half before death, but physical examination revealed only a few râles over the lungs. A few days before death the child was thought to have some difficulty in swallowing, and a thin grayish coating was seen upon the larynx. The temperature was 102·5° in the evening. Death took place from exhaustion. The post-mortem examination showed the glandular enlargements upon each side of the neck to be due to caseous degeneration. The pharynx was roughened, and lenticular ulcers extended to some depth into the mucous membrane. The uvula was thickened and covered with granular elevations. The same roughened appearance was observed on the mucous membrane of the nasal cavities, the vault of the pharynx, and the convex surface of the inferior turbinated bones. There were two small ulcers upon the posterior surface of the larynx. There were miliary tubercles in the lungs and upon the pleural surfaces; there was a soft caseous nodule in the middle lobe of the right lung, together with a number of areas of broncho-pneumonia. There were also tubercles in the spleen, kidneys, liver, and intestines, and the retro-peritoneal and mesenteric glands were undergoing cheesy degeneration. Tubercular ulceration of the pharynx was a somewhat rare affection, although Dr. Mackenzie, of London, had reported a number of cases, and thought it was often mistaken for syphilitic disease.

The Lesions of Hog Cholera.—Dr. Van Santvoord also presented a stomach and large intestine illustrating the lesions of hog cholera. There was considerable gastritis, and at one point on the surface of the stomach there was a necrotic spot. This ulcer, which was like the characteristic ulcers in the large intestine, had a dark, dirty, sloughing center, with elevated edges. The process extended in different cases to a variable depth, sometimes reaching the peritonæum. The ileo-cæcal valve was swollen, principally on the side toward the colon, and contained ulcers; for about ten inches above the cæcum the mucous membrane was sloughing and the gut was intensely hyperæmic. In the descending colon there were enlarged solitary follicles, with depressed and slightly ulcerated centers, which were also apparent from the peritoneal surface. In some of the cases lesions were found in some other organs of the body, and in all there was some œdema of the lungs with some mucus in the bronchi. There was also in all of the cases enlargement of the retro-peritoneal and mesenteric glands.

Dr. T. M. Prudden said that Koch reserved his opinion regarding the micro-organism peculiar to hog cholera; that alleged

by Pasteur had been found by Koch in the septicæmia of rabbits.

Dr. D. B. Delavan said, regarding tuberculosis of the pharynx, that he had seen only three cases. In adults it was very painful. It was a rare affection, and resembled syphilitic ulcers, so that the general practitioner was liable to overlook cases which might come under his care.

SOCIETY OF MEDICAL JURISPRUDENCE AND STATE MEDICINE.

Meeting of October 8, 1885.

The Hon. W. H. H. Russell in the Chair.

Cremation.—Dr. William M. McLaury read a paper upon this subject. [See p. 633.]

The Chairman conceded to the author the utmost sincerity in his views, yet, with due deference to his opinions, he must beg to differ with him in his conclusions. Suppose for a moment that his theory was put into practice in this country, what would become of the sentiment with which we surrounded our dead? He further maintained that, religiously considered, the result of cremation seemed incompatible with the form of resurrection we were taught to believe in; and that, therefore, while Christian civilization prevailed, cremation would not. If it was true that the latter had been the popular method of disposing of the dead in ancient times, the custom should have been perpetuated—which it was not—in order that the fact might be made use of as an argument in favor of modern cremation. Regarding expense, that would have little or no weight with the rich as compared with their personal feelings; and fashion would undoubtedly render the accessories of cremation quite as costly as those of interment, thus making it in no way a less extravagant affair for the poorer classes.

Professor James L. Greenleaf continued the discussion by considering the subject from a sanitary point of view, though not to the total exclusion of sentiment. He said the grave-yard might be the cause of the death of a man's sons and daughters; and, were such the case, this fact would, in that man's mind, far outweigh all the sentiment associated with the place. There were probably few present who would not readily admit that cremation was preferable to burial, since it accomplished in a few hours what generally required years by the other method. At the same time he admitted that not all grave-yards—those, for instance, in the country—were inevitably disease-centers. The oxidation which took place in decay was identical with that in the furnace, though less rapid. A body free from contagion or infection might, therefore, be placed in a dry, well-aërated soil, and, without detriment to health, be intrusted to the ordinary destroying processes of nature. Even disease-germs might die in a dry, well-ventilated soil, though instances had been known where, probably under circumstances favorable for their growth, they had lived in the ground for years. Also, tests had been applied to the air above crowded grave-yards, and it had been found swarming with germs. He believed crowded cemeteries in populous districts to be unwholesome, even though no instances of disease could be positively traced to them. The laws of the Roman Empire made cremation obligatory, except in remote and thinly settled districts, where the practice of burial was allowed. This, he thought, would be a good example to follow to a certain extent, and suggested a compromise between exclusive cremation and general inhumation as an advisable and proper course to pursue.

The paper was further discussed by E. C. Kitchell, Esq., Professor A. L. Rawson, Dr. C. S. Wood, Dr. P. C. Cole, and others.

Reports on the Progress of Medicine.

PSYCHOLOGICAL MEDICINE.

By J. LEONARD CORNING, M. D.

Physiological Psychology.—Buccola ("Alienist and Neurologist") gives a long and comprehensive review of the arguments employed by contemporary psychologists to break the bonds of metaphysical traditions, in order to attain more objective results through the aid afforded by critical reasoning from experimental data. "Analysis of the facts that form the substratum and represent the mechanical conditions, by means of which sensation, thought, and consciousness are evolved, have now proved that the existence of a special *quid*, which lives in the organs and presides over them—an unextended substance, a pure essence, which has the characters of unity and simplicity—is an illusion purely subjective and abstract. It is the thesis of metaphysics which hunts after *noumena*, without perceiving that the universe is a pure phenomenality, that higher than phenomena thought can not soar without the risk of falling into abstractions, and that, in fine, the limits of knowledge are the limits of induction, and this can not give to us anything beyond phenomenal life."

In constructing our philosophies, we should not delve after substances and the intimate nature of things; what really constitutes a secure datum of cognition is the phenomenon. As Ardigo truly observes, there is no other kind of cognoscitive data, no other secure basis of scientific principles outside the experimental. This certainty is the unique result of the constant and uniform repetition of the same phenomena. The dualistic *a priori* method of regarding things peculiar to metaphysics is directly opposed to the spirit of exact science. The shadowy rules of metaphysics locate in every several thing two strata—one exterior and phenomenal, and one interior and substantive. To be more explicit, metaphysics perceives in everything a special essence, and certain phenomenalities which accompany this essence. In the essence, it maintains, there inheres a true and unchanging reality; in the phenomenon, on the other hand, there is but an uncertain, flexible reality. From the phenomenon it is impossible, therefore, on account of this very mutability, ever to derive such a code of laws as will correspond to the exigencies of the highest objective science. These metaphysical conceptions have entered and still persist in the domain of psychical facts, and their presence has given rise to a psychology at once hollow and barren of practical results. The unutterably grotesque and utopian problems to the solution of which this school of psychology has in vain addressed itself are the direct outgrowth of these same fallacious conceptions. "While the physical sciences, once also prostrated under the car of scholastic quidditics, have definitively deserted the field of philosophic necromancy and have been called sciences purely phenomenal, and, by the sole attentive study of facts, interpreting and inducting the laws which regulate the motions of nature alike in the immense sidereal spaces as in the infinitely small interstices of ether interposed between molecule and molecule, psychology, which ought to be the physics of human thought, has, on the contrary, remained entangled in the meshes of the absolutes and the essences tenaciously as the polypus to the rock, clinging to the old aprioristic method which shuns induction and experiment. And, while not only the physico-chemical sciences, but also biology, which should ever be the foundation of every psychical study, canceling from its pages the vital spirits, has, by the aid of comparative morphology and of embryogeny, luminously demonstrated the unbroken unity of the various organized forms, from the protoplasmic amœboid to the vertebratum, furnished with the richest specificized apparatus of nervous mechanism, and has, also by daring inductions, rendered legitimate by the general laws of nature, demonstrated the more marvelous unity of the two organic worlds, psychology has, on the contrary, persisted in the duality of spirit and matter, creating abstractions that explain neither the mechanism nor the laws of the production of mental facts." Up to our times, therefore, psychology has occupied an exceptional position in relation to other branches of science, inasmuch as it has failed to adopt the logic of induction, and has followed ratiocinative methods which represent at most but intellectual morbosities.

In our own time, however, a mighty change in the method of regarding psychological phenomena is discernible. If one follows attentively the rapid movements in the realms of modern science, one may discover with but half an eye that two grand conceptions dominate the entire development of psychology, transforming its contents: the theory of evolution, and the application of scientific methods to the elucidation of mental phenomena. The law of evolution, which explains the universal transformation from the homogeneous into the heterogeneous, is thus briefly formulated by Spencer: "Every active force produces more than a change; every cause produces more than an effect."

"As every fact succeeding proceeds from one anteceding, so all physical and mental facts, all biological and sociological, have been derived from antecedents which, traced back by induction from age to age, as far as can be reached by the secure laws of hypothesis, permit us to discover a simplicity greater in proportion to our greater distance from the present time, and show us, in the nebulæ, the first stage of the solar system; in the amœboid movements of the protozoa, the embryonal design of intellect; in the monera, the preparation of the vertebrate; and in the tribe of the savage, the germ of the constitution of civilized peoples." This vast evolutive conception, applied to mental phenomena, has given rise to a science substantially different from the ancient psychology, the usefulness of which was greatly lessened by the introduction into its methods of abstractions and *a priori* reasoning. By the application of the law of evolution to the elucidation of mental facts it has been possible to frame a scientific system of comparative psychology on the plan so ably unfolded by Mr. Herbert Spencer. "In fine, instead of that idolatrous image of science, which pretends to investigate the manipulations of mind from the static point of view, it substitutes the true personality of a science, psychogenesis, which studies the facts in their successive development." Modern psychology is not metaphysical; it does not seek information alone through the channels of pure introspective observation, but endeavors to ingraft into its system of research the methods of the exact sciences.

[Let us say rather that it *tries* not to be metaphysical, in so far that it seeks after phenomena, adopting in its quest after the latter the methods of the biological sciences. In its interpretation of these phenomena it is still hopelessly metaphysical in many regards.—J. L. C.]

Thus experiments may be performed in the psycho-physical domain; that is to say, by varying the physical conditions of the interior processes we may note the resultant psychological modifications. Looked at from this point of view, there are no psychological, but only psycho-physical experiments. "But the change which is determined by the varying of a condition does not depend simply on the nature of the condition, but also on that of the conditioned." Thus the psychical changes produced by varying the external influences will elucidate the interior phenomena, and, regarded from this point of view, psycho-physical experiments may also be denominated psychological.

[As the genetic method of research has grown apace in all directions, it is well to remember that, however interesting the revelations already or to be thence derived may be, they can never equal in practical importance the results derivable from psycho-physical experiments. —J. L. C.]

What, in the opinion of Dr. Buccola, forms, however, the truly new side of modern psychology is genetic research. "In what point of the animal series does psychical life commence? Between the amœba, which is an albuminoid clot with nervous elements, and the vertebratum, which has organs and instruments adapted to furnish to it the consciousness of itself, does there truly exist an abyss?" The old philosophic system, based on nebulous abstractions and deductions from *a priori* formulas, avoids this question with feelings well nigh akin to horror. On the other hand, biology, basing its method of research upon the comparison of organs and their functions, interprets the psyche as an "evolutive process, as a never-interrupted succession of gradations, which, from the plastid branches onward up to man, in whom the reflex act, which was manifested in the amœba without the diastaltic nervous arc, now invests itself with the complete aspect of perception." "Just as vegetable physiology, by descending to the mosses and the *Conferva*, and unveiling the organic mechanism of the plant in the cells and fibers which are associated and disposed in a thousand ways, succeeds in constructing the organic structure of large cotyledonous trees, so the majestic tree of human thought can never be comprehended unless regard is had to the formless germule of the psychical life of the zoöphyte, and ascending evolution is followed up in the animal series."

[Dr. Buccola's paper is the best review of the present spirit of modern (physiological) psychology with which we are acquainted. It will richly repay perusal by those who are anxious to place themselves in accord with the principles of research which are exerting such a vast influence in the domain of modern philosophic thought. Dr. Buccola is something more than a mere mechanical observer of phenomena. Throughout his paper there are ever-recurring evidences that he is endowed with a perspicuity and power of analysis which come to us as a welcome intellectual addition to a discipline which, thanks to the efforts of an army of pedants and hair-splitters, has received at the hands of practical men the cognomen of the "awful science."—J. L. C.]

Post-neuralgic Insanity.—Dr. C. H. Hughes (*Ibid.*) records two interesting cases of psychical aberration consecutive to neuralgia. In the first case, that of a lady, all branches of the seventh pair were implicated. Local treatment with galvanism, etherization, etc., finally caused almost complete cessation of the pain. Thirty days before these results were obtained all opiates were discontinued. Some days after this, symptoms resembling those of acute delirious mania made their appearance. These lasted six weeks, being finally dissipated by persistent treatment with iron, arsenic, galvanism, and chloral hydrate.

In the second case, that of a gentleman formerly an officer in the navy, the mental symptoms were developed after a severe attack of sciatica. The relief of the latter was finally accomplished, after four weeks, by prolonged and frequently repeated applications of powerful galvanic currents. With this relief from pain there was no greater quiescence of the mental faculties; but, on the contrary, restlessness, insomnia, and aggravated psychical disturbance became predominant. Treatment did little to modify this morbid condition; but, after running a course of seven weeks, the maniacal symptoms disappeared. The rest obtained during this interval was the result of sedatives.

The condition of this patient at the time the psychical symptoms made their appearance was one of "neuratrophic or neurasthenic typhoid."

General Paralysis at an exceptionally Early Age.—Dr. E. Régis ("L'Encéphale") published in 1883 the details of a case of general paralysis occurring in a boy of nineteen years. In the last number of the same journal he now gives the history of a most interesting case of the same malady, occurring in a boy of seventeen years of age. The patient, a natural child, was born at Bordeaux on the 9th of November, 1864. His father, who, in spite of the irregularity of his child's birth, was most solicitous for the latter's welfare, is a man of forty-seven years of age, married, intelligent, and possessing a legitimate child two years of age. He has been troubled for some years with rheumatic gout, and his father and one of his brothers were victims of this disease. His mother is a woman about forty years of age, intelligent, in fair health, but of nervous temperament. The maternal grandmother died at the age of fifty-four years in a condition of profound psychical disturbance, with suicidal tendencies of four years' duration, melancholia, refusal of food, etc.

This, in brief, is the genealogy of the patient. The latter has never had an infantile cerebral affection of any kind. At school he gave evidence of intelligence; but at the age of seventeen years, without the slightest warning, ptosis of the right eyelid became developed, and persisted until his death. From this moment his intelligence began to suffer and his memory to fail him; he forgot what he had already acquired, and at last he was sent home by his school-master. Some months after this, his condition meanwhile remaining about the same, he was attacked by an outburst of maniacal excitement upon slight provocation, suffered from persistent insomnia, was exalted in conduct, and masturbated continually. Finally his speech became characteristically affected. On the 4th of August, 1883, he was placed in an asylum. At this time the symptoms of general paralysis were well developed: his lips and tongue were the seat of characteristic tremor, his speech was profoundly affected, the pupils were uneven and sluggish, the right eyelid drooped, the hands and feet were moved about

awkwardly, and before long his sphincters became completely relaxed. As to his mental symptoms, it was observed that his intellect was exceedingly feeble, his memory was almost gone, he was perfectly unconscious of his condition, and was oblivious to what transpired about him. There were no delirious symptoms, properly speaking.

As, from conversation with the mother, the existence of a syphilitic element in the case was suspected, a rigorous specific treatment was ordered in the form of inunctions. This treatment was badly borne; indeed, he seemed to get worse under it. Shortly afterward he was taken home, and, under a derivative and purgative treatment, his condition was considerably improved for a few months. Soon, however, he relapsed into a condition of cachexia, became bedridden, and was afflicted with bed-sores, frequent bleedings at the nose, and atrocious pains in the head. In December, 1884, he died. No autopsy was permitted.

The author concludes that where general paralysis occurs before the twenty-fifth year the fact is owing to some powerful predisposing factor, such as heredity, syphilis, alcoholism, traumatism, some form of general diathesis, in short, which tends to give rise to the anatomical conditions of the brain found at the epoch of mature life.

The Curability of Insanity.—Dr. Pliny Earle ("American Journal of Insanity") adds a most scientific statistical study to the literature of this subject. Some of his conclusions possess much interest from a theoretical and practical point of view. Thus, he observes that, so far as the statistics presented are an indication, the recoveries in British asylums, both in recent cases and of all patients admitted, exceed the recoveries in American institutions by between eight and nine per cent. The most important general conclusions to be derived from the statistics included in this paper are, first, that the old allegation of curability in a very large majority of recent cases is not sustained, and that a failure to sustain it is more apparent and more striking than at any antecedent time; and, secondly, that the percentage of reported recoveries of all cases received at the hospitals in this country still continues to diminish. The author of the paper pertinently observes that the diminution is perhaps in part attributable to the admission of a larger proportion of chronic cases and of cases of greater degeneracy from their origin, in part to a more stringent interpretation of the meaning of the word recovery, and to greater conscientiousness in the compilation of statistics.

Exactness in Psychological Nomenclature.—Dr. Orpheus Everts (*Ibid.*), in an article entitled "New Wine in Old Bottles," enters a protest against the confusion which has arisen from a lack of definiteness in expressions employed for the communication of ideas in psychiatric science. The new conceptions growing out of the application of the laws of physiological psychology demand a revision of the terms employed by the older metaphysical philosophy. The well-known illogical applications of such words as "will," "emotions," etc., are cited as illustrative of the author's position. [While we readily admit that the confusion of terms deprecated by Dr. Everts has a real existence in fact, we are compelled to acknowledge that the ground for such confusion is ample. It is the outgrowth, in a word, of the extremely rudimentary condition of physiological psychology itself. In truth, as Herbert Spencer observes: "Though accumulated observations and experiments have led us, by a very indirect series of inferences, to the belief that mind and nervous action are the subjective and objective faces of the same thing, we remain utterly incapable of seeing, and even of imagining, how the two are related. Mind still continues to us a something without any kinship to other things; and from the science which discovers by introspection the laws of this something there is no passage by transitional steps to the sciences which discover the laws of these other things."—J. L. C.]

Race and Insanity.—Dr. Joseph G. Kiernan ("Journal of Nervous and Mental Disease") has made a series of interesting studies with a view to ascertaining whether the insanity of the negro is tinged by certain psychical tendencies—such, for example, as those seen in the voodoo superstitions and in the periodic attacks of sexual furor which are such characteristic features of the dusky race. As the author truly observes, the attacks of sexual furor exhibited by negroes, especially in the spring, bear a close resemblance to the corresponding phenomena displayed by the elephant and the bull. In order to test the question as to how far insanity in the negro is characterized by the phenomena just referred to, the author has carefully collected the statistics of a number of cases of paretic dementia occurring in negroes. From a careful analysis of these cases he is led to conclude "that the psychical peculiarities dormant in the race crop out very prominently in these cases, and it would appear certain from these that the question about the influence of the superstitions of the race must be answered in the affirmative."

Onomatomania.—Charcot and Magnan ("Archives de neurologie") have, under this somewhat formidable designation, drawn attention to a series of mental symptoms in which a name or a word plays a prominent part. In order that the preoccupation with the word shall attain such dimensions as to provoke positive anguish, and that such preoccupation shall repose upon an urgent active seeking after the word—upon a possession, an impulse—it is, of course, necessary that the psychological substratum should possess particular attributes. This assemblage of conditions, like that present in *folie de doute*, perversions of the sexual feelings and inversion of the latter, fear of pins, dipsomania, etc., can only be developed in those who are predisposed. "All these conditions, so numerous and so variable, confounded under the designations of insanity with consciousness, reasoning mania, mania without delirium, pseudo-monomania, etc., are only psychical stigmas of hereditary insanity." Moreover, these episodical conditions may be determined by the most trivial causes; the remembrance of a trifling incidental circumstance may give rise to the agonizing search after the name. In order to thoroughly appreciate the part which the word is capable of playing in the preoccupations of those afflicted by hereditary predisposition to mental weakness, it is necessary to examine the principal conditions to which it may give rise: "1. The harrowing search after the name or the word. 2. Continuous besetting of the mind by the word which imposes itself, with an irresistible impulse to repeat it. 3. The particularly portentous significance of certain words occurring in the course of conversation. 4. The preservative influence of certain words. 5. The word become a veritable solid body to the patient, inadvertently swallowed, pressing heavily upon the stomach, and capable of being rejected by expectoration."

Miscellany.

The International Medical Congress.—The following "special announcement" has reached us: "The Executive Committee of the Ninth International Medical Congress, to be held in the city of Washington, D. C., commencing on the first Monday in September, 1887, having accepted, under Rule 10 of the Committee on Preliminary Organization, the charge of the business of the Congress, hereby give notice to the members of the medical profession that they have been actively engaged upon, and have now nearly completed, the arrangements for this meeting; and they anticipate the hearty co-operation of the profession everywhere in developing this great scientific and humanitarian assembly.

"By order of the Executive Committee.

"HENRY H. SMITH, M. D., Philadelphia,
"*Chairman of Executive Committee.*
"NATHAN S. DAVIS, M. D., LL. D.,
"*Secretary-General of the Ninth Int. Med. Congress.*
"CHICAGO, *November* 24, 1885."

The International Medical Congress of 1887.—A meeting of members of the medical profession interested in the International Medical Congress in 1887, to which prominent medical men from a number of cities were invited, was held at the Hall of the College of Physicians, Philadelphia, December 4, 1885, Dr. D. Hayes Agnew in the chair.

It was stated that official notice had been given of the election, as members of the present Executive Committee of the Congress, of Dr. J. S. Billings and Dr. J. M. Browne, of Washington, D. C.; Dr. Christopher Johnston, of Baltimore; Dr. George J. Engelmann, of St. Louis; and Dr. J. M. Da Costa and Dr. William Pepper, of Philadelphia.

A general and strong expression of opinion was made in support of the American Medical Association and its Code of Medical Ethics, and sincere regret was expressed that hasty action on the part of the association, and the introduction of false issues, had imperiled the success of the Congress. It was made entirely evident, however, that the acceptances of the above elections would not be regarded as affording any adequate guarantee for the future scientific conduct of the Congress, and, consequently, would not be followed by any co-operation on the part of the leading members of the profession now unwilling to join in that work. As an evidence of the earnest desire which is felt for the restoration of harmony upon this subject, and for the reorganization of the Congress on a basis which would command general support, and thus insure success, the view was unanimously expressed that if the present Executive Committee should unite with them the Original Enlarged General Committee, and recommence the organization *de novo*, this course would insure the desired result.

The late Dr. Samuel S. Clark, of Belvidere, N. J.—We have been asked to publish the following:

"The Board of Managers of the State Asylum for the Insane at Morristown, N. J., learn, with the deepest feelings of sorrow, of the death of their honored Vice-President, Dr. Samuel S. Clark, which occurred at Belvidere, on Monday, the 23d ult., at the age of sixty years.

"Dr. Clark came of a distinguished ancestry, from whom he inherited those sterling qualities which made his life so useful and honored. His grandfather, the Rev. Joseph Clark, left the pulpit to enter the Revolutionary Army, and served with distinction on the staff of General Washington. His father, the Rev. John Flavel Clark, was also a distinguished Presbyterian clergyman, and one of the founders of the American Board of Foreign Missions, and subsequently became one of the faculty of Princeton College. With such ancestry it was but natural that Dr. Clark should be the noble man that he was.

"He was born at Flemington, N. J., November 8, 1825, and entered Princeton College in 1841. After a three years' course in that institution he entered and graduated from the Medical Department of the University of New York, and for nearly thirty-seven years practiced medicine in Belvidere. His kindness of heart, his faithfulness as a friend, his wisdom as a counselor, his tender sympathy and skill as a physician, endeared him to the homes and families in the bounds of his large practice. His clear mind, his fine culture, his habits of careful study, and his acquaintance with the best results of science, placed him in the front rank of his noble profession. He was active and public-spirited as a citizen, always promoting the best interests of the community in which he lived.

"As a member of the Board of Managers he was firm in his convictions of right, yet considerate and forbearing with those who differed with him. Withal, he was modest and unassuming, and always a gentleman. He was one of the most companionable of men, and his fine social qualities endeared him, not only to his associates in this board and to the masses with whom he came in contact, but to eminent men in all professions throughout his native State. More than an ordinary man has fallen; a happy home has been made desolate, and a devoted wife and daughter, upon whom his fondest affections were centered, mourn for one whose companionship was more precious to them than all other earthly treasures. We tender to them our deepest sympathy We record this tribute to his memory in our book of minutes, and request our secretary to transmit a copy of the same to his sorrowing family."

The Mutter Lectures.—The first two lectures of the Mütter course, by Dr. Henry F. Formad, were given before the College of Physicians of Philadelphia on Tuesday and Friday evenings, the 8th and 11th inst. The succeeding lectures are appointed for December 15th, 18th, and 22d, and January 5th, 8th, 12th, 15th, and 19th. The subjects are: "Morbid States as influenced by Embryonal Development, Anomalous Structural Peculiarities, Injuries, and the Effects of Lower Organisms, with Special Reference to Surgical Pathology."

The New York Academy of Medicine.—The Section in Surgery will meet Monday evening, the 14th inst., at 8 o'clock. The subject of "The Indications for Laparotomy in Penetrating Stab or Shot Wounds of the Abdominal Cavity" will be discussed by Dr. Bryant, Dr. Wright, Dr. Weir, Dr. Dennis, and Dr. Wyeth. The Section in Theory and Practice of Medicine will hold a meeting the following evening at the same hour. Dr. H. N. Heineman will present the subject of "Auscultatory Percussion."

The Health of the State of New York.—According to the State Board of Health's "Monthly Bulletin" for October, the total number of deaths reported was 5,680, the percentage among infants being 32·6. In every thousand deaths there were 204·22 from all zymotic diseases, 26·59 from typhoid fever, 57·04 from diarrhœal diseases, and 75·53 from croup and diphtheria. There were five deaths from small-pox.

The Health of Michigan.—It appears by a circular issued by Dr. Henry B. Baker, the secretary of the State Board of Health, that during the month of November diphtheria was reported from sixty-three places, typhoid fever from thirty-four, scarlet fever from thirty-nine, and measles from six.

The Philadelphia Polyclinic.—We learn that the Polyclinic's new building, at the corner of Broad and Lombard Streets, will soon be ready for occupation. Owing to the increased attendance, its present quarters, at the corner of Thirteenth and Locust Streets, have been found inadequate. The new building will contain hospital wards and private rooms for paying patients, and it is intended that greater attention shall be paid to the out-patient service. It is announced that the journal edited by the faculty will be doubled in size after the first of the year.

A New Spanish Journal.—We have received the first number of the "Gaceta del Hospital Militar," a monthly journal published at Guadalajara. It is largely devoted to statistical and sanitary matters connected with the army, besides which there is the history of a case of chyluria ameliorated by dietetic treatment.

"Ominico" as an Antiseptic.—Dr. Henry F. Beam, of Johnstown, Pa., lately reported to the Central Medical Association of Pennsylvania the history of a case of oöphorectomy in which a solution of mercury bichloride was used at the time of the operation, a compress wet with it being applied over the wound. The next morning he found that considerable hæmorrhage had taken place during the night, that the compress was saturated with blood, and that the parts gave out "a nasty cadaveric odor." Two sutures were removed, and a considerable amount of coagulated blood was turned out with the handle of a scalpel. The parts were then thoroughly cleansed with "ominico," fresh sutures were applied, and a compress saturated with "ominico" was laid over the wound, and the subsequent progress of the case was in every way favorable.

Ozoniferous Essences as Antiseptics.—"Listerine," says the "Sanitarian," "possesses essential properties analogous in their effects to the ozoniferous ethers so highly recommended by Dr. Benjamin Ward Richardson and others as deodorizers and disinfectants for the sick-room, and should be used in the same way—sprinkled over handkerchiefs, garments, and the bed-linen of fever cases. Mantegazza, 'On the Action of Essences and Flowers in the Production of Atmospheric Ozone, and on their Hygienic Utility' ('Rendiconti del Reale Instituto Lombardo,' vol. iii, fasc. vi), as quoted by Fox on Ozone, reports that the disciples of Empedocles were not in error when they planted aromatic and balsamic herbs as preventives of pestilence. He contends that a large quantity of ozone is discharged by odoriferous flowers, and that flowers destitute of perfume do not produce it. Cherry-laurel, clove, lavender, mint, lemon, fennel, etc., are plants which develop ozone largely on exposure to the sun's rays. Among flowers, the narcissus, heliotrope, hyacinth, and mignonette are conspicuous; and of perfumes similarly exposed, eau-de-cologne, oil of bergamot, extract of millefleurs, essence of lavender, and some aromatic tinctures. He also points out that the oxidation of the essential oils, such as nutmeg, aniseed, thyme, peppermint, etc., is a convenient source of ozone, and concludes that the ozoniferous properties of flowers reside in their essences, the most ozoniferous yielding the largest amount of ozone. It is of such aromatic essences that Listerine is composed, and hence its efficacy under the circumstances indicated."

Original Communications.

REMARKS UPON THE CLIMATE OF FLORIDA.*

BY J. C. WILSON, M. D.,
PHILADELPHIA.

"Si la curabilité de la phthisie n'existait pas, il faudrait l'inventer, ne fût-ce que pour consoler le malade et pour justifier le médecin."—G. SÉE.

WHATEVER may be the ultimate outcome of the systematic investigation of the effects of different climates upon chronic lung diseases now being carried on, whatever the mutations of opinion, whatever the changes of fashion, Florida is to-day, and is long likely to be, the *most popular* of American winter resorts.

The popularity of this region as a resort for invalids, and especially for those suffering from diseases of the lungs, had its beginnings with the medical profession, and is based upon well established and easily verified facts relating to the equability of the climate and the low death-rate from consumption among the residents of the State. Its popularity with valetudinarians and the non-invalid classes, while also largely dependent upon the peculiarities of its fortunate winter climate, is enhanced by the practicability of continuous out-door life, the facilities for fishing and hunting, the sub-tropical vegetation of many regions in strong contrast with the snow-bound landscape of the North, and the ease and speed with which it can be reached. To these attractions add the excitement which attends the opening up of new territory, the development of new industries, opportunities for investment, chances for speculation, a most fertile soil upon which may be grown the widest range of fruits, vegetables, and staples, that *ignis fatuus* of northern capital, the orange, and it is easy to comprehend the enormous and increasing annual afflux of northern people to Florida at the beginning of winter. It is also easy to understand why a percentage of such visitors, both of the invalid and the non-invalid classes, and by no means inconsiderable, become permanent residents.

But the popularity of Florida has not grown in the profession as among the people. Medical men, anxious for the best results and seeking to act without prejudice, have in recent years become cautious as to whom they shall send to winter in Florida; have often acquiesced in such a plan rather than ordered it, and this not infrequently with serious misgivings. In the absence of statistical evidence bearing upon the effects of the climate upon invalids of all kinds—evidence difficult to obtain in regard to climate-treatment under the most favorable circumstances, quite impossible upon any adequate scale in this instance—it is not easy to explain at first sight the present guarded attitude of the profession.

But a closer examination of the conditions reveals some warrant for it. In many instances it has grown out of repeated unsatisfactory and disappointing results in particular cases. In others there has arisen a feeling of uneasiness as to the sanitary arrangements in over-crowded, restricted localities wholly lacking natural facilities for drainage. Again, the advantages of other and diametrically different climates have been urged upon the profession with an ability and pertinacity which have carried conviction sometimes even in the absence of proof.

Germain Sée, in his recent work upon "Bacillary Phthisis," divides the climates appropriate to the treatment of consumption into three categories:

1. Warm maritime climates,
2. High-altitude climates, necessarily cold,
3. Warm low climates not maritime,

and regards the first two of these as embodying all that is essential in the climate-treatment of this disease—namely, purity of the atmosphere, the more or less complete absence of dust and microbes in the air, abundant light, and ozone. From the standpoint of this observer, the fact that the low barometric pressure of high altitudes and the increased pressure of the sea-coast, acting so differently as they do upon the function of respiration, are alike favorable, is only an apparent contradiction. On the one hand, the increased oxygen of low levels is unfavorable to the biological necessities of the bacillus; on the other hand, the rarefied atmosphere freely ventilates the lungs and interferes with the multiplication of this microbe.

I confess to an inability to view the subject in this simple manner. To me phthisis, alike clinically and pathologically, is a complex malady, and climate an entity, the sum of many factors, variations in any one of which may modify the result, and therefore too complex for any save the most cautious generalizations.

The meteorological phenomena of various regions are constantly marshaled before our attention as all-important in determining the nature of the climate, and a subordinate value is often assigned to such matters as soil, drainage, aspect, and exposure to or shelter from particular winds. But the investigation of the climate of different localities from the standpoint of the therapeutist demands that every element entering into its composition (and their number is many) should receive due consideration. In fact, local conditions are so important that wide variations of climate within narrow geographical limits are constantly encountered—I was about to say are the rule rather than the exception. This statement is certainly true of the Florida peninsula. The regions of the State now readily accessible to travelers of every kind, including all invalids who have anything to expect from climate-treatment, comprise four distinct strips of territory, which differ from each other in their climate in essential particulars. I speak now of the peninsula of Florida, and exclude from consideration the main-land contiguous with Georgia and Alabama, which has not up to the present time, to any great extent, attracted the attention of invalids.

These four strips of territory extend in a general north and south direction, and are nearly parallel to each other and to the long axis of the peninsula. They are:

* Read before the American Climatological Association, May 28, 1885.

1. The Atlantic seaboard,

2. The St. John's River,

3. The elevated pine lands forming the water-shed of the State, and

4. The Gulf coast.

A brief study of the general characteristics and the special peculiarities of these regions may serve to point out some of the sources of disappointment in the past, the real advantages for a wider range of patients and their better distribution at present, and the opportunities for a more scientific and more extensive employment of the resources of the State in the climate-treatment of disease in the future.

The two great characteristics of the climate of all these regions alike, in fact of that of the whole peninsula, are mildness and equability. These traits are due to causes for the most part well understood, namely, the sub-tropical geographical position of the peninsula and its situation between the waters of the Gulf Stream on the one hand and the Gulf itself on the other; and its surface configuration, marked by low levels, the average altitude being about sixty feet, and the absence of abrupt elevations or mountains of any kind.

The peculiarities of the different regions depend upon conditions which are purely local.

It is obvious that the greater portion of the territory already accessible to railroad travel, including the fertile "hummock lands," the savannas, and many other regions adapted to agriculture, are unsuited to the needs of invalids, and that a few localities only are adapted to the requirements of health resorts.

1. The Atlantic Seaboard.—The principal stations are Fernandina and St. Augustine. They enjoy the advantages and suffer from the disadvantages of a climate essentially maritime. The life is agrecable, the amusements are diversified; many patients steadily improve at these places. On the other hand, a small number suffer from the abrupt alternations of the land- and sea-breezes, and from a certain sense of excitement or nervous tension which they attribute to the "*stimulating*" effect of the sea-air. This class includes many neuralgic and neurasthenic subjects, those who have a disposition to bleed, and those who have fever. Moreover, these stations are subject to the northeast storms which occasionally prevail here as elsewhere on the Atlantic coast, and are the cold, wet storms of Florida. Sidney Lanier quaintly remarks that the climate of Florida is nearly perfect, but that it has a *northeast nick* in it.

Farther south upon the seaboard the beautiful Indian River country, sheltered as it is by Merritt's Island, is as yet inconvenient of access, and lacking in suitable accommodations for invalids.

For those who are equal to the requirements of an out-door life and fond of "roughing it," this region has special attractions.

A lad of eighteen, the last of a phthisical race, went down there last autumn because he had orange interests to look after, and brought back this spring eighteen pounds of hard additional flesh and more than strength in proportion. His complaint was that he was "hungry for milk"—a hunger complained of everywhere in Florida.

2. The St. John's River.—I speak of this beautiful stream or chain of lakes with its thirty-eight stations between Jacksonville and Enterprise, a distance of one hundred and forty-six miles, with hesitation, lest in expressing a personal view, which I believe to be well founded, I may do any interest a wrong.

These stations are every winter crowded with the sick and their friends. Lured by its marvelously beautiful scenery, its facilities for out-door life, its clear and almost currentless waters, its gentle air, the consumptive spends his winter along this river in tranquil dreams of better health and strength in the spring. It is an ideal land, and its atmosphere is drowsy with the perfume of its flowers. But what of its climate? Neither the advantages of high, cold stations, nor those of the sea; neither dryness on the one hand nor ozone on the other. It is essentially a sub-tropical lake climate, in many districts a marsh climate. Such a climate as this finds place in no classification of winter or summer stations for the sick. Doubtless there are patients who do well. The open-air life counts for much. It is far better than that of the office or the shop. But some of whom I have knowledge have fared the worse for the seductive climate of the St. John's River. I will not speak of fever except to say that the danger of intermittents constitutes one of the real objections to several of these stations.

Until within a brief time these two strips constituted the accessible regions of Florida for the great majority of invalids and tourists. Some persons could not stand the coast climate; that of the river had dangers for all. Thus the physician set his face against Florida and sent his patients to Colorado, to New Mexico, to California, to Arcachon, to Pau, the Riviera, Capri, the Tyrol, the Engadine, the Cape of Good Hope. Such are the journeys which the rich man with damaged lungs is called upon to make in search of the health he seldom finds. The poor must stay at home. And some have been sent to Aiken, the Georgia Sand Hills, to Thomasville; and on the whole they have done better.

But within a year the railroad system of the State has again pushed its way across to the Gulf and opened up new regions of which the climates, retaining the cardinal traits of mildness and equability—nay, more, excelling in these—possess peculiarities and advantages of their own.

Of these, as we proceed westward, the first region is found in

3. The Elevated Pine Lands of the Water-Shed.—This divide extends from the Okefinokee Swamp in Georgia southward and somewhat to the east, with an average altitude of about two hundred feet, and occasional ridges reaching an elevation of three hundred feet. Between this main ridge and the Gulf there is a second line of elevation known as the Sand Hills, which attains a height of about one hundred and twenty feet. At many points along the line of the South Florida Railroad these lands are being settled and developed with the activity of a new oil or mining country. Exact meteorological data are not yet collected, but the climate of these pine lands is in many respects not unlike that of Aiken or Thomasville, but much milder and more even. The soil is sandy and deep, with good natural

drainage facilities; it is adapted to market gardening, and, when properly cultivated, sufficiently productive. The pines branch high and afford little obstacle to the free movements of the atmosphere. The summers are bearable, and many invalids are becoming permanent settlers. It is safe to predict for this region a useful future in the climate-treatment of diseases of the chest.

Finally, 4. The Gulf Coast claims our attention. Here we find the perfection of the warm maritime climate—from Cedar Keys to Punta Rassa, a coast-line much broken, deeply indented, and of rare beauty. This region rejoices in a climate which possesses, in an exceptional degree, the qualities of equability of temperature, purity of atmosphere, and comparative dryness. Stretches of hummock land alternate with sandy reaches of some elevation, and often covered with an open growth of pine. Along the edges extend narrow beaches shelving gradually into the limpid waters of the Gulf; overhead is a summer sky.

The mean temperature for the five winter months, during a period of five years, at the United States Signal Station at Punta Rassa, is shown in the following table:

November	69·4
December	64·6
January	64·8
February	66·1
March	68·8
Mean for five months	66·7

The maximum and minimum temperatures for the same months, in the years 1878–1879, are here set forth:

	Max.	Min.
November	83·7	46·7
December	76·2	42·3
January	79·3	46·7
February	79·1	47·6
March	82.6	49·7
Mean for five months	80·7	46·6

The movement of the air is, as a rule, moderate but continuous—a factor of much importance in climate. The influence of the sea and of the abundantly wooded shores, where grow in plenty the pine, the palm, and the cypress, brings about an atmospheric state at once free from inorganic and organic dust and rich in ozone. In this aseptic air, notwithstanding the warm temperature, putrefaction goes on but slowly, and meats hung out are said to remain free from taint and to undergo a slow desiccation without decomposition. This is doubtless also largely due to the dryness of the atmosphere.

The rain-fall is small. At Punta Rassa, during the five cold months, it is given in inches and hundredths from the statistics of the Signal Service as follows:

November	1·62
December	1·08
January	2·31
February	1·79
March	·83
Mean for five months	1·52

The mean of the maximum and minimum temperatures of the water of the ocean bottom at Punta Rassa, for the five winter months during five years, from 1878 to 1883, is here shown:

November	72·8
December	67·2
January	63·6
February	68·1
March	73·0

The advantages of this region as a winter station have long been known. The Government Reservation of Fort Brooke, at Tampa, was formerly used for this purpose. Some years ago Dr. Levis, of Philadelphia, published an admirable paper describing the climate and life of the Gulf Coast. At the meeting of the American Medical Association this year at New Orleans, Dr. Van Bibber, of Baltimore, again called the attention of the profession to it, with a valuable suggestion as to the hygienic principles to be regarded in the improvement and development of localities designed to be used as health resorts.

The obstacles to its settlement and growth hitherto have been connected with difficulty of access and want of means of communication—a difficulty no longer existing. Railroad and steamboat facilities are to-day ample, and the tide of travel has set toward this region. Towns and settlements are springing up at many points. Large investments of capital have led to an extended knowledge of the advantages and resources of this portion of the State. Suitable accommodations for invalids and tourists are projected in various localities. The establishment of sanitaria and other similar institutions upon a large scale in regions previously unsettled affords opportunities for measures of hygiene elsewhere practically unattainable. Danger of over-crowding and errors of drainage may be at least avoided.

Among many excellent localities, the high strip of pine land which extends as a peninsula between the Gulf and Tampa Bay, terminating in Point Pinellas, has great natural attractions. Its dry, sandy soil, its comparative elevation above the water-line, its protecting reefs and islands, its narrow but smooth beach, its clear waters, abounding in fish, and its natural semi-tropical vegetation, adapt it in a remarkable degree to the purposes of a health resort. The Statistical Reports of the Surgeon-General's Office show that the climate of Fort Brooke, across the bay from Point Pinellas, possesses in a high degree the favorable characteristics of this general region. The thermometric range is "less than at any other point in the United States, with the exception of the coast of southern California." The mean annual temperature is 58° F., with extremes of 92° F. in summer and 34° F. in winter. I have been informed by trustworthy observers that the temperature at Point Pinellas is some degrees higher than this, that the extremes are less, and that frosts are practically unknown. In fact, the Point has been spoken of as the "Frostless Pinellas." Like the rest of Florida, this region enjoys complete immunity from the sudden variations of temperature and violent storms which occur in the vicinity of mountain ranges. The prevailing winds are from the south and west; northeast storms are unknown except at the equinoxes; northwest storms, which correspond to the "northers" of Texas, are occasionally felt. These are the cold, dry storms of Florida. The settle-

ments upon Point Pinellas at Big Bayou are exempt from every form of malarial disease. The water in the bay is always warm, the beaches are of gradual slope, the ebb and flow of the tide only about twenty inches; bathing is therefore practicable at all seasons and free from danger.

In conclusion, it may be affirmed that the climate of Florida, though possessing the attributes of warm maritime climates in general, is much diversified and is, in its various regions, adapted to the requirements of a large class of invalids both for the winter season and as a permanent residence.

DISCUSSION.

Dr. Tyndale said the use of the terms mildness and purity, and others, in Dr. Wilson's paper gave him occasion to say what he might have said in connection with Dr. Denison's paper. Such terms were negative expressions, and were implied in the positive ones used in Dr. Denison's paper. Dryness, equability of temperature, and elevation implied all the other qualities or elements of climate, such as sunshine, wind, and electricity, for the latter were dependent upon the former. The terms mild, soothing, etc., denoted sensations only. He would not compare the effects of dryness and elevation, which were inseparable, with those of equability of temperature, but would say that there were statistics to show the influence of these climatic elements upon the human system, and it was these positive facts which were of value in the study of climatology. Sunshine, an implied quality of these three, was to be found in connection with equability at the sea-shore, and in connection with dryness and elevation at inland altitudes. Sunshine had two qualities, that of abundance and that of intensity. Abundance, there being a great many clear days, was common to the sea-shore and to inland stations, but intensity of sunshine was present only at inland altitudes, where there was no obstruction in the atmosphere to the passage of the rays of light. Of other elements of climate he knew nothing of the effect upon the human body, except as they were negative, interfering with comfort. In this regard wind was the principal factor, having the effect of rapidly cooling the body and creating dust and general discomfort, and was generally an attribute of dryness and elevation rather than of equability and moisture. If we had to choose in any given case from among the three elements of climate mentioned, dryness, elevation, and equability, which included other conditions, such as electricity, ozone, etc., it was better to choose the first and second and leave out the third, for the third without the first could be of little benefit. In other words, it was better to choose dryness in connection with elevation, and forego equability, than to choose equability and forego dryness and the effect of elevation or reduction of pressure. In that respect he would say that he believed the peninsula of Florida had only the element of equability with abundance of sunshine but without intensity.

AN ACCOUNT OF A SUIT FOR DAMAGES

IN A CASE OF ALLEGED INJURY BY A BLOW ON THE EAR.

By GORHAM BACON, M. D.,

and D. B. ST. JOHN ROOSA, M. D., LL. D.

(*Concluded from page 663.*)

Re-direct Examination.—My testimony is based upon my experience in similar cases, which leads me to believe that this boy's condition had existed three or four years. I found the left nasal passage more obstructed, more inflammatory material thrown out there than on the right side. He could breathe more freely through the right nostril than through the left one. In that way I accounted for the inferior hearing on the left side. The Eustachian tube was not so pervious on that side. In my opinion, it is impossible for an expert opinion to be given that the presence of deafness in a boy is produced by a blow or slap in the face in the region of the ear, unless an examination has been made immediately at, or about the time of, the occurrence. That is the view of all authorities upon the subject. I do not know Dr. Rounds. I have never met him before. Patients often come to me stating that they have had falls, etc., and date the deafness from that time, when changes had actually existed in the ear for a long time, and the deafness was due to pathological changes in the ear itself.

Those who read the cross-examination will notice the evil effects of the present system of securing expert testimony in leading the lawyers to attempt not so much to allow the expert to say what he really means as to make his testimony valueless by an apparent but not real contradiction.

Testimony of Dr. D. B. St. John Roosa, a witness sworn on behalf of the defendant.—I am one of the physicians of the Manhattan Eye and Ear Hospital. The divisions of the ear are the external, the middle, and the internal ear. The external ear commences with this portion (illustrating) and extends to the drum-head; the middle ear commences with the drum-head and communicates with the throat by the Eustachian tube, and on the other side is the nerve. The inner ear is where the auditory nerve is situated. The Eustachian tube passes into the middle ear from the throat immediately back of the tonsil. The Eustachian tube is lined with a mucous membrane. The nasal passages open directly into the Eustachian tube. The Eustachian tube ventilates the ear-chamber or tympanum so that the atmospheric pressure is the same on either side of the drum-membrane.

A blow over the ear would affect the hearing in two ways. It might produce a rupture of the drum-head, and it might not produce a rupture, but might produce a concussion of the nerve and of the brain.

Q. And of the inner ear?

A. Of the inner ear. That result is produced by the compression of a column of air in the auditory canal by direct violence upon the mouth of the ear. The blow must come so that the air in the canal will be compressed. In order to produce a compression of the air in the auditory canal, I should think that it would be necessary that the opening over the ear should be closed for the time being, either by direct violence upon it or by being pushed up and closed.

Rupture of the drum-head would perhaps be accompanied by concussion of the nerve, but we may have concussion of the nerve without a rupture of the drum-head. We tell whether or not the nerve has been affected by a blow by the use of a tuning-fork which is placed in vibration by striking it upon some object, and it is held in front of the ear for one test, and then it is put on the bone behind the ear for another test. If the tuning-fork be heard better through the air than through the bone, and there is at the same time impairment of hearing, that impairment, in my opinion, depends on disease of the nerve. But, if the bony conduction is better than the aërial conduction, it depends upon disease of the middle ear, in my opinion, and not upon disease of the inner ear. The usual symptoms of rupture of the drum-head from a blow are bleeding from the ear, and often there is a watery discharge if there be no bleeding; but usually there is bleeding, and generally sickness at the stomach,

inability to walk straight, and a complaint of dizziness. If there be a rupture of the drum-head, a discharge of blood is almost invariably present. A serious rupture might heal in two days, but it would show traces on examination. I should not consider a rupture serious where there was only a complaint of pain in the ear for a few days after the occurrence.

Q. In your opinion, from your experience as an aurist, would you say that a slap from the hand of a gentleman of about my size upon the cheek of a boy, given with such a degree of force only that the boy was not stirred from the perpendicular, could produce any impairment of hearing?

A. I should not.

By the Court.—Suppose it was sufficiently weighty to actually disturb him from the perpendicular and throw him against a person standing near; would that, in your opinion, be sufficient?

A. I think it might. The most frequent causes of deafness in children are colds in the head, commonly called naso-pharyngeal catarrh by doctors, measles, and scarlatina, which produce the same results upon the nose and throat as are produced by colds in the head. The drum, Eustachian tube, and the mastoid cells make up the middle ear. In the diseases I have mentioned the inflammation travels up the Eustachian tube to the drum-cavity. If a patient has an inflammation of the back part of the throat, by continuation it goes into the middle ear, and there is the same kind of inflammation there. That inflammation narrows the tube, prevents ventilation, and makes the chain of bones that conduct the sound to the nerve rigid instead of flexible. I omitted to say that the passages of the nose suffer in the same way, and the patient, as one of the symptoms, does not breathe freely through the nostrils, but through the mouth.

There is a well-marked condition of chronic catarrh called "mouth-breathing," which is an evidence of chronic catarrh, though it might occur in very acute cases.

If it is permanent, it means a chronic condition. Catarrh is inflammation of the mucous membrane, and, when affecting the nasal passages and Eustachian tubes, is apt to affect both ears. One of the results of this want of ventilation in the middle ear, and of this locking together of the chain of bones, is a dragging inward of the drum-head, called by doctors a sunken drum-head. If a patient hears better at some times than at others, that is an indication of chronic catarrh. If the disease has not got to a dead level, there are variations in hearing. On a damp day the patient does not hear so well as upon a dry day.

Deafness, when caused by catarrh, in a child frequently exists for a considerable period of time before it is first discovered. Politzer's inflation is a means of ventilating the drum of the ear through the Eustachian tube. The patient takes a little water in the mouth and holds it, and the doctor puts a tube in one nostril and closes the nostrils over the tube, and, on a signal, the patient swallows, and at the same time the doctor forces a column of air from this tube back into the drum of the ear through the Eustachian tube. When the patient is in the act of swallowing, the soft palate lies back against the throat so that the air must go in, as it can not go down. That is the invention called Politzer's inflation, from Professor Politzer, of Vienna. If the hearing improves after the use of Politzer's inflation, it indicates that it is a disease of the middle ear. It almost exclusively brings relief in cases of catarrhal deafness. It is my experience that there is frequently a mistake made in regard to the cause of a discharge from the ear in children. I have known patients to call a discharge of salt rheum from the ear a discharge of matter from the deeper parts. I have known them to suppose that an abundant supply of wax was a discharge. On the other hand, I have known them to suppose a discharge of matter from the ear was only a slight affair. Sea-bathing is frequently the cause of trouble in the ear. Continuous presence in the water, so that the body becomes chilled, is a very frequent source of catarrh—not a very fruitful source, considering the number of children who bathe; but a certain percentage of cases do result from prolonged bathing. Catarrhal deafness can not be produced by a blow. A blow upon one side of the face might produce a concussion of the nerve on the other side. I never saw such a case, but, if it did produce a concussion of the nerve, I should say there would be no other result coming from it.

Cross-examination.—*Q.* Are you acquainted with Mr. X.?

A. I am not.

Q. You would judge him to be a man of considerable muscular power, would you not?

A. He has been pointed out to me since I came in. I should think he had fair muscular power.

Q. Looking at him in that way, and judging of his muscular power, how much harm do you suppose a man of that kind, exerting his muscular power upon a little chap about that size (pointing to the plaintiff) by striking him on the ear, could do to the hearing?

A. If he struck him on the ear, I think he could do a great deal of harm.

Q. Do you think he could produce inflammation of the drum-head?

A. I think so.

Q. And inflammation of the drum-head leads to deafness, does it not?

A. It does.

Q. It is accompanied by deafness, is it not?

A. Inflammation of the drum-head is usually accompanied by deafness.

Q. Inflammation of the drum-head is distinguished from rupture of the drum-head. It is a different thing, is it not?

A. It is. We have inflammation without a rupture.

Q. But there can't be rupture without inflammation, can there?

A. Hardly.

Q. Inflammation of the drum-head is frequently followed by a discharge from the ear, is it not?

A. It is.

Q. And in a sense it may affect the hearing in both ears, may it not?

A. Not if I understand your question correctly.

Q. Inflammation, the result of a blow on one ear, may it not in some way affect the hearing in the other ear?

A. I think not.

Q. Not through a nerve?

A. Not through a nerve, if it is an inflammation of the drum-head.

Q. But a blow inflicted upon one ear may affect both ears, may it not?

A. I should judge that it might.

Q. Where a young child, five or six years old, is suffering from a nasal catarrh, which does not at the time affect his hearing at all, but a catarrh which is in the head, have you not known of a blow inflicted upon the ear to affect the hearing very materially?

A. I was just thinking. I know of the case of a boy who fell from his horse and hit his ear on one side and ruptured his drum-head, and had an inflammation of that side, but he did not have any of the other. I don't know of both ears being affected from a blow on one side.

Q. What I wanted to direct your attention to was this: Suppose a boy is suffering from a catarrh of the head, as a great many people suffer at certain seasons of the year, a young child,

and a severe blow is inflicted upon the ear, is he not more likely and liable to become deaf from that blow inflicted while he has this catarrh in the head than if he was in a healthy condition?

A. Certainly.

Q. It very frequently happens that a slight blow on the ear will create deafness?

A. I do not know that it does.

Q. The ear is more susceptible when there is catarrh in the head?

A. Yes; the drum of the ear, if there is catarrh in the head, is much more liable to be broken.

Q. You never examined this boy, did you?

A. No.

Q. Suppose a patient came to you, a little boy of whose hearing there had been no complaint until he had received a severe blow on one ear, and from that time on his hearing had been affected and he had inflammation of the drum-head, would you not attribute the inflammation to the blow?

A. I might. It would depend upon the history of the boy and other circumstances.

Q. I wish you would mention any other circumstances that would influence your judgment, or that would change your judgment, that the boy's deafness came from the blow.

A. If he was deaf on both sides, and he had a blow on one, I should conclude that he was probably not deaf from the blow.

Q. Suppose the boy's hearing had never been affected before that blow, and the blow had been a severe one, to what would you attribute his deafness?

A. I would go into the case. I should have to see the case. I could not isolate it in that way. It is a very common occurrence for us doctors to have a diagnosis made out for us beforehand.

Q. Would you attribute it to anything?

A. Not until I had examined the case for itself; I should not dare to.

Q. Suppose you found that the boy's hearing had been perfect before he received this blow, and then his hearing had been affected in both ears, would you not conclude that the blow had had something to do with it?

A. I should suspect it.

Q. You have consulted with Dr. Bacon, have you not?

A. I have consulted very freely with Dr. Bacon this morning or yesterday—I have forgotten exactly—within a short period.

Q. As to this case?

A. As to this case, and I heard as to what he found on an examination of the case.

Re-cross-examination.—*Q.* Don't you rely upon what you are told?

A. Very little in regard to medical cases. I regard what I see.

Q. You can't say how long before a man is brought to you he became deaf, can you?

A. No.

Q. Suppose you were told he became deaf at a certain time, don't you regard that as a circumstance?

A. I don't regard that as a fact because I am told it.

Q. You don't base any assumption upon that at all?

A. Very little.

Q. If this boy were brought to you and you were told that from the time this blow was struck his hearing was impaired, you would not place any stress on that?

A. I should place some stress; I should investigate, but I should not necessarily believe it.

Q. And you could tell whether that was so always?

A. No, I could not.

Re-direct Examination by defendant's counsel.—*Q.* Is it or is it not a fact, from your experience, that the large number of cases of rupture of the drum-head are actually cured?

A. I can't answer that directly. A rupture of the drum-head accompanied by concussion of the nerve may heal up easily and leave no scar; I have seen it, and yet the person remained deaf. Ruptures with concussion of the labyrinth, when the nerve is not injured, that heal up promptly, are slight affairs.

Re-cross-examination by plaintiff's lawyer.—*Q.* When they don't heal up for a couple of years they no longer become slight affairs?

A. They are pretty serious then.

Q. (by the Court). The physician who was on the stand a short time ago said that this boy, upon his examination, was suffering from a chronic catarrh—that seemed to be his diagnosis—and an opaque condition of the drum-head. Is an opaque condition necessarily an inflammation?

A. It is a result of inflammation.

Q. Would a catarrh follow such a blow or such an injury of the ear; would it be incidental at all?

A. Hardly.

Q. If you found catarrh existing, what would be your inference as a physician as to the causes of the deafness?

A. That the catarrh caused it.

Q. The catarrh, then, would not be superinduced by the blow, in your opinion?

A. I think I have already stated that I did not see how catarrh is induced by a blow.

Q. Then, as a matter of fact, if the catarrh was existing as a chronic condition, in your opinion, it would have some other cause than the blow?

A. Probably.

Q. Could you tell whether catarrh had existed for six or twelve months by examining the patient?

A. Not positively.

Q. It can become chronic in six?

A. I should call six months pretty near chronic.

Q. If you found catarrh accompanied by inflammation of the drum-head, and were told that the boy's hearing had been impaired from the time of receiving a severe blow, you would conclude, would you not, that the blow had something to do with the inflammation?

A. As I said before, not necessarily. I decline to answer that question that way because I can't. I should have to look into the circumstances. I do not see how catarrh can be caused by a blow. I have said that two or three times.

Q. We are talking of a case of catarrh accompanied by inflammation of the drum-head?

A. But catarrh is inflammation.

Q. But I am speaking of a local inflammation of the drum-head. You know that succeeds a blow?

A. I do not know such a thing as a local inflammation of the drum-head in conjunction with catarrh. I don't know how to make such a diagnosis.

Q. You could make a diagnosis of a local inflammation of the drum-head existing with catarrh in the head, could you not?

A. If there was a rupture of the drum-head I could make a diagnosis of rupture.

Q. Existing with catarrh?

A. Existing with catarrh of the head, certainly.

Q. And you could conceive of such a rupture succeeding a severe blow?

A. I could.

Q. You have been asked something about sea-bathing. Is it your experience that inflammation of the drum-head succeeds sea-bathing?

A. In some instances.

Q. And if a boy had been sea-bathing a great part of the summer, June, July, and part of August, and in August somebody struck him a severe blow on the ear, and inflammation of the drum-head followed immediately and continued, you would not ascribe it to sea-bathing, would you?

A. Not necessarily.

This case is perhaps an average exhibition of the uselessness of endeavoring to settle cases, which should be determined by experts, by referring them to an ordinary jury of laymen. The medical evidence is so technical that it is literally impossible to cause any jury made up of laymen, however intelligent, to render a verdict in accordance with the facts.

The plaintiff in the case now under discussion secured a verdict for $400. If this was intended as a compensation for an assault, it might perhaps be justified, for an assault of a mild character did occur.

As a compensation for loss of hearing, it is, of course, entirely inadequate. It is probable, therefore, that the jury was convinced that no damage to the ears resulted from the blow. This certainly was the opinion that both of the present writers entertained. Dr. Rounds, the witness for the plaintiff, said nothing in his testimony that could contradict this view. He simply testified that he treated the child, whom he saw for the first time long after the incident which caused the suit, for catarrh of the nose, pharynx, and of both middle ears. By far the greater weight of evidence went to show that the boy was struck on the cheek once, not sufficiently hard, however, to move him from a perpendicular position, and not on the ear; that he soon ate his dinner and appeared as usual. A blow upon the cheek, in order to hurt the ear, would have certainly moved the boy, and probably have knocked him down. It would also have caused dizziness and other symptoms than those complained of; a severe blow of this kind might press the column of air in the auditory canal upon the membrana tympani, and in a catarrhal subject rupture it, or, without rupturing it, produce a serious lesion of the labyrinth. Such an injury would usually be confined to one ear, at least for a long time.

It is not yet settled whether sympathetic otitis ever occurs. It is believed by one anatomist at least that the nuclei of origin of the acoustic nerves communicate directly with each other. In this case not only is there no evidence of any kind that the boy suffered from vertigo, nausea, or bleeding from the tympanum after the blow; but, on the contrary, the testimony of one well-known, respectable, and intelligent lay witness was that the boy did not hear well for some time before the blow.

It was also shown that he was at a sea-side resort, in the habit of bathing and diving and remaining in the water for long periods at a time; that at the time of the slap both parents were away, his father in Europe and his mother away on a week's visit, and the boy was left in the sole charge of the colored nurse, who was the principal witness for the plaintiff as to the nature of the blow. When he was examined by a general physician he found an abscess of one ear (he did not remember which). This was some two months after the blow. It is understood that the boy remained several weeks longer at the sea-side in the mean time, and that he continued his usual habits there. This physician did not profess to be an expert in aural diseases, and it was not shown through him where the pus came from, or indeed anything that would enable us to know whether the abscess of the ear was situated in the canal or tympanum, or that it resulted from the blow.

When he came under Dr. Rounds's care in April, 1884, six months afterward, the boy had chronic catarrh of both middle ears as well as chronic naso-pharyngeal catarrh, and Dr. Rounds found the ear on the opposite side of the head from the one upon which the blow was inflicted the worse. He thought the trouble had existed for a long time.

When examined by Dr. Bacon, the case was a typical one of chronic aural catarrh. When first seen, the child was hearing quite well, but, on the second visit, he was suffering from a subacute attack, such as is common in young subjects who have chronic catarrh.

In the light of this evidence, it seemed preposterous to Dr. Roosa, who was called as an expert, to assume that the blow had anything to do necessarily with the causation of the disease. Certainly, blows on the head, however severe, do not cause naso-pharyngeal catarrh, and, while an affection of the ear may be produced by a blow, such a disease would be entirely different in character from that shown by the testimony to exist in this boy's ears.

One of the counsel for the plaintiff, in cross-examining Dr. Roosa, was very much surprised to find that the latter laid so little stress upon the history as given by the patient's friends, and their conclusions as to the cause of the disease.

Over and over again he inquired, "If a patient were brought to you who stated, or whose friends stated, that he or she heard *perfectly well* until after a blow was received upon the ear, would you not believe that the deafness was caused by the blow?" When Dr. Roosa replied "Not necessarily," the lawyer showed by his surprise that he did not understand how unreliable such testimony as this was, even when honestly given and with no intent to deceive.

In this case, the testimony that the boy heard perfectly well just before the blow was contradicted, and the colored nurse, who was left in charge of the boy, was the only witness who testified to the perfect hearing *just previous* to the accident. His father, being in Europe, had not seen him for several weeks, and his mother was away on a week's visit and did not see him several days before the alleged assault. But it is quite possible that the boy generally heard very well until his season of bathing at the sea-side. It is impossible to get over the testimony given by one of our most reputable citizens, who was in daily contact with the boy, that he did not hear well just before the blow was received (that is, during the previous part of the summer), and that his habits of bathing, etc., were such as to lead to just such a disease as the medical testimony on both sides, to a greater or less extent, united in showing that he had.

Nothing is more unreliable and misleading, if trusted, than the testimony of patients and patients' friends as to the causation of disease. The lawyer, as well as the physi-

cian, knows that even the facts, and an interested person's account of them, are sometimes entirely at variance. When it comes to deductions drawn from facts, the non-expert mind will inevitably fall into error. We are very often obliged as physicians to give very little credence to the history of cases, but lawyers often seem as credulous as laymen in regard to theories of the causation of disease, and the value of testimony upon which these theories are based.

Fortunately, in the examination of the ear, we have in the speculum, the otoscope, and the tuning-fork aids to diagnosis which enable us to look at cases with considerable objectiveness. If a patient comes to us with the statement that, while hearing well, he received a blow on the ear which caused tinnitus, pain, and perhaps vertigo, that he soon found his hearing defective in that ear, and that it was growing worse, if we examined the drum-head and found no lesions, and yet the patient's hearing was impaired on that side, and the tuning-fork was heard better through the air than through the bones, we should conclude that the history was correct and that he was suffering from concussion of the nerve or labyrinth, the result of a blow. But when a disease is found that is not at all likely to have resulted from a blow, certainly we would not *necessarily* conclude that it had so proceeded, no matter how strongly his friends might insist upon it. Expert testimony as now given by physicians chosen by the counsel, and not by the Court, and before a jury of laymen, is often of no value, and sometimes brings the medical profession into disrepute, and, what is worse, defeats the ends of justice. Medico-legal cases should be settled by juries of medical men, and experts should be witnesses called and paid for by the Court.

DEFORMITIES OF THE NOSE
AS A FACTOR IN NASAL CATARRH.*

By J. W. ROBERTSON, M. D.,
DETROIT.

Every physician who has paid any attention to diseases of the nose has noticed that a large proportion of the applicants for his professional services have some deformity of the nasal organ, varying from a slight deviation of the septum to a complete obstruction of one or both nostrils.

Many noses which to all external appearances are perfectly straight are often found, when examined internally by the aid of a nasal speculum or rhinoscope, to be deformed to an extraordinary extent, and in a large majority of these cases the patients suffer from the various forms of catarrh.

Now, it becomes us as specialists to give to the general medical profession the results of our researches into the causes of these deformities and their relation to the catarrhal diseases of the nose and throat.

With this object in view I have been investigating some of the causes of the so-called catarrhal inflammations, and have come to the conclusion that deformities of the nose stand at the head of the list.

* Read before the American Laryngological Association, June 25, 1885.

But we must needs go further back than the mere fact that deformities exist. Immediately many questions arise.

1. What are the causes of the large number of deformed noses?

2. At what age do these deviations from the normal take place?

3. In what way do these deformities produce catarrhal diseases?

4. How can these abnormal conditions be prevented?

It will not be the province of this paper to discuss all the various questions that may arise in this connection, or go into any extended debate in regard to them, but simply to give the observations made and the deductions therefrom.

1. Causes of deformities.

Of one hundred and sixty patients (males) examined, thirty-seven gave histories of injuries received before the age of twenty years; nineteen others were injured after attaining that age, having fractures, dislocations, etc., due to external violence. Sixteen deformed noses were the results of tertiary syphilitic manifestations.

Twelve cases of congenital deformities were consequent upon improper development in hereditary syphilis, scrofula, etc. Three perforations of the septum resulted from necrosis during typhoid fever. One case of necrosis of the vomer and turbinated bones followed injury and long-standing suppuration of the lower extremities. One case of perforation of the septum followed vaccination in a tubercular subject, afterward culminating in general tuberculosis and death. Two cases of perforation of the cartilaginous septum resulted from ulceration due to injury of the mucous membrane by the finger-nail. One case of congenital occlusion of one nostril was caused by attachment of the posterior portion of the vomer to the inferior turbinated bone. The remaining cases gave no histories of injuries having been received; quite a number had high-arched, irregular palates, which were undoubtedly congenital, and nearly all were suffering more or less from catarrhal difficulties.

Of fifty-seven patients (females) examined, five had had recent fractures, the results of blows, falls, etc., upon the nose. Twenty-two gave histories of injuries from violence. Eleven cases were due to tertiary syphilis and congenital non-development. Two were cases of lupus. Three were cases of asymmetry of nasal cavities, probably congenital; partial obstruction to one nostril since early childhood; no histories of injuries. The causes of the deformities were not known in the remaining cases, but nearly all the patients were troubled with the various catarrhal diseases.

Of two hundred and forty persons of both sexes examined, two hundred and seventeen had deformities of the nose. Of the two hundred and seventeen, eighty-three gave histories of injuries received; and, of the ninety-seven remaining, having no histories, in all probability one half of them had had injuries early in life and had forgotten them, because many of them had dislocations of the cartilages and fractures of the nasal bones, which could only have been the results of external violence. It would appear from the foregoing that a large percentage of the deformed noses were directly due to injuries received—syphilis, scrofula, tuberculosis, and allied diseases, causing necrosis, ulceration,

and congenital improper development, coming in a good second in the production of these abnormal conditions.

2. At what ages do these deviations from the normal take place?

Through the kindness of Dr. E. A. Chapoton, I was enabled to examine at St. Vincent's Orphan Asylum and the Home of the Friendless two hundred and thirty-three children, ranging from two to eighteen years of age, the object being to determine, if possible, at what age these deformities began to be made manifest. I have tabulated the following:

Ages.	No. examined.	Normal	Abnormal.	Deformed.	Syphilitic, Scrofulous, Imp. Dev.	DEFORMED NOSES.	
						Histories of injuries	No histories of inj.
2 to 5	46	36	10	1	5	1	..
5 to 10	115	91	24	6	9	3	3
10 to 15	64	35	29	20	9	5	15
15 to 20	8	5	3	2	..	1	1

From the foregoing it will be seen that in a total of one hundred and sixty-one children, at ages ranging from two to ten years, only seven deformities existed, and four of them gave histories of injuries. In a total of seventy-two children, between the ages of ten and twenty years, there were twenty-two deformed noses; six gave histories of injuries, while in sixteen the causes were unknown, although five had dislocation of the septum and one had disarticulation and depression of the nasal bones; four had narrow superior maxillary bones, high-arched palates, crowded teeth, and deviation of the nasal septum. Quite a number gave histories or indications of syphilis, scrofula, or tuberculosis. In a total of thirty-two children under ten years of age examined in private practice, only one had any deformity of the nose. It would appear from this that between the ages of ten and twenty years a large proportion of the deformities manifest themselves either through the receipt of injuries or improper development due to malnutrition.

3. In what manner do these deformities produce catarrhal diseases?

Nearly every person is subject, more or less, to frequent attacks of coryza, influenza, etc. Ordinarily these attacks last only a few days, and the patient eventually recovers with no untoward symptoms; but, when these diseases occur in persons afflicted with any of the numerous deformities of the nasal organ, there will always be some interference with the proper drainage therefrom.

The secretions accumulate to a certain extent in some portion of the nasal tract, thereby causing an irritation by drying or undergoing decomposition. This irritation is kept up for a greater length of time in these cases than where no abnormal conditions exist; a subacute catarrhal inflammation supervenes, leaving the patient liable to subsequent attacks of coryza with increased irritation, repeating itself until eventually a chronic inflammation, with its concomitant symptoms, results. In the same way individuals having deformed noses, who are obliged constantly to breathe air impregnated with irritating substances, are liable to have chronic inflammations of the nasal mucous membrane, on account of an inability to dislodge the irritating particles because of the abnormal projections and cavities.

Again, in those unfortunate children who have inherited syphilitic and scrofulous diseases, where there is an interference with the proper nutrition of the entire system, there seems to be particularly a condition of malnutrition of the nose and throat, usually a lack of proper bony growth, the nasal bones being short and small, the vomer resting upon a flat palate, the bridge of the nose slightly sunken and broad, the point tilted up, the nostrils large and open, allowing in many cases too free a circulation through them, which has a tendency to dry and harden the secretion in the nose and upon the membrane of the pharynx, producing ultimately ozæna, pharyngitis atrophica, or diseases of a severer character of the upper air-passages and lungs. These children usually exhibit a tendency from birth to chronic discharges from the nose, and eczematous eruptions of the lips and nostrils, the nasal passages being deformed and allowing too much air to pass through them, as stated above, causing the secretions to dry upon the surface of the mucous membrane, producing considerable pressure and atrophy of the underlying tissues. In this way many of the cases of atrophic catarrh may be accounted for.

4. How can these abnormal conditions be prevented?

It devolves upon the medical profession to instruct the people that the time to prevent catarrh and its concomitant diseases is during the growing period of childhood.

We can not prevent children from falling down stairs or boys from playing ball and fighting, but the resulting deformities can be, to a certain extent, relieved; for during early life the cartilages and bones can be more easily molded into shape, and fractures and dislocations more easily reduced, and they should be looked after with as much care as fractures and dislocations of the arms and legs. The nose should have at least as much care as the teeth, for it is far more essential to health, and, should its functions be impaired or destroyed, no false one can replace it.

In those cases of syphilitic and scrofulous diseases where the secretions are profuse and inclined to adhere to the mucous membrane, it is usually necessary to cleanse the nostrils constantly with some bland fluid, and apply oil by means of a spray, which will prevent, to some extent, the constant irritation. In children the utmost care must be had in regard to the hygienic surroundings, and an attempt made, by proper treatment and feeding, to develop, if possible, the bony structures of the nose.

DISCUSSION.

Dr. Mackenzie referred to the custom of the ancient Persians with reference to securing symmetry of the nasal chambers in the children of the royal blood. No man was allowed to sit upon the throne who had a crooked or deformed nose, and the eunuchs who had charge of the royal offspring were accustomed to mold their noses into perfect shape. Cyrus, it is said, had an asymmetrical nose, which was made a thing of beauty through the kind interference of his emasculated attendants. In regard to the undue arching of the palatine vault, first advanced by Duplay and subsequently elaborated by Jarvis, Dr. Mackenzie was inclined to regard it as an inconstant ætiological factor, although he fully recognized the importance of asymmetrical conditions of the nasal fossæ as factors in the production of septal deflection.

A CASE OF CÆSAREAN SECTION, AND ONE OF EXTRA-UTERINE GESTATION.*

By ROBERT ABERDEIN, M. D.,
SYRACUSE, N. Y.

Mr. President and Fellow-Members: I venture to present to you this morning the histories of two cases which occurred in my practice, their rarity and my irregular attendance at our quarterly meetings being my only excuse for bringing them before you at this late day.

A CASE OF CÆSAREAN SECTION.

On the evening of the 16th of June, 1881, I was notified by Mr. S. that his wife was beginning to have labor pains with her first child. Accordingly, I called about 10 P. M.; found her reclining on a sofa awaiting my arrival. She said she was feeling pretty easy, and, thinking she might rest for the night, I made no examination, but left her, promising not to accept any other call that night. About 2 A. M. of the 17th the husband came for me again. On my arriving at the house, the nurse informed me that the waters had broken. I made an examination and found what I considered to be the head well down in the middle strait, but could not detect the os. After a while I made a second examination, first giving a few whiffs of chloroform, when I introduced my hand far enough up anteriorly to distinguish the os not much dilated. The pains not being very strong, I did not examine again for some time. At the third examination, by bimanual taxis I found a tumor above the pubes, and through the os detected the fontanelle. Then I knew I had a formidable case to deal with, and requested counsel. Dr. A. Mercer was sent for. He, too, thought he felt the head, but could not find the os until, under chloroform, he searched for it as I had done. I had previously tried to force up the tumor into the abdominal cavity, thinking that by dislodging it I might turn, should the head not engage.

I now applied the forceps and endeavored to press the head back, while Dr. Mercer tried to push the tumor up out of the basin of the pelvis. After successive efforts and failures we asked for another physician, and Dr. Van de Warker was sent for. When we had told him our experience, he, after examining, said, "Why not aspirate?" We attempted to, but did not succeed in getting a drop of fluid. Then one of us proposed the Cæsarean operation; it was conceded by the others to be the only resource left; the family were informed, and a ready consent was given. Leaving Dr. Mercer and Dr. Van de Warker with the patient, I started out to get the instruments required and invite a few medical friends to assist. About noon, the patient being anæsthetized, Dr. Pease, Dr. Van Duyn, Dr. A. C. Mercer, Dr. Cook, Dr. Stephenson, and Dr. Slocum were admitted to the room. The woman was placed upon the operating-table and Dr. Pease made the examination for the other physicians. His opinion coinciding with our own, and all deciding the Cæsarean section to be the only possible procedure, I performed the operation, assisted by a sufficient number of my colleagues, delivering the mother of a finely developed, healthy daughter. The placenta was removed through the wound, and so skillfully had my friends applied the pressure that not a drop of fluid escaped into the abdomen. The uterine incision was brought together by interrupted sutures of carbolized catgut.

Before the abdominal wound was closed it was asked whether it was better to remove the tumor. On examination, several thought the pedicle to be too short and thick, and, wishing to give the patient every chance, it was left *in situ*. The woman rallied nicely from the chloroform, and I stayed with her for the succeeding eighteen hours, during which time she complained very little of pain, took what was given her, caressed her baby, and often asked why I would not allow her to turn and twist in bed as she wanted to. The urine was drawn off every fifth or sixth hour, the vagina at the same time being examined and the lochial discharge noted to be nearly normal in quantity and quality. On leaving the house I cautioned the nurse not to allow any one to enter the room during my absence except the husband. I had not been gone long, however, when some of her friends visited her, and one, more officious than the rest, told her she had been cut open and the baby removed in that way. This was the first intimation she had of the operation; the news, and the graphic way in which it was communicated, produced a shock; she fainted, rallying partially after a while, only to pass into another faint more profound, and about twenty-five hours after the operation she quietly passed away. Dr. Mercer, whom I found with her when I returned, had done all that was possible to revive her, and coincided with me in attributing the direct cause of death to delayed shock.

At the autopsy, performed twenty-four hours after death by Dr. Jacobson and Dr. Elsner, Dr. Mercer, Dr. Pease, and myself being present, the following notes were made: Subject, a well-developed blonde, five feet three inches in height, about one hundred and thirty pounds in weight, twenty-nine and a half years old. On reopening the abdominal wound, no signs were found of commencing peritonitis; the uterus and its appendages were removed; the abdominal cavity contained very little if any fluid. The tumor was found to be egg-shaped, attached, by a round pedicle three fourths of an inch long and one inch in diameter, to the posterior wall of the uterus five inches from the os, the entire length of the womb being nine inches. The natural position of the tumor had been transverse, as was shown by the position of the fibers of the pedicle; but its attachment, being a little nearer the smaller end, had allowed the heavier extremity to dip down into Douglas's *cul-de-sac*. The dimensions of the tumor were: long circumference fourteen inches, long diameter six inches; circumference of large extremity twelve inches, diameter four inches.

On a section being made into it, the walls were found to be over an inch thick, very hard and unyielding. The interior resembled that of a kidney.

After having completed the post-mortem and closed the cavity, it was found that in some mysterious way we had neglected to return the specimen. Not knowing how better to dispose of it, it was handed over to Dr. A. Clifford Mercer, who promised to prepare it for the histological museum of the Syracuse University; hence I am enabled to present it for inspection now.

I met Mr. S. only a few days ago, and he informed me that the little girl was growing nicely and had seldom seen a sick day.

CASE OF EXTRA-UTERINE GESTATION.

On April 24, 1884, I received a note from Mr. M., asking when it would be convenient for me to visit his wife. I answered at 5 P. M., about which time I called, and was met by the family physician, who gave me the following brief history of the case I was called to see: Mrs. M. had given birth to a vigorous, healthy boy about eight years before, since which time she had never been pregnant. In January he was called to her, and,

* Read before the Medical Society of the County of Onondaga.

the symptoms indicating suppression of the menses from cold, he gave her some remedies which restored them, but she had not menstruated since. For the past two weeks she had been confined to her bed, suffering from a pain in the left side of the abdomen, had considerable nausea, and the bowels were constipated. He was at a loss to know whether these symptoms were from pregnancy or some other cause. On entering the sick-room I found the patient in bed; her countenance was pale, and had a worn, anxious expression; the skin appeared to be normal in temperature; pulse rather rapid. After a brief interview I made a digital examination. I found the womb enlarged, the os having that peculiar, indescribable feeling attendant upon gestation. The breasts, too, had commenced to enlarge, and the areolæ were darker than normal. I did not hesitate to pronounce her pregnant and about in the third month. On examining the abdomen, I found considerable tenderness on the left side. She said she felt easier when the left leg was flexed. She had had chills, and nausea was very persistent. I advised citrate of magnesium as an aperient and stomachic sedative, and the abdomen to be painted with ol. menthæ pip., then covered with a heated flannel, over which an abdominal bandage was to be firmly applied. She seemed much relieved and greatly pleased when I expressed my belief in her being pregnant. On May 13th the husband called to say that his wife was feeling much better, but would like to have me call again, as she wanted to know if I was certain she was *enceinte*. On a second examination I reiterated my former statement, as I was able to detect the uterine souffle in the left inguinal region. She had improved very much since my first visit, and was up and about the house. I advised her to take as much out-of-door exercise as she could without fatiguing herself, and live on plain, substantial food. In the course of a few weeks the husband called and jubilantly informed me that his wife had felt life a short time before, and that she had improved very much since. From this time on I heard nothing of the case till September 18th, when I was called in the evening, and found the family physician there. He said pains had commenced two days before, and he had remained with her both nights; as she was pretty well worn out, he requested me to make an examination and determine whether labor had actually commenced. On doing so, I found the parts relaxed and pretty well bathed in that albuminous mucus which lubricates the vagina during parturition. The mouth of the womb was soft and dilatable, but no part of the child was presenting. The nurse said the movements of the fœtus had been so strong a few days before as to kick a book off the mother's lap as she lay reading. I told them labor was commencing, but, as there was no presentation at present, they would have ample time to summon the doctor when he was needed, and advised an anodyne to procure rest. Some time after this I met the husband on the street. He said he was very anxious about his wife, as she had not been confined yet, and had not felt life since I last saw her.

On November 27th he called and asked me to take charge of the case. On doing so I explained to them the necessity of determining whether the fœtus was in the womb or abdominal cavity, as I had grave fears that something was radically wrong.

The patient was able to retain but very little in the stomach; fever was pretty constant, although she had no chills, and there was circumscribed soreness on left side of the abdomen, which was distended as at full term, and tympanitic. I could not detect the fœtal heart-sounds nor determine the location of the head. The following evening I called upon Dr. Didama, who went with me and administered ether while I dilated the womb and explored it, only to find it, as I had feared, empty. The doctor verified my statement, and I, knowing what I did, was certain there was a dead fœtus in the abdominal cavity; but the patient was in such a prostrated condition that we concluded to wait, endeavoring to build up her strength and trust to either mummification or the establishment of a fistulous opening into the vagina or rectum, as sometimes does occur. Various remedies were tried for the persistent nausea, which would succeed one day only to fail the next. Opium in any form gave no relief, but rather increased the intolerance of the stomach. Dr. Van de Warker saw her with me, and advised an enema of ʒj each of pot. bromidi and chlo. hydrat. at bedtime; total abstinence from anything by the mouth for twenty-four hours. This did not act kindly, and, after three trials, I abandoned it, again trying morphine hypodermically, which, with ten-grain doses of oxalate of cerium occasionally, gave most satisfaction. To nourish her, an enema consisting of one egg, half a tablespoonful of cod-liver oil, one grain of quinine, a teaspoonful of brandy, and milk enough to make about three ounces, was given every fourth or fifth hour. She now seemed to improve, and, as there were no symptoms of septic poisoning, we began to hope that, after all, she might get better. On the morning of December 15th, on entering the house, I discovered a most horrible odor; passing into the sick-room, the nurse informed me that in the middle of the night something seemed to break, and there was a gush of fluid from the vagina. On separating the legs, the discharge came with a force and sound resembling escaping steam, saturating everything on the bed and almost filling a bedpan, which she hastily placed in position. The patient lay passive and faint. I gave her some brandy, and, on applying my hand to the abdomen, found the distension very much reduced. I discovered, on examining *per vaginam*, that the fluid came through the mouth of the womb, so concluded that the passage was either through the left Fallopian tube or uterine wall. The fluid was of a dirty grayish color, interspersed with spots of pink. Pouring it carefully from the vessel, I succeeded in getting a small shred of membrane which, under the microscope, proved to be skin, with a few delicate hairs *in situ*. I thought we should probably have septicæmia following rapidly, and that a few days at most would end the patient sufferer's time on earth. But, instead of our forebodings being fulfilled, she rallied more than before. Day by day the discharge kept up, the patient gradually improving, and finally the nutrient enemata were nearly altogether supplemented by nourishment *per os*. The husband, whose business had long required him elsewhere for a time, now, on my suggestion, left, but three or four days after was telegraphed for, as grave symptoms had appeared. On the morning of January 3d I found that, during the night, the discharge had suddenly ceased, and the abdomen was again distended as much as before. I endeavored, by introducing a large gum-elastic catheter into the uterus, to find the opening, which had become clogged, but did not succeed. The patient lost strength rapidly; chills, delirium, and other septic symptoms set in; toward the last she became comatose, and, on January 7th, during the night, her troubles ceased.

I was notified of her death early in the morning of the 8th, and, as she had requested a post-mortem examination in the event of her death, was urged to make it as soon as possible.

I called upon three physicians who had seen the case; one was out, the two others were engaged. Dr. Ensign, of Oxford, N. Y., who was visiting in the city, and had called with me a week or so before, was next waited on and gladly consented to be present. Mrs. Dr. Dann, hearing of the autopsy, came in. On opening the abdominal cavity, we first encountered a rather dense membrane, which, on being cut into, disclosed a full-term fœtus in an advanced stage of decomposition. This was carefully removed, when a round opening about three eighths of an inch in diameter was disclosed, communicating with the uterus through

the left wall, which was agglutinated to the sac very firmly. The two together were of about the thickness of a piece of chamois leather. In the posterior side of the sac was a rent about three inches long, leading into the abdominal cavity, where quite a quantity of the previously described fluid was found.

The mass of the placenta had been entirely dissolved, leaving only the vessels, like cords, clinging to the top of the sac, which was adherent to the flexure of the transverse and descending colon; the anterior surface was pretty firmly attached to the peritonæum of the left side. We determined that the sac was formed from the left Fallopian tube.

This, gentlemen, I present as the history of a case from which many valuable lessons are to be learned:

1. The unmistakable signs of gestation in the empty womb in tubal pregnancy, especially the entire absence of the menses.

2. The sympathy of the mammæ, as in normal pregnancy.

3. And, most remarkable, the preparation of that empty womb for parturition at the completion of gestation, and the part played in the same rôle by the vagina.

4. The resistance of the interior of the womb to the septic matters pouring through it for weeks.

5. The entire absence of septic symptoms until the sac ruptured into the abdominal cavity.

A REMARKABLE CASE OF LATENT PNEUMONIA.

By FRANK GRAUER, M. D.,

ASSISTANT TO THE CHAIR OF PATHOLOGICAL ANATOMY AT BELLEVUE HOSPITAL MEDICAL COLLEGE.

It occasionally falls to the lot of medical men attending hospitals and dispensaries to see cases of latent pneumonia, which assume various forms and symptoms, and may, as a rule, be classified under one of the following heads or types:

1. The so-called walking cases of pneumonia, in which there is partial or complete solidification of one or more lobes of a lung, with a few or all of the following symptoms: weakness, loss of appetite, fever, increased frequency of pulse, etc.

2. Those cases in which the symptoms of pneumonia are masked by the symptoms of some other disease, with which it is complicated.

3. Senile pneumonia, which in a large proportion of cases runs a latent course.

These cases, especially the second and third type, are, as I have stated, not infrequently met with in practice, but it is a comparatively rare thing to see a case of pneumonia with three lobes involved—one in the state of red, the other two in the state of gray, hepatization—which does not present any symptoms whatsoever indicative of or pointing toward the disease.

The following is a complete and correct history of a case in which the writer performed the autopsy.*

Mr. H., a German, aged fifty, occupation mason, was steadily employed until October 11th. The following day, Sunday, October 12th, he went to an entertainment at a friend's house, where he enjoyed himself, felt in the best of spirits, and sang three or four songs. On Monday, October 13th, not having any work to attend to, he went out walking, returned home in the evening, ate a hearty supper, and shortly afterward retired. When he awoke on Tuesday morning he felt that his throat was sore and that he was slightly hoarse. His daughter noticed that he was very pale, and, as she states, told him to send for a physician, but he was opposed to it, stating that he was feeling well and that he did not require the services of a doctor. He was very anxious to go out, but, the weather being unfavorable on account of the rain, he was compelled to remain at home. His daughter in the afternoon insisted that he was not well, and that he had better go to bed, which he did at 4 P. M., having previously washed his hands and face at the hydrant in the hallway. He slept until 6 P. M., when he awoke and arose to get his supper, but only drank some coffee, which he thought made his throat feel better. When asked later on how he felt, he remarked that he was not sick, that he had no pain, and that nothing ailed him. At 8.30 P. M. his next-door neighbor called to see him, told him he was looking very pale, and advised him to go and see the doctor, so as to satisfy his family. He promised he would do so, but remarked that he knew the doctor would tell him that nothing was the matter with him. At about 9 P. M. he had a cough for the first time, coughing three or four times in succession. At 10 P. M. he arose from his bed, walked to the door of his bedroom, a distance of about three feet, where he stood. His daughter asked him if he wished a drink of water, and he replied No, whereupon he began to shake from head to foot. I questioned the daughter as to whether it was a chill or convulsion, and she seemed inclined to think it was the former. After the chill, which lasted about a minute, he began to bend over as if about to fall, but was supported by his daughter and assisted to a chair, and thence to the bed, where he expired fifteen minutes afterward. The autopsy revealed the following points: An incision was made from the chin to the symphysis pubis, the integument divided, and an examination of the abdominal cavity made. The intestines were somewhat dilated and slightly congested, but showed no evidence of inflammation. The arch of the diaphragm was between the sixth and seventh ribs.

The sternum was then removed, and the lungs were found somewhat distended, covering the pericardium to a great extent. There were adhesions on the left side due to an old pleurisy, but none on the right side.

The pericardial sac contained at least three tablespoonfuls of a clear, reddish fluid. The heart was somewhat enlarged and the left ventricle contracted. There was also considerable hypertrophy of the left ventricle, the walls being of about twice the normal thickness. The aortic valves were slightly thickened at their bases, but the aorta was found normal.

The left auricle was dilated, and there was slight thickening of the mitral valves. The right ventricle was also dilated and contained a post-mortem clot, reddish in color and slightly adherent to the walls of the ventricle. The pulmonary valves were normal. There was a clot in the right auricle, dark red in color, and prolonged into the branches of the pulmonary artery. There was nothing abnormal about the tricuspid valves. The left lung was removed and the lower lobe was found to be covered with a recent fibrinous exudation. On making an incision into it, it was found completely solidified and in the state of gray hepatization. The right lung, at its lower portion, also had spots of recent fibrinous exudation, and, on cutting through the lung, the middle lobe was found in the state of red, the lower in a state of gray, hepatization. A portion of the exudation from the middle lobe was taken and pressed between two cover-glasses; in this way about a dozen specimens were made and examined by both Ehrlich's and Grammes's method of staining

* I beg to express my thanks to Deputy Coroner Dr. Jenkins, through whose kindness I obtained the autopsy.

for detecting pneumococci, a large number of which were found present. A microscopical examination of a portion of the lower lobe showed the air-cells filled with fibrillated fibrin, with a large number of pus-cells, granular matter, a few fat-cells, and occasionally a red blood-globule in its meshes.

The trachea, larynx, and œsophagus were apparently normal.

The spleen was of normal size, but very hard.

The kidney was enveloped in a mass of fat, the capsule was readily stripped off, and, on cutting into its substance, showed a slight amount of parenchymatous nephritis.

The bladder was slightly distended with urine, but showed no evidence of cystitis.

The stomach was pigmented, covered with mucus on its inner surface, and showed evidence of a chronic catarrh.

Intestines and pancreas were normal.

The liver was enlarged, and showed parenchymatous, and in some spots the beginning of fatty, degeneration.

The cause of death was undoubtedly paralysis of the right side of the heart, as the upper lobes of both lungs did not show any evidence of pulmonary œdema. In concluding, I would like to state that this case teaches us two things:

1. That the tolerance of pneumonia is variable in different persons. Here was a man with organic disease of the heart and three lobes of his lungs completely solidified, who yet did not complain of dyspnœa or shortness of breath, showing that the two upper lobes were sufficient to do the work of respiration.

2. That we should never rely on the remarks of a patient and direct our attention only to the part that he thinks is affected, but examine every organ carefully and thoroughly, so as to do justice not only to ourselves, but to all who are interested in the case.

ANGIOMA BENEATH THE TONGUE.

By W. H. HAYNES, M. D.,
NEW YORK.

Some time ago Mrs. F. was delivered of a well-developed female child, which was noticed to have a nævus on the lower lip at about the middle third, involving the mucous membrane and skin beyond the vermilion border to an equal extent of about three eighths of an inch. There was nothing noticeable within the mouth at this time. Three months later the child was brought to me on account of there having appeared beneath the tongue, on each side of the frænum, a smooth, glossy, globular swelling, looking exactly like the illustrations shown in text-books of typical ranula, except that in this instance there were two tumors. The one on the left side was much the larger, and both together were of such a size as to elevate the tongue and impede nursing and respiration, causing the latter to be distinctly nasal. They were bluish in color, soft, and fluctuating. The nævus had also increased in size, had become more prominent, of a bright red color, and frequently bled freely. Puncturing the tumor on the left side gave exit to a quantity of blue venous blood. A ligature was passed through the tumor after the manner of introducing a seton and tied tightly. This procedure was followed by a venous hæmorrhage (which after a while ceased spontaneously) and subsidence of the swelling. In a few days the tissue included by the ligature sloughed, became disintegrated, freeing the ligature and allowing the exit of a dark brown, spongy mass. This gradually melted away and union of the divided tissues took place, so that all that remained of the tumor was a small stump of connective tissue covered by mucous membrane. The same procedure was repeated on the right side. This time, however, the hæmorrhage consisted of bright red arterial blood, which ceased spontaneously as before. In all other respects the process of repair was the same as after the first operation. No further difficulty has been experienced in performing any of the functions of the mouth. The nævus, though growing *pari passu* with the normal development of the parts, oozes bright-red blood at times, which is checked by the use of styptics. Areas of cicatricial tissue have appeared in these places, so that we are in hopes that in time a cure of this deformity may take place by this process.

The pathology of this form of tumor consists in an over-development and dilatation of the capillary blood-vessels of a part, covered by the different tissues, according to the depth and place of location, in the present instance being covered by the connective tissue and mucous membrane lining the cavity of the mouth. They are always congenital. Their cause is unknown. Their occurrence upon the surface of the body is very common. In the different cavities of the body their development is rare; particularly is this the case with the cavity of the mouth, and it is still rarer for the deformity to be double.

There are two other forms of tumor—which are apt to be met with more frequently in this locality at this early time of life—with which these tumors may be confounded, viz., true ranula and cysts * (false ranula,† so called).

Dermoid cysts may possibly be located here also, but they have distinguishing features of their own for purposes of diagnosis. Labbe mentions having met with sanguineous cysts in this region, but, from his description, I believe them to have been analogous to those described at the head of this paper, of the same pathology, and not of that he mentions.

The three first-mentioned forms of tumor resemble each other so closely in appearance and feel during their development that our only certain means of diagnosis is by exploratory puncture, which can not possibly do harm, and may also bring about immediate cure. After such a puncture, if the tumor be a true ranula (simple closure of the mouth of the duct), the sac collapses with the exit of the clear fluid, and a probe can be passed along the cavity, remaining for a varying distance of about an inch till it reaches the gland structure. In the case of a false ranula (simple cystic tumors of the connective tissue), after the puncture the cyst partially collapses with the exit of the clear fluid, and the probe enters only a small limited cavity, which, being laid open, reveals the wall or walls of other similar cysts.‡ If, after the puncture, blood exudes, we know we have a tumor made up of capillary blood-vessels.

I have mentioned the contents of these tumors as being a clear fluid; but, to continue their natural history: "In older children the contents of these cystic tumors may be of dense consistence, like soft putty, which does not exude, but will have to be scraped out and the cyst-wall enucleated. This condition is due to the absorption of the watery part of the elements and consequent condensation of the organic material forming in true ranula a calculus, and in

* Cornil and Ranvier, Amer. ed., 1880, p. 453.

† Holmes's "System of Surgery," Amer. ed., vol. ii, p. 270.

‡ Holmes, *op. cit.*, p. 522.

false ranula an encysted tumor." * The angiomatous form of tumor may at this period contain a phlebolite.†

In the case under observation my suspicions as to the nature of the tumors were aroused by their occurrence in the immediate vicinity of a nævus, leading me to suspect a similar condition to be the cause of their appearance, which the puncture confirmed. This, however, would naturally be so in any case where the two conditions were met with, no matter how remote they were located from each other. Another point of interest and aid in diagnosis was the different colors of the blood exuded from the two tumors, showing them to be of a vascular character, in the one the veins predominating, and in the other the arterioles.

The treatment and cure of this variety of morbid growth is of the simplest kind, and consists in merely passing one or more ligatures through the growth or around its base, tying it tightly, and causing sloughing and subsequent cicatrization by granulation. The former will be the easiest, unless the form of the tumor readily allows of the latter plan being employed, at the same time using a simple antiseptic mouth-wash and giving attention to the patient's general health.

Book Notices.

A Treatise on Pharmacy: designed as a Text-Book for the Student, and as a Guide for the Physician and Pharmacist. Containing the Officinal and many Unofficinal Formulas, and Numerous Examples of Extemporaneous Prescriptions. By Edward Parrish, late Professor of Theory and Practice of Pharmacy in the Philadelphia College of Pharmacy, etc. Fifth Edition, Enlarged and thoroughly Revised. By Thomas S. Wiegand, Graduate of the Philadelphia College of Pharmacy. With Two Hundred and Fifty-six Illustrations. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. xxiv-17 to 1090, inclusive.

Parrish's "Pharmacy" is pre-eminently a work for the apothecary. It does not in any great degree meet the needs of a student of medicine, for it does not give him the physiological or therapeutical facts which he should have prominently set before him. Nor, again, is it likely to be of service to the chemist, for, although it necessarily contains a great deal of chemistry and many chemical data, the latter are exhibited according to an empirical arrangement, which doubtless facilitates the work of memorizing, but certainly confuses chemical relations. For instance, to group together in one list formic, succinic, aconitic, and lactic acids (p. 530) is misleading to the student of chemical systems Still more so is the inclusion in one chapter of such dissimilar substances as cotton, charcoal, acetic acid, and creasote, while carbolic acid is reserved for another chapter, in which it is associated with hydrocyanic and valerianic acids.

Of course, in following this order, so anomalous to the chemical mind, the authors have a distinct object in view—that of grouping together objects of similar origin. But, inasmuch as chemical details are so abundantly given, it would surely have been well to indicate a little more clearly the natural order and the structural relations which these substances bear to each other.

A more serious objection than that of faulty arrangement attaches to the chemical part of the work. Apart from the introduction of substances which are not certainly known to exist (a fault almost unavoidable in a work of this character), and apart from some curiosities of chemical nomenclature, there are errors of much less venial character in the matter of chemical formulæ. The authors have neither entirely retained the old system of chemical notation, nor entirely adopted the new. In the same list, therefore (particularly in the case of the carbohydrates), we find formulæ in both the old and the new notation placed side by side without any sign to indicate which method is employed. Such confusion is highly misleading to the novice, and is indefensible in a work having any pretense to scientific accuracy.

Much more satisfactory than the section on organic chemistry is that devoted to the metallic elements and their compounds used in medicine. This is scientifically arranged, accurate, and well brought up to date.

The remainder of the book—that part which is directed especially to the student of pharmacy—contains a description of pharmaceutical processes and of the various preparations and their manufacture. This part is certainly very well done. It has been revised to accommodate it to the last edition of the Pharmacopœia, and seems to leave nothing to be desired as regards either fullness or accuracy. It is this portion of the work which constitutes its value for the student, and which has created a demand for it sufficient to call out five editions. Such a popularity renders extended commendation superfluous, and leaves the reviewer only the ungracious task of pointing out the deficiencies in an otherwise excellent treatise.

A Practical Treatise on Massage, its History, Mode of Application, and Effects, Indications, and Contra-indications, with Results in over Fourteen Hundred Cases. By Douglas Graham, M. D., Fellow of the Massachusetts Medical Society. New York: William Wood & Co., 1884. Pp. x-286.

Dr. Graham has performed a valuable service to the profession in thus collecting the results of the massage treatment in a great variety of cases. We think that he has been judicious in declining to illustrate his work, since, as he says, woodcuts give but a poor idea of the technique of the process. He divides his book into sixteen chapters, in the first two of which he gives an interesting review of massage, tracing the practice back to the early Aryan nations. In the third chapter he carefully describes the *modus operandi*, and rightly says that no physician should think it beneath his dignity to learn and apply the method in suitable cases. The author's remarks upon the physiology of massage are perhaps tinged with a little too much of that enthusiasm with which physicians come to regard a method of treatment which they have practiced long and successfully. Regarding the value of massage in neurasthenia, most readers will agree with Dr. Graham. The chapter upon "Massage of Internal Organs" seems to us rather more encouraging than the facts warrant.

Three chapters are devoted to the treatment of affections ot the nervous system. The most useful chapters are those which refer to joint disease; the importance of the "movement cure" in these cases is unquestionable.

The closing chapter treats of Massage of the Head, Face, Eyes, Ears, and Throat, with which the author seems to have had only a limited experience.

In thus hastily mentioning Dr. Graham's book we can not do justice to the author's research or experience, both of which have been great. Although many readers will be inclined to differ with him as to the degree to which massage is useful in

* Bryant, Amer. ed., 1873, p. 242.

† Billroth, Amer. ed., 1875, p. 606.

medicine, few will doubt that by its systematic application, as he recommends, far more will be accomplished than is now attained by the unskillful attempts of physicians who have not learned to regard the treatment in the light of a scientific procedure.

The Elements of Physiological Physics: an Outline of the Elementary Facts, Principles, and Methods of Physics; and their Applications in Physiology. By J. McGregor-Robertson, M. A., M. B., C. M., Muirhead Demonstrator of Physiology, etc., in the University of Glasgow. Illustrated with 219 Engravings on Wood. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. xii–528.

This handy little book is the result of a series of demonstrations given by the author to his class in the physiological department of Glasgow University. The various branches of physics are taken up, one after another, the main facts of each briefly stated, the apparatuses needed to illustrate the same described, and the physiological application of the facts and adaptation of instruments noted.

Of the 514 pages of reading matter, 174 are devoted to the study of magnetism and electro-physiology. Nor is this disproportionate to the importance of this interesting branch of the subject. Electro-physiology and electro-therapeutics, it must be confessed, are yet but imperfectly understood, and inadequately appreciated. The space devoted to them in this work is very fairly filled, but contains nothing novel and lacks practical details of some instruments of precision and convenience which students on this side the water have come to look upon as standard and essential. This is particularly true as to galvanometers.

On the other hand, under the head of Blood Pressure, more than a dozen different instruments of measurement and precision are described, many of which are anything but practical in the hands of medical students, and of value only to experts and specialists.

In other departments the work seems to have been carefully prepared, and in all essentials to be abreast with the progress of the day in physical science. If we were to venture any criticism on the work as a whole, it would be that the hasty glance we have been able to give it leaves the impression that it is not full enough for a general treatise, and yet is too heavy for a handbook. As a compendium for the accommodation of the busy practitioner who wishes to review the subjects treated, but has no time to devote to an elaborate treatise, this compact and well-printed volume will be of value.

The Elements of Pathology. By Edward Rindfleisch, M. D., Professor of Pathological Anatomy in the University of Würzburg. Translated from the First German Edition by William H. Mercur, M. D. Revised by James Tyson, M. D., Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania, etc. Philadelphia: P. Blakiston, Son, & Co., 1884. Pp. 283. [Price, $2.]

"This little work does not pretend to be a text-book," says the author in his preface. This we must bear in mind in judging of its merits before we accuse him of having written an inferior manual. He adheres throughout to his intention of presenting only an outline of the science, but, as an outline, it is certainly not unworthy of careful perusal.

A glance at the table of contents shows us the general plan of the book. Beginning with the first part, which he calls the "Local Outbreak of Disease," the author touches briefly on the hyperæmiæ, inflammation and its results, and tumors in general.

In Part II, which treats of the Anatomical Extension of Disease, he considers metastasis, fever, and irritation of the nervous system.

Part III includes, under the head of "Physiological Extension of Disease," the disturbances of nutrition, of the circulation, of the blood (called "vegetative disturbances"), and of the nervous system, which are characterized as "animal disturbances."

The concluding section treats of traumatic diseases, parasites, and defects of development. There are no illustrations.

When we say that the translator has rendered the German of Rindfleisch (and it is often ponderous) into clear and intelligible English, we give him no scant praise. Most careful, too, has been the work of revision.

Dental Surgery for Practitioners and Students. By Ashley W. Barrett, M. B. (Lond.), M. R. C. S., L. D. S., etc. Philadelphia: Presley Blakiston, Son, & Co., 1885. Pp. xii–83.

This little work aims to convey enough practical information upon dentistry to serve the purposes of the general practitioner and no more. Naturally, but little space is required. It deals with the eruption of the teeth, lancing the gums, some of the more common deformities, and the extraction of carious teeth. Even then it goes much further into the subject than any general practitioner would go in this country, for few men who were not dentists would undertake here to fit a plate to the mouth for the correction of an abnormal position of the permanent teeth. What has been written is all interesting, but it would seem that the choice of subjects might be much improved. Some matters of interest to the general practitioner have in many cases been omitted.

The Microscope in Botany. A Guide for the Microscopical Investigation of Vegetable Substances. From the German of Dr. Julius Wilhelm Behrens. Translated and edited by Rev. A. B. Hervey, A. M., assisted by R. H. Ward, M. D., F. R. M. S. Illustrated with Thirteen Plates and One Hundred and Fifty-three Cuts. Boston: S. E. Cassino & Co., 1885. Pp. xv–466. [Price, $5.]

The scope of this work is not clearly set forth in the title. The subject of botany occupies only its second and lesser portion, and this is still further diminished by the presence of forty-three pages of valuable matter upon microscopical reagents. The larger part of the book is occupied with a description of the microscope and its accessories, and with the preparation of microscopical objects. It is the most satisfactory work upon these subjects that we have ever seen. It will be especially valuable for beginners in the use of the microscope, and is the only book with which we are acquainted which describes those principles which are fundamental to the microscope, and which are essential as a foundation for work with that instrument in a manner which is intelligible to the average mind. Leaving the botanical portion entirely out of consideration, it is a book which will be a useful addition to every student's shelves, and is to be recommended without qualification.

BOOKS AND PAMPHLETS RECEIVED.

Facts and Mysteries of Spiritism: Learned by a Seven Years' Experience and Investigation. With a Sequel. By Joseph Hartman. Philadelphia: Thomas W. Hartley & Co., 1885. Pp. xii–378. [Price, $1.50.]

Proceedings of the Twelfth Annual Meeting of the Oregon State Medical Society, held at Portland, June 8, 9, and 10, 1885. Volume XII. E. P. Fraser, M. D., Secretary. Portland, Oregon: A. Anderson & Co., 1885. Pp. 100.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.
NEW YORK, SATURDAY, DECEMBER 19, 1885.

THE MEDICAL SERVICE OF THE NATIONAL GUARD OF THE STATE OF NEW YORK.

We have been much interested in the reports of the Surgeon-General of the State of New York, Dr. Joseph D. Bryant, for the years 1883 and 1884, included in the reports of the Adjutant-General for those years. Since the close of the War of the Rebellion, there has been comparatively little real duty devolving upon the Surgeon-General of the State, and we are glad to see that Dr. Bryant, whose appointment to the office we commended at the time it was made, has made work for himself, so to speak, by preparing elaborate annual reports on the affairs of the National Guard from a medical point of view, especially the sanitation of the State Camp of Instruction at Peekskill.

The sanitary affairs of individual bodies of troops during their stay at the camp are fully reported upon, and it is gratifying to learn that thus far no case of disease has come to light that could fairly be imputed to any peculiarity of the locality. The reports upon the experiences of these various organizations are preceded by some excellent remarks concerning the selection of regimental medical officers. Too often, as Dr. Bryant says, a colonel looks upon these members of his staff as ornamental luxuries rather than necessities, their chief function being supposed to be to assist in making up a full staff on parade and at inspections, while that of attending upon those of the men who may require their professional services is viewed as nothing more than incidental. Hence it happens that men are recommended to the Governor for appointment as medical officers of regiments quite as much out of consideration for their showy qualities as with reference to their actual fitness for the duties. This, of course, is all wrong, and it is to be hoped that Surgeon-General Bryant's views on the matter will make an impression on commanding officers.

The unthinking are apt to descant somewhat disparagingly upon what they term the tenderness of the National Guardsmen as compared with regular soldiers, forgetful, apparently, of the fact that in actual warfare it is only the troops whose service dates back a considerable length of time that can be counted on to endure the hardships of forced marches, and that the best men in the world can not be taken from civil life and at once put on full military duty. It is indeed most unjust and foolish to impute effeminacy to a body of militiamen simply because they require to be handled tenderly during their brief sojourn in camp or on the occasion of long marches and annoying delays on parade; on the contrary, the prerogative and the duty of the medical officer to mitigate the rigors of such an occasion ought to be more generally recognized. As Dr. Bryant says, the ordering of commands to appear in white trousers for a public parade on a cold, windy November day, when the men's bodies become hot and perspiring, while their legs are cold and clammy, on account of the illogical distribution and quality of the clothing, should be opposed by the medical officers, and commanders should be impressed with the fact that, while pomp and display constitute something of military glory, the health and comfort of the men are infinitely more important. Regimental surgeons should not wait for commanding officers to ask them for their advice as to such matters, but should obtrude it upon them, and public opinion should hold that commander to a strict accountability who should dare to disregard the medical officer's protests.

Dr. Bryant makes a number of excellent suggestions as to providing for immediate medical attention to soldiers in need of it, pending the arrival of the surgeon. For example, he says, the first sergeant of each company should be provided with a few simple remedies, the doses and general applications of which should be instilled into his mind, and he should be taught, among other things, to distinguish pallor from cyanosis, and to treat the patient accordingly. It is urged, too, that during rifle practice it is not enough that the surgeon should be somewhere on the grounds—he should be at the butts, where he may be needed at any instant and when there is no time to be wasted in searching for him.

MINOR PARAGRAPHS.

THE HARMLESS LUNATIC.

Those persons who believe that a lunatic should not be deprived of his liberty until he has committed a murder or two have doubtless been edified by the accounts of the recent achievements of a man in Norristown, Pa., who played the part of a demon until he was overpowered and "held by four men while a physician prescribed medicine to render him harmless for the time." It is naively added that he is "subject to such attacks." Norristown, by the way, is an asylum town.

"CROWNER'S QUEST LAW."

The newspaper accounts of the contention between two coroners as to whose "case" the death of Mr. William H. Vanderbilt was show something bordering unpleasantly on a quarrel, and, worse than that, they show the unsatisfactory state of the law which defines the coroners' jurisdiction. Why, for instance, a physician can not certify as to the cause of death unless he has seen the deceased within the twenty-four hours preceding the fatal issue, is not at all clear to the non-official mind.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 15, 1885:

DISEASES.	Week ending Dec. 8.		Week ending Dec. 15.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	0	1	0
Typhoid fever	18	5	16	5
Scarlet fever	25	8	50	5
Cerebro-spinal meningitis	4	4	3	3
Measles	10	1	6	2
Diphtheria	92	45	75	33
Small-pox	12	1	5	1

Trichiniasis is reported to have attacked seven members of a family living in Tarentum, Pennsylvania, in consequence of their having eaten of a salad containing raw pork.

The American Public Health Association.—The committee on the disinfection of rags, appointed at the Washington meeting last week, was instructed to investigate the matter thoroughly, and report at the next annual meeting.

The Health of San Francisco.—It appears by the Health Department's "Condensed Statement of Mortality" that the total mortality for the month of November was 421, including 69 deaths from zymotic diseases, 75 from constitutional diseases, 210 from local diseases, 46 from developmental diseases, 18 from violence, and 3 from causes not ascertained. During the corresponding month in 1884 the deaths numbered 379.

The Massachusetts State Board of Health, Lunacy, and Charity has just issued the Supplement to the Sixth Annual Report, containing the reports on public health. The document contains the following papers: "The Sanitary Condition of School-houses in Massachusetts," "Report of the Analysis of Food and Drugs," "Summary of the Weekly Mortality Returns of Massachusetts Cities and Towns," "The Report upon Illuminating Gases," "Epidemic Cholera," "Disinfectants," and "The Health of Towns." There is a large amount of valuable matter, not only to the profession, but to the general public.

The late Mr. Vanderbilt's Bequests include one of $100,000 to St. Luke's Hospital, and one of $50,000 to the Home for Incurables.

The Manhattan Hospital, at the corner of Tenth Avenue and One Hundred and Thirty-first Street, was opened on Monday.

Personal Items.—Among the passengers by the steamship Etruria, which arrived at this port last Sunday, were Dr. W. S. Halsted, of New York, and Dr. G. M. Sternberg, of the army.

The Newark Outbreak of Hydrophobia seems still far from subdued, although all sorts of barbarous means are resorted to for exterminating the dogs of the town. Several persons have been bitten since the four children sailed for Paris, some of whom seemed inclined to betake themselves to M. Pasteur at once, while others, notably a veterinarian who received his injury while attempting to render professional services to a dog, put their trust in cauterization.

Composite Photographs of Skulls.—We learn from the "Medical Times and Gazette" that Mr. Francis Galton, F. R. S., the president of the London Anthropological Institute, lately exhibited to that body, on behalf of Surgeon John S. Billings, of the United States Army, a collection of twenty composite photographs of skulls, forming four series, referring respectively to Sandwich Islanders, ancient Californians, Arapahoe Indians, and Witchitaw Indians. Each composite was the mean of six skulls of adult men.

The Mount Olivet Crematory can not be said to be in perfectly successful operation yet, if we may judge by the newspaper reports of the state of the "ashes" of Eugene Lievre, whose body was subjected to its action last week. It is said that a piece of the forearm, six inches long, was still so firm when the residue was withdrawn that it could be broken only by the use of two hands.

Another Harmless Lunatic.—In another column reference is made to the freaks of a lunatic in Norristown, Pa. This time the story comes from Philadelphia, where, on Wednesday last, the services of several policemen were required to restrain the suicidal frenzy of a maniac, who used his knife on one of the policemen, between his repeated incisions of his own throat and body, having first attempted to decapitate his wife, who, however, managed to escape.

College of Physicians and Surgeons; Medical Department of Columbia College.—At a meeting of the Board of Trustees, held December 15, 1885, the following preamble and resolutions were unanimously adopted:

Whereas, By the death of Mr. William H. Vanderbilt the cause of medical education in this country has lost one of its first conspicuous benefactors; and

Whereas, It becomes the duty of the Trustees of the College of Physicians and Surgeons, which was the object of his sagacious benevolence, to express their deep sense of the debt due to his memory; therefore

Resolved, That Mr. Vanderbilt's gift toward the advancement of medical knowledge reaches a higher mark in the intelligent disposition of wealth than has often been attained by public benefactors, for it recognizes science as the handmaid of humanity, and acknowledges the benefits of the healing art in controlling human misery and enhancing human happiness.

Resolved, That it is a source of profound regret to this board that Mr. Vanderbilt's life was not spared to witness the completion of the college building which his generous endowment projected, and which will become his most worthy and enduring monument.

Resolved, That the seresolutions be inscribed upon the minutes of this board, and that a copy be sent to the family of the deceased, with the assurance of our respectful sympathy for them in their great affliction.

[Signed] J. C. Dalton, M. D., *President.*
George G. Wheelock, M. D., *Registrar.*

The New York County Medical Association.—At the next meeting, to be held at the Carnegie Laboratory, on Monday evening, December 21st, Dr. J. R. MacGregor will read a paper on "Insanity and Public Opinion," and Dr. I. B. Read one on "Double Popliteal Aneurysm." Dr. J. W. S. Gouley will present four specimens of papilloma of the bladder.

A Victim of an Experiment.—Dr. Daniel Carrion, an esteemed Peruvian physician, lately lost his life in consequence of having inoculated himself with the blood of a child suffering with the disease known as *verruga peruana*. According to the "Union médicale," he performed the experiment for the purpose of demonstrating the identity of the disease with *fiebre anemizante*, or *fiebre de la Oroya*. The demonstration was successful, but it cost the life of the experimenter.

The Medico-Chirurgical College of Philadelphia.—Section IV of the Pennsylvania Registration Law of 1881 requires that diplomas from outside the State must receive the indorsement of a recognized medical faculty within the State before registration; but, before giving such, the faculty must be satisfied as to the qualifications of the applicant; and, as the indorsement of a diploma is an acknowledgment of the qualifications of its holder as well as of its genuineness, the faculty of this college desires to announce that it will indorse no diploma for registration until the holder thereof passes a satisfactory medical examination. The fee for such examination is $30.

The College of Physicians of Philadelphia.—At the December meeting of the College the standing committees presented their annual reports:

The Library Committee reported that the library now contained 33,686 volumes and 1,393 unbound pamphlets, an in-

crease in the year of 2,592, as compared with 1,261 in 1884, and 869 in 1883.

The books were classified as follows:

General Library	18,069
Lewis Library	8,736
On special deposit:	
Mütter Museum	86
S. D. Gross Library	5,130
The Hodge col'ection	1,665
Total	33,686

The library had received 184 current periodicals devoted to medicine and the collateral sciences. The number of books taken out during the year, not including the large number which had been consulted in the rooms, was 1,231. In the General Library all the books were catalogued with the exception of the dictionaries, journals, reports, and pamphlets. In the Lewis Library, all the books were catalogued to date. During the year additional bookcases had been erected in the large hall, affording accommodation for about 2,600 books. These cases were now full.

The Committee on Publication reported that during the year papers had been read by fourteen Fellows. In addition to these, a paper by Dr. Graham and one by Dr. Orville Horwitz had been communicated by Dr. J. M. DaCosta, and an address on "Photography of the Larynx" had been read by Dr. Theodore R. French, of Brooklyn. The total number of pages in the volume of "Transactions" for 1885, to date, was about 232. Through the generosity of the President, the committee had been enabled to employ a stenographer and thus obtain a full report of the discussions.

The Committee on the Directory for Nurses reported that the number of nurses registered December 1, 1884, was 419. The present number was 475, showing a gain of 56. During the year the loss by dismissal, resignation, death, and removal had been 18. The number of applicants for registration had been 118, of whom only 68 had been registered. The largest number of nurses sent out in any one month was in January, 1885, 119; the smallest in August, 47. The total number of nurses supplied during the last four years had been in 1881–'82, 342; 1882–'83, 733; 1883–'84, 913; 1884–'85, 1,003. Seventeen wet-nurses had been furnished during the year. The committee had recently assisted the New York Academy of Medicine in establishing a similar directory for nurses in that city.

Medical Men in Parliament.—The "Medical Times and Gazette" announces that the following-named graduates in medicine have been elected to the new House of Commons: Charles Cameron, M. D., Glasgow; Robert Farquharson, M. D., F. R. C. P., West Aberdeenshire; Robert Bannatyne Finlay, M. D., Q. C., Inverness Burghs; Balthazar W. Foster, M. D., F. R. C. P., Cheshire; Henry Mitchell, F. R. C. S., Glasgow; Sir Guyer Hunter, M. D., F. R. C. P., K. C. M. G., Hackney; Sir J. J. Trevor Lawrence, Bart., M. R. C. S., Surrey; R. Macdonald, M. D., Ross and Cromarty; Kevin Izod O'Doherty, F. R. C. S. I., North Meath; L. J. N. Tanner, L. R. C. P., L. R. C. S., Mid-Cork; and Philip J. Vanderbyl, M. D., M. R. C. P., Portsmouth. The contest in which Mr. Erichsen was engaged had not yet come off. Mr. Ernest Hart, Dr. Herbert Watney, Dr. Alfred Carpenter, Mr. Peter Royle, Dr. Danford Thomas, and apparently Dr. R. D. Lyons, have been defeated. Among the scientific men elected who are not medical graduates are Sir Henry Roscoe, the chemist, Sir Lyon Playfair, and Sir John Lubbock, who, as our contemporary remarks, "will form a scientific trio whom it would be difficult to match."

Obituary Notes.—The death of Dr. John W. Sawyer, of Providence, R. I., took place on Monday last, in his fifty-first year. He was born in Danvers, Mass., in 1834, was graduated from Harvard Medical School in 1859, and entered the Butler Hospital for the Insane, in Providence, as assistant physician. He then became assistant physician to the Wisconsin Hospital for the Insane, and subsequently returned to the Butler Hospital, of which he was superintendent at the time of his death. He was a member of the Providence Medical Association, of which he was twice president, and also a member of the Rhode Island Medical Association.

Death of Dr. Albert H. Smith, of Philadelphia.—Although it comes as a release from a long and painful illness, Dr. Smith's death, which took place on Tuesday, will be generally recognized in the profession as involving the loss of one of the most accomplished and most esteemed of American obstetricians.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 29 to December 12, 1885:*

Vickery, R. S., Major and Surgeon. Relieved from the assignment as Acting Medical Director, Department of the Columbia, to date the 16th inst. S. O. 200, Department of the Columbia, November 23, 1885.

Birmingham, H. P., First Lieutenant and Assistant Surgeon. Ordered for duty at Camp Grant, Riverside Park, New York city. S. O. 256, Department of the East, December 4, 1885.

Bushnell, George E., First Lieutenant and Assistant Surgeon. Ordered for duty as Post Surgeon, Fort Preble, Me. S. O. 256, Department of the East, December 4, 1885.

Wilson, William J., Captain and Assistant Surgeon. Ordered for duty as Post Surgeon, Plattsburg Barracks, N. Y. S. O. 256, Department of the East, December 4, 1885.

Appel, D. M., Captain and Assistant Surgeon. Ordered for duty at Jackson Barracks, La. S. O. 256, Department of the East, December 4, 1885.

Everts, Edward, First Lieutenant and Assistant Surgeon. Ordered from Department of the Columbia to Department of Arizona. S. O. 279, A. G. O., December 5, 1885.

Polhemus, A. S., First Lieutenant and Assistant Surgeon. Relieved from duty at Presidio of San Francisco, Cal., and ordered for duty as Post Surgeon at Fort Halleck, Nev., relieving Acting Assistant Surgeon Loren N. Clark, U. S. Army. S. O. 113, Department of the Columbia, November 30, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending December 12, 1885.*

Aulick, Hampton, Surgeon. Ordered to the Alliance as relief of Surgeon G. P. Bradley.

Bradley, George P., Surgeon. Ordered to Naval Hospital, Philadelphia.

Shafer, Joseph, Assistant Surgeon. Detached from Naval Hospital, Philadelphia, and ordered to the Minnesota.

Gaines, J. H., Past Assistant Surgeon. Detached from Naval Hospital, Washington, and ordered to the Dolphin.

Lippincott, George C., Passed Assistant Surgeon. Detached from Navy-Yard, Washington, and to wait orders.

Deane, C. W., Passed Assistant Surgeon. Ordered to the U. S. Receiving Ship Dale as relief of Passed Assistant Surgeon G. P. Lumsden.

Lumsden, G. P., Passed Assistant Surgeon. Ordered to Naval Hospital, Washington.

Lovering, P. A., Passed Assistant Surgeon. Detached from U. S. Receiving Ship Wabash, and to wait orders.

Marine-Hospital Service. — *Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the three weeks ended December 12, 1885 :*

Wyman, Walter, Surgeon. Granted leave to attend meeting of American Public Health Association. December 3, 1885.

Benson, J. A., Passed Assistant Surgeon. Granted leave of absence for fifteen days. November 28, 1885.

Armstrong, S. T., Passed Assistant Surgeon. Granted leave of absence for eight days. November 30, 1885.

Wasdin, Eugene, Assistant Surgeon. Granted leave of absence for thirty days. November 28, 1885.

Watkins, R. B., Assistant Surgeon. To proceed to Galveston, Texas, for temporary duty. November 30, 1885.

Yemans, H. W., Passed Assistant Surgeon. Granted leave of absence for fifteen days. December 7, 1885.

Bratton, W. D., Assistant Surgeon. When relieved, to proceed to San Francisco, Cal. December 12, 1885.

Norman, Seaton, Assistant Surgeon. Appointed an Assistant Surgeon, December 11, 1885. Assigned to duty at New York, N. Y., December 12, 1885.

Society Meetings for the Coming Week:

Monday, *December 21st:* New York County Medical Association; Medico-Chirurgical Society of German Physicians; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *December 22d:* New York Dermatological Society; New York Surgical Society; Buffalo Obstetrical Society (private); Medical Society of the County of Lewis (quarterly), N. Y.

Wednesday, *December 23d:* New York Pathological Society; American Microscopical Society of the City of New York; Philadelphia County Medical Society (conversational).

Thursday, *December 24th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private).

Friday, *December 25th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *December 26th:* New York Medical and Surgical Society.

Letters to the Editor.

THE DISINFECTION OF RAGS AT THE PORT OF NEW YORK.

To the Editor of the New York Medical Journal:

Sir: The medical profession, of which you are a representative, is rightly regarded as the defender of the public against quacks and impostors. The confidence it has so well earned in this direction carries a certain responsibility with it, because it makes it very desirable for quacks to gain the aid of the profession where that can be done.

It is in view of this responsibility that I wish to lay before you some facts touching the importation of rags (the raw material of paper) into the port of New York. Under the law of the State, as now interpreted and practiced, it is within the discretion of the Health Officer of New York to forbid the landing of imported rags, no matter whether they be brought from infected districts or not, or whether there be reason to suppose that they are themselves infected or not, unless they are disinfected to his satisfaction. This is the accepted law and the actual practice at this port, and this extraordinary discretion is subject to no accountability or control except by the Board of Quarantine Commissioners, and in their hands the power of control, as a matter of fact, is not exercised.

Now, the manufacturers of paper contend that this practically unchecked and arbitrary power in the Health Officer is subject to grave abuse, and that it is unnecessary to the protection of the public health.

The manufacturers of paper do not wish to import disease. If they had no other reason for not wishing it, it is enough that it would be greatly against their interests to do so, for, as soon as it was known that they had done so, their employees would leave, their mills would be closed, and their importations would be stopped. They have been taught by experience to doubt whether rags can be thoroughly disinfected, especially in the bale. They are willing and desirous, if rags can be shown to be infected or to have been gathered in infected districts, that these rags shall be destroyed. But they protest that it is a gross outrage on them and on the public that their property, coming from uninfected districts, in ships bearing clean bills of health, shall be subjected to a patent disinfecting process. They demand, and they think they have a right to demand, that, if "*disinfection*" be required, it may be done by some other than a patented or secret process. Nominally a choice is given between two processes; in reality only one can be applied, and that one belonging to what, for want of a better term, I shall call the "Quarantine Ring."

This is being done now and here in the name of "sanitarian" vigilance and "humanitarian" zeal, and the medical profession are asked to approve it. I would respectfully ask them to examine carefully and consider candidly these facts before lending their powerful support to such a scheme.

I remain, with the highest respect,

Your obedient servant,

Augustine Smith,

Vice-President American Paper-Makers' Association.

TYPHOID AND TYPHO-MALARIAL FEVERS.

Seneca Falls, N. Y., *December 12, 1885.*

To the Editor of the New York Medical Journal:

Sir: At the meeting of the New York State Medical Association, Third Branch, Dr. Elsner, of Syracuse, read an essay on "Typhoid Fever as we see it in Central New York," and I saw in your Journal of the 28th the published paper. I read it with much interest. It is well written and describes the character of the diseases of this section very minutely and well, and I would let it go by without comment if I was not fearful it might lead some young practitioner into an error by making him believe he was treating typhoid fever when it is malarial fever, or the bilious remittent of our forefathers. We have the same class of fevers here that they have in Syracuse. The marshes of Cayuga Lake and the Seneca River are filled with malaria, and all our diseases—pneumonia, dysentery, enteritis, etc.—partake of a remittent character. These fevers of which he speaks are the most common of any diseases we have. They

come on just as he describes, but, if taken early, can be broken up; in fact, they never reach the typhoid state unless treated by some homœopath, or the patient has tried to treat himself for a week or ten days. I will not say *never*, because there are a few which are taken violently, and will pass into the typhoid condition in spite of all you can do. This proportion of cases is very small—perhaps five per cent. They then go on fourteen, twenty-one, or twenty-eight days in that typhoid condition, with livelier delirium than in typhoid fever proper, less of the bowel lesion, and less subsultus tendinum. I hope my friend Dr. Elsner may never strike an epidemic of typhoid fever "Simon pure"; if he does, he will be led to know that our typho-malarial fevers of Central New York are about as near typhoid fever as chicken-pox is like the deadly confluent small-pox.

I am very respectfully yours, etc.,

Elias Lester, M. D.

Proceedings of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of December 9, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Bilateral Perinephritic Cysts.—Dr. T. M. Prudden reported on the specimens presented for a candidate by Dr. Boldt at the last meeting. The conditions found, he said, were very interesting. One of the tumors had occupied nearly half the right side of the abdominal cavity; there was a similar tumor on the left side, but smaller. One contained about 300 c. c. of a gelatinous fluid; the other contained over a litre. In the former the surface of the kidney was thickly besprinkled with small cysts, containing fluid like that in the larger cyst. The cortex of the kidney was about 1 ctm. in thickness; the pelvis was largely dilated; the ureters were also dilated. There seemed to be a capsule over the kidney, which in places was two or three times as thick as normal. One side of the kidney was still adherent to what formed the wall of the cyst; the other was free. The free side was smooth and contained but very few small cysts. On this side there was very marked chronic interstitial nephritis; but very little existed on the other side. Both sides of the second kidney were free, and covered by sub-capsular and intra-capsular cysts containing fluid; a cyst 7 ctm. in diameter was connected by a small opening with the one which held a litre of fluid. There was very little interstitial nephritis. The convoluted tubules contained a kind of soft mucous tissue, having been dilated by a gelatinous material similar to that contained in the large cyst, and in their near neighborhood there were cysts which had lost their tubular character. Thus there were two cystic kidneys, with chronic nephritis. Everything seemed to indicate that the contents of the outer cyst had insinuated their way into the tubules. There were also some crystals of hæmatoidin in the vicinity of the cysts within the kidney. It was impossible to say how the cysts originated, or whether or not they were congenital.

Sarcoma of the Liver.—Dr. H. J. Boldt presented a part of a sarcomatous liver, the entire organ having weighed a little more than nineteen pounds. The interest in the case regarded difficulty of diagnosis, the physical signs pointing to either amyloid or malignant change in the liver, while the history led to the suspicion of syphilis.

Cystic Degeneration of both Kidneys and of the Liver.—Dr. J. W. Roosevelt presented the specimens, and remarked that he had been able to find only four recorded cases of the kind. The patient from whom the specimens were removed was a laborer, aged thirty-seven years, who was admitted into Roosevelt Hospital July 6, 1883. He was a hard drinker; he denied syphilis. He had been ailing for a year or longer; complained of palpitation of the heart and of seeing muscæ volitantes. He had also had dyspnœa on exertion, headache, œdema, etc. On admission, he was poorly nourished and his face was flushed. He had no œdema, but some dyspnœa and a slight cough. The urine, which was of low specific gravity, contained a small amount of albumin. The liver was enlarged, and there was enlargement of the superficial abdominal veins. July 12th he suffered more and more from dyspnœa, became comatose, and died from pulmonary œdema. The interesting lesions were in the liver and kidneys. The liver was enlarged and was filled with cysts varying in size from being only visible to the size of a lemon, some containing a thicker and darker fluid than others. Both kidneys were very much enlarged, preserved partially their normal outline, and had been converted into masses of cysts. To the naked eye, there was no normal kidney tissue remaining, but the specimens would be examined by the Committee on Microscopy. The ureters were not dilated.

Dr. Roosevelt also presented a mass of cysts occupying the place of a kidney, found in the museum of the Roosevelt Hospital, unaccompanied with any history.

Stone in the Bladder.—Dr. Roosevelt presented further a bladder with greatly thickened walls, containing a stone of about the size of a walnut; also the right kidney reduced to a small cyst, and the left kidney much enlarged—the so-called "surgical kidney"; the pelvis and ureter were dilated. Dr. Roosevelt thought the nucleus of the stone might have developed within the kidney, and, after destroying that organ, have worked its way into the bladder. The patient's condition did not warrant an operation when he was admitted into the hospital, and he died shortly afterward.

Osteitis of the Fibula.—Dr. Wackerhagen presented the lower end of a fibula removed for necrosis from a girl thirteen years of age. About three years ago she sustained a contusion on the outer aspect of the right ankle; afterward an abscess broke, and trouble existed until about seven months ago, when the speaker exsected two inches and a half of the lower end of the fibula and scraped the astragalus. There was no history of tuberculosis.

White Renal Infarctions, etc.—Dr. L. E. Holt presented the heart and kidneys of a child which died, aged seventeen months, in the Infant Asylum. At the cutting of each tooth there had been an unusual amount of cerebral irritation; on the last occasion this was very marked; on the eighth day the temperature rose to 104° F., the child became comatose, the pupils were contracted, and on the tenth day, three hours before death, there was marked cyanosis. At the autopsy the vessels in the right hemisphere of the brain were found greatly engorged, and in marked contrast with those in the left hemisphere, which was anæmic. In the sinuses on the left side of the brain there were firm decolorized thrombi; there were none on the right side. Both sides of the heart contained large, closely adherent clots, which were regarded as of ante-mortem formation. There was white infarction in both kidneys to a very marked degree, with commencing diffuse nephritis. The case was interesting in three respects: First, with regard to engorgement of the arteries on the right side of the brain, with absence of thrombi on that side, while there was apparently anæmia on the left side, with thrombi of the veins; second, with regard to evident ante-mortem heart clots; third, with regard to renal infarctions. For none of these conditions was there an apparent underlying cause.

Multiple Myomata of the Stomach and Bladder.—Dr. R. Van Santvoord presented a series of specimens removed from the body of a man aged seventy years. The brain was anæmic; the vessels at the base were slightly atheromatous, but quite brittle; there were one or two spots of softening on the cortex. There was straw-colored fluid in the pleural cavities, and cheesy nodules were found in the upper lobe of each lung; the pleuræ were adherent and thickened. The left cardiac ventricle was markedly hypertrophied; there was slight atheroma of the mitral valves; the aorta was calcified, and the same atheromatous process extended into the larger vessels of the neck. The radial arteries showed no marked amount of atheroma. In the lesser curvature of the stomach there was a saddle-shaped neoplasm, about two inches and a half in length, and about half an inch in thickness; it seemed to be chiefly muscular; the walls of the bladder and rectum also presented a muscular-like tumor, the microscopical examination of which had not yet been completed. The mesenteric glands were likewise thickened.

Physical Signs of Pneumonia involving the Anterior Surface of the Upper Lobe.—Dr. Van Santvoord presented a second series of specimens, from a man who had been sick seventeen days prior to admission into the Randall's Island Hospital. On his admission, Dr. Maxwell found marked dullness over the upper lobe of one lung, flatness over the lower lobe, absence of the respiratory murmur over the lower lobe, and marked amphoric breathing above. On the following day the amphoric breathing had disappeared over the upper lobe, bronchial breathing having taken its place. Flatness had disappeared over the lower lobe, and bronchial breathing was present where there had been absence of respiratory murmur before. The urine contained about one eighth albumin, blood casts, and free blood. The last day of his life the patient had three epileptoid convulsions, and died comatose. He was about sixty-five years of age. The autopsy revealed the arachnoid thickened by a chronic process. The pia was infiltrated with a gelatinous-looking lymph extending over the whole of the brain and into the spinal cord. There was gray hepatization over the right upper pulmonary lobe, very firm in character, and differing from that ordinarily seen in the upper lobe in that it approached very near the anterior edge of the lung. This point had an important bearing upon the physical signs. Dr. Janeway had called attention to the fact that in pneumonia of the upper lobe, in which the infiltration extended almost or fully into the anterior edge, there was very frequently not only amphoric respiration instead of bronchial, but also a cracked-pot percussion note transmitted from the bronchus. These cases not infrequently gave rise to errors in diagnosis. The speaker was unable to explain the cavernous breathing. In this case there was but little atheromatous change in the aorta, but it was very considerable in the radial arteries. The kidneys contained a few cysts, and examination would probably show chronic diffuse nephritis with an acute form ingrafted upon it.

Congenital Cartilaginous Bodies anterior to the Tragus.—The President presented three small bodies, probably yellow fibroid cartilage, removed from in front of the tragus of a young man whose father and aunt had had similar tumors. They were congenital.

Probable Tuberculosis Testis.—The President also presented a diseased testicle which would be examined by the Committee on Microscopy. The patient, fifty-five years of age, had been admitted into Mount Sinai Hospital December 7th. He had had hernia on the left side for twenty-five years. About seven months ago the left testicle became enlarged and gave slight pain. It increased gradually, and six weeks ago had extended upward into the inguinal canal, becoming harder and more tender. The patient had also been treated for posterior spinal sclerosis. On the 7th instant the President found the tumor as large as one's fist, extending into the inguinal canal. There was evidently fluid. The bowels were not free. It seemed possible that there was either hydrocele, simple periorchitis, or strangulated hernia. At the operation there was found a double cyst, the first outside the cord practically, which contained about an ounce of clear fluid, the second within the tunica vaginalis testis, which discharged about four ounces of fluid. There was no hernia present. The testicle and epididymis were enlarged, and, when they were removed, little blood escaped, a fact suggestive of necrosis of the testicle. There were, then, three possible conditions in the case, any one of which would have justified an operation. The nature of the disease of the testicle could not be determined until after a microscopical examination.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of December 1, 1885.

The President, Dr. W. R. Birdsall, in the Chair.

Unilateral Hallucinations.—Dr. William A. Hammond read a paper on this subject. [See page 649.]

Dr. Leonard Weber related the history of a case which he thought went to support the view which Dr. Hammond seemed to entertain, that unilateral hallucinations were not associated with disease of the special sense concerned, but with an affection of central origin. A man came under his observation in 1879, at which time he was thirty-seven years of age, strong, healthy, very active in business, but, in consequence of domestic trouble and mental strain, had begun to lose sleep, was sensitive to strong light, loud noises, etc., and from 1879 to 1881 was subject to hallucinations connected with the left ear. On going to bed he was unable to sleep for two or three hours because of whispering noises, growing louder and louder, heard in the left ear, and of two kinds, one soothing and the other mandatory. A careful examination by himself and by a specialist in diseases of the ear failed to reveal anything wrong connected with the auditory apparatus. When the patient's circumstances changed, and he was enabled to lead a peaceful life, the hallucinations disappeared, and had not returned.

Dr. E. C. Spitzka had not heard the entire paper, but, being familiar with the author's views regarding the function of the optic thalamus, he was somewhat surprised that he had not tried to harmonize his observed facts with the anatomical and physiological facts which had been incontestably established during the past decade. Lewes, upon whom Dr. Hammond probably rested chiefly for support of his views, expressed his ideas regarding the functions of the optic thalamus as many as twenty-five years ago, and what he wrote was mere guess-work. If he had been supported in part by recent accurate methods of research, such as the atrophy and other methods, it was a mere coincidence. The speaker's own views regarding hallucinations were directly opposed to those of Dr. Hammond. He believed that hallucinations had their seat in the cortex, and not in the optic thalamus or any of the lower ganglia. The optic tract and thalamus might have undergone secondary atrophy, following enucleation of both eyeballs, yet the person would be capable of having hallucinations, showing that hallucinations had not their seat in the optic thalamus. The case cited by Dr. Hammond, in which during her hallucinations the patient saw the figure of a man and woman, showed the exercise of mental qualities which could have their seat nowhere else than in the cerebral cortex. Dr. Hammond had asked whether he did not believe an hallucination to be something which had been previously registered in the memory and which was projected outward.

He would reply that, without quibbling about terms, that was precisely what he meant by an hallucination.

Dr. M. A. Starr related the facts in a case reported by Vetter, in which a patient having right hemianopsia imagined that she saw people sitting at her right side, which was the blind side. By a process of exclusion it was shown that the lesion could not have existed in the optic thalamus, but must have existed in the occipital lobe. In all probability the source of the hallucination in this case was cortical irritation. Certainly in a great many cases cortical irritation would produce hallucinations. This was observable in meningitis in which the optic thalamus was not implicated.

Dr. W. M. Leszynsky recalled the case of a woman, fifty years of age, in a lunatic asylum, suffering from mania, who was in the habit of sitting hours at a time with the left ear inclined toward a table, sending, she said, and receiving telegraphic communications. She did not receive the telegraphic communications with the right ear, which she said was only for general use. The hearing seemed to be normal; perhaps that in the left ear was a little more acute than that in the right ear.

Dr. Sachs referred to a case of hemiplegia with tumors in the optic thalamus, reported by Minot, and asked Dr. Spitzka whether he could imagine an excitation of the cerebral cortex giving rise to an image or hallucination, the revival of such image not being due to an antecedent peripheral irritation.

Dr. J. L. Corning asked why hallucinations which might be produced by impressions coming from the peripheral nerves might not also be produced by an irritation at any point in that peripheral tract, as in the thalamus? Everybody would admit that the higher forms of conception took place in the cerebral cortex.

Dr. C. L. Dana would like to hear the subject discussed which Dr. Hammond had probably wished to bring before the society, namely, the duality of the brain. So far as the mechanism of hallucinations was concerned, he thought all would agree with Dr. Spitzka that it was essentially in the cerebral cortex; but the exciting cause might be a peripheral irritation acting upon the psychopathic centers. As to the duality of the brain, he thought there were many more arguments against the proposition than for it; but the subject was one of great reach, and could hardly be discussed at this hour. The cases of hallucination cited did not, it seemed to him, prove much, because only a small part of the psychical mechanism was involved. On the other hand, the experiments of Dumont Paré proved little, because hypnotized subjects could be led to do almost anything by slight suggestion. But pathological observations, the results of hemiatrophies, or of tumors on one side of the brain, studies regarding language, etc., all went to show that the two cerebral hemispheres had certain distinct functions, and that there were not two halves of the brain each having about the same function.

Dr. Charles Heitzman said that, although he was not a specialist in this department, he had given considerable study to it, and he had got the impression that neurologists were not entirely clear in their ideas concerning the seat of irritation which caused hallucinations. Let the physiological fact be remembered that an impression upon our senses could be brought forward at any time in the shape of a protracted sensation or hallucination. Thus, a peculiar sound might be heard which was merely the image of a real sound, and constituted an hallucination. Everything which we had learned was registered in the brain, especially in the gray substance. In the case of the black cat, could the man have had an hallucination of a black cat if he had never seen a black cat? He doubted it. Wherever the center for the image of the black cat might be, if any portion of the nerve-tract leading from the retina to that center was disturbed, it would be likely to excite that center, and the image of the black cat would be revived. The special point of interest connected with the hallucinations related was that they were unilateral. He asked if that might not be explained on the supposition that the irritation, being upon one side, led to the center for the given image upon that side only.

Dr. Spitzka said, with regard to the duality of mind, that there could be little difference of opinion regarding the following facts: The two cerebral hemispheres were alike in structure, the variations being no greater than in other symmetrical organs, if allowance was made for a higher type of development; the hemispheres were united by a symmetrical commissure; they had corresponding peripheral tracts; they had about the same distribution of retinal fields; post-mortem examinations on the insane went to prove that the hemispheres were symmetrical; one hemisphere might be practically destroyed and yet the individual retain power to exercise the several faculties of the mind, such as reasoning, memory, judgment, etc.—not, however, that there would be no paralyses or other symptoms. But it was a different matter entirely when it was suggested that unilateral hallucinations could exist when the corresponding hemisphere was perfectly healthy.

Dr. Hammond, in closing the discussion, said it had not been his object to discuss specially the function of the optic thalamus. He might say, however, that he believed a person could have hallucinations without an optic thalamus at all, provided he had a cortex; but he believed also that he could have hallucinations without any cortex, provided he had an optic thalamus. In the former case the hallucinations would be due to a revival of past impressions; in the latter case they would be original, having nothing to do with former associations. A man without an optic thalamus could have an idea of a cat in the abstract, but he could not have an hallucination of a particular cat. He believed that ideation resided in the cortex. With regard to the duality of the mind, many arguments might be brought forward, but time would not permit.

BALTIMORE ACADEMY OF MEDICINE.

Meeting of December 1, 1885.

The President, Dr. J. J. Chisolm, in the Chair.

Evisceration of the Eyeball by the New Method.—The President related a case of evisceration of the eyeball after the plan recently recommended, which consisted in completely excising the cornea by means of a circular incision around its margin, the contents being then entirely removed, leaving the sclerotic intact. The advantage alleged for the operation was that the socket tissues were not disturbed; neither was the muscular apparatus of the eye interfered with; besides, the stump left made an admirable seat for an artificial eye. The operation itself was very simple, and could be performed much more expeditiously than complete enucleation, but convalescence was so very tedious, and at times gave rise to such painful and alarming symptoms, as had occurred in his case, that in future he should confine himself to the old plan of complete enucleation. It was his usual custom to allow a patient to go about his affairs very soon after the operation, at the outside in twenty-four hours, but in the evisceration operation, even up to the fourth day and later, there were such œdema and pain that he could not think of allowing the patient to be from under his observation. He had never had such an experience with the old method.

Dr. S. C. Chew wished to know if sufficient anæsthesia could be produced by the use of cocaine to enable one to perform this operation without pain to the patient.

The President thought not.

Paralysis from a Fall.—Dr. A. B. Arnold related a case which had occurred at Bay View Asylum a year before, in a woman five months pregnant. She fell from the second story window, striking upon the head; when picked up she was senseless, and remained so for three days. Among the consequences of the fall, abortion was brought on. At present she had paralysis of both lower extremities, and complete anæsthesia on the right side, and was deaf and blind on that side. She evidently had some spinal trouble, as she complained of that sensation so common in these troubles, "as if a belt were being drawn about her waist"; also had some enfeeblement of the sphincters of the bladder and rectum. In addition, there was a peculiar nervous jerking about the head, which had continued for a year.

The speaker thought the lesion was located about the inferior third of the internal capsule, extending up and involving the optic and auditory nerves at their point of crossing, and that the nerves of sensation which came off at that point were affected. He thought the symptoms justified this conclusion. The pupils responded normally to light. She had never had any trouble previous to the fall.

The President asked if any ophthalmoscopic examination had been made. He was prompted to ask this question by a case which had recently come under his observation. It occurred in a man who had received a severe beating, and, among the results, loss of vision began after about six weeks. He examined him, and found anæsthesia of the fifth nerve, the hearing involved, and several small retinal hæmorrhages around the point of entrance of the optic nerve.

Empyema.—Dr. Chew had been called in consultation to a patient who for several days had suffered from severe dyspnœa. The night before he saw him he had had copious expectoration of matter, the nature of which he could not describe, as it was not saved. This was followed by immediate relief from the difficulty of respiration. Upon physical examination of the chest, the left pleura was found to be about two thirds filled with fluid. Shortly after his visit the patient suddenly died with profuse vomiting of purulent matter, as well as the passage of quantities of it from the bowels. From such symptoms he thought it highly probable that perforation took place through the diaphragm into the stomach, and that the fluid was discharged both through the œsophagus and through the intestines. He had searched the literature on the subject and had found no record of a case terminating in this manner. Physical examination of the chest made before the first expectoration of matter showed the pleural cavity to be entirely filled with fluid. More recently he had seen a patient at the Baltimore Infirmary whose physiognomy was indicative of pulmonary trouble. Percussion over the right side of the chest gave decided resonance, both anteriorly and posteriorly. On ausculation on the same side, there was pronounced Hippocratic succussion. No discomfort at all was noticed, neither pain nor dyspnœa. He thought the absence of dyspnœa could be explained on the ground that the air probably distended the pleura (and this compressed the lung) so gradually that this lung, as well as the healthy one, had sufficient time to accustom itself to its abnormal relations. Whether perforation was due to ulceration outward through the pleura from the wall of a cavity in the lung, or whether it was due to a loss of substance occasioned by a point of inflammation upon the visceral pleura, thus perforation taking place in the reverse direction, he could not say, although symptoms sufficiently marked were present to point to either mode. In his opinion, surgical interference should be resorted to as soon as the condition of empyema was made out.

Dr. Arnold had seen a case of empyema in a child, which occurred on the right side, ulcerated through the diaphragm, and discharged its contents into the abdominal cavity. The child died from shock. He considered it somewhat remarkable how rarely phthisical patients showed any signs of discomfort from interference with respiration, even though their lungs might be riddled with cavities.

Dr. Chew looked upon this as due to the slowness of the pathological process, this enabling that portion of the lung which was healthy to increase its physiological activity. He also thought, in view of the fact that cavities so frequently formed near the pleura, that it was singular that we so rarely found perforations from them.

The President said serous sacs resisted perforation.

The Cocaine Habit.—Dr. J. C. Thomas said that since he had been told that in some of our principal cities the cocaine habit was largely being acquired, he would like to ask if any member had ever seen a case of it, and, if the report was true, whether the medical profession should not take steps to prevent the reckless prescription of this seductive drug.

The President related two cases in which decided loquacity had been produced by the introduction of cocaine into a cavity in a decayed tooth. In speaking of *cocaine tablets*, he referred to a condition, amounting almost to a slough, that was produced on the buccal surface of his own cheek from the application of one of these tablets to the gum and allowing it to remain until dissolved. From this, he hardly considered them the proper thing to use in nasal catarrh.

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M. D.

The Sensitiveness of the Normal Eye to Differences in the Wave-Lengths of Light.—König and Dieterici ("Arch. f. Ophth.") conclude, from their investigations upon this subject: 1. The differences in color-sensibility at the red end of the spectrum, as far as the line C of the spectrum, are dependent solely upon the existing differences of intensity. 2. The maximum sensitiveness for differences in wave-length in the yellow region of the spectrum lies for the two observers at different points of the spectrum. 3. The two other maximum conditions (in the blue-green region and the region of fusion of indigo and violet) lie, with the same or equal intensity, at the same point for both observers. 4. But they pass with increasing intensity toward the violet end of the spectrum just as the neutral point in the spectrum of those who suffer from red-green blindness.

Investigations into the Light-Sense and the Sense of Space in Different Diseases of the Eyes.—Bjerrum (*Ibid.*) gives the results of his laborious investigations upon the light-sense and sense of space in connection with various diseases of the eye as follows: 1. Among patients with the same acuity of vision for black on white by good illumination, one individual may show a markedly abnormal diminution of vision by lowered illumination (hemeralopia), but good vision by diminishing differences of brightness and by unchanged illumination; while another individual may show good vision by diminishing illumination, but bad vision by diminishing differences of brightness. 2. Among individuals with the same acuity of vision one may show marked hemeralopia, but a perfectly unaltered sensitiveness for differences of brightness by good illumination on a white Masson's disc; another may, on the contrary, show no hemeralopia, or a very slight degree of it, but a very considerably diminished sensitiveness for differences of brightness under the same conditions. 3. The light-sense may be so affected in the central part of the retina in one individual that the limit of irritability is displaced upward, while the limit of difference under a greater absolute brightness is not affected, while in another individual the reverse will be the case. 4. The investigations showed that persons with affections

of the retina and choroid showed a particular tendency toward hemeralopia, while patients with atrophy of the optic nerve showed a tendency to diminution of sensitiveness for differences of brightness under a greater absolute brightness. The examination of cases of congenital and strabismic amblyopia revealed nothing. The cases of central amblyopia resembled in this regard those of optic-nerve atrophy. 5. The so-called nyctalopia as a rule depends upon the circumstance that many cases of amblyopia, when the illumination diminishes, approximate more and more the normal, both as regards the sense of space and the light-sense.

Researches into the Perception of the Differences of Brightness or Illumination.—Charpentier ("Arch. d'ophth.") formulates the results of his investigations as follows: 1. The perception of differences of brightness is always influenced by the illumination. 2. The differential fraction diminishes continuously as the illumination increases. 3. There is no simple law which can explain the relation between the illumination and the value of the differential fraction, but an approximative law would be as follows: the differential fraction varies inversely as the square root of the illumination. 4. The perception of differences of brightness varies according to the size of the objects to be distinguished. 5. The differential fraction diminishes continuously as the size of the object increases.

Rare Tumor of the Orbit.—Story ("Ophth. Rev.") reports an interesting case of orbital tumor occurring in a young girl who had never suffered from any inflammation or painful affection of the eyes or orbits. As long as could be remembered there had been noticed a small lump beneath the left lower eyelid toward the nasal side. This lump became more prominent at certain times, and slightly discolored, and this was especially noticeable when she laughed or cried, or after stooping or taking violent exercise. On palpation, a hard body of about the size of a small pea could be felt beneath the discolored skin, and was freely movable in all directions in the orbital cavity. It could be drawn forward and made to project through the fornix beneath the eyeball. On dividing the skin and fascia over it, the tumor projected through the opening, inclosed in a thin but firm capsule. On dividing this capsule, the tumor popped out upon the cheek, there being no pedicle. It was nearly spherical, being one centimetre long and seven millimetres broad, and at one extremity of the longer diameter a smaller spherical tumor, about two millimetres in diameter, was firmly attached to the primary one. On making a section with a saw, the tumor was seen to be formed of a series of concentric lamellæ, the peripheral layer resembling bone in appearance. A microscopical examination, however, showed no bone, but only a series of different layers of fibrous tissue and calcified matter.

Chronic Tuberculosis of the Eye.—Schäfer ("Klin. Monatsbl. f. Augenheilk.") gives the results of an examination of an eye removed, for general intra-ocular inflammation and exophthalmus, from a soldier of healthy constitution. The eyeball was 29 mm. long and 21 mm. wide, and almost shapeless. The cornea was 3 mm. thick; the sclera varied in thickness from 1½ mm. to ¾ mm. The anterior chamber was very shallow, and filled with a granular, dark-yellow mass. Two millimetres external to the corneal margin was a narrow, funnel-shaped, gaping cleft leading into the interior of the eye. This opening was surrounded by a broken-down, grayish-yellow mass similar to that in the anterior chamber. This extra-ocular tumor was connected by this cleft with the intra-ocular tumor, and section showed that it originated in the outer or temporal half of the choroid behind the ciliary body. The microscope showed a lymphoid infiltration of the entire uveal tract, which in places formed conglomerate nodules or masses. The lens and capsule were involved in the same degeneration, and everywhere there was partial necrosis of the original and neoplastic tissues, with caseous metamorphosis and granular detritus. There was also in places developed a dense, vascular granulation tissue with numerous similar nodules imbedded in it. The tubercle bacillus was carefully searched for, but not found.

A Portable Campimeter.—Gazepy ("Rec. d'ophthal.") describes a portable apparatus for measuring the field of vision, which consists of three principal parts: 1. A central black disc, 5 ctm. in diameter, furnished with three claws, by which it may be attached to the wall or blackboard. This disc is divided into twelve parts: in the center is the white point of fixation, 15 mm. in diameter; it is mounted on a pivot, and is attached by an index which, turning on its axis, shows the degrees of inclination. 2. A metallic ribbon connecting it with a second disc. This ribbon is 5 mm. wide and 50 ctm. long. On one side are marked off divisions in centimetres, and on the other the tangent of the angles. The second, or peripheral disc, is of the same size as the first, and is composed of two parts: a plate turning on its axis and divided into five equal peripheral segments of the fundamental colors —red, blue, green, yellow, and white. These colors are to be used in cases where it is necessary for the chromatic perception of the visual field. Upon this first disc or plate there is superimposed a second disc revolving on the first, and forming a diaphragm, by which the quantity of colored surface which is to be examined may be varied. This disc contains five holes: the first is of the size of a common segment of the two discs; the second is 14 mm. in diameter; the third is 10 mm.; the fourth is 5 mm.; and the fifth is 3 mm. At the periphery of this disc is attached a small metallic box, 33 mm. in diameter, which is destined to receive the ribbon which unites the two discs; there is also attached to the box an apparatus for fixing the ribbon. The central disc is to be affixed to the wall or blackboard, and the patient's head is placed at 16 ctm. from the point of fixation; the peripheral disc is then removed as far as the unrolling of the ribbon will allow; then, in order to determine the point where the patient sees the peripheral white point distinctly, the second disc may be brought nearer the first by shortening the ribbon. This manœuvre is possible for all meridians, it being only necessary to turn the index which indicates the degress of inclination.

Traumatic Dyschromatopsia.—Armigo (*Ibid.*) reports a case of this kind in an officer who was wounded by a rifle-ball on the left side of the head, the auricle being carried away and the temporal bone fractured. He was unconscious for several days and was slightly delirious. When consciousness returned, it was found that he had entirely lost his memory. He was very deaf, and the senses of smell and taste were destroyed. He could not distinguish any colors, everything appearing either black or white. There was no paralysis of any muscle of the eye, nor of any in the body, but he said that in walking he felt as if he had only the left side of his body. The hearing returned in the left ear (the wounded side), but not in the right ear. Taste and smell also returned slowly. Two years later the dyschromatopsia began slowly to disappear, red being the first color recognized and green the last.

The Treatment of Granular Ophthalmia.—Vouckchevitch (*Ibid.*) draws the following conclusions in favor of excising the conjunctival *cul-de-sac*, as the only radical means of cure: 1. No specific remedy has ever been discovered for palpebral granulations. 2. Caustics, astringents, and antiseptics, as hitherto employed, are insufficient to heal granulations. 3. The inoculation of pus may be employed with prudence in certain specific and restricted cases. 4. Jequirity has not been sufficiently studied as yet to be accorded all the therapeutic value attributed to it. 5. All the methods of treatment hitherto mentioned seem rather to heal the complications of granulations than the granulations themselves. 6. The abrasion of the granulations made by Heisrath and others may cause serious deformity of the lids. 7. The granulations of the *culs-de-sac* are very difficult to reach by ordinary caustics, by reason of their situation and the anatomical relations of the lid with the eyeball. 8. The excision of the *cul-de-sac* heals very old granulations. 9. This excision causes no serious deformity of the lid, and is an operation very easily performed.

The Anatomy and Pathology of Retinitis Pigmentosa.—Guaita (*Ibid.*) draws the following conclusions in regard to the nature of retinitis pigmentosa: The morbid process is here a peripheral, progressive, centripetal angio-sclerosis of the retina. The first alteration observed consists in the concentric hypertrophy of the capillary walls of the retina, which extends at first to the entire capillary system of the equatorial region. As a result, the filtration of the nutritive plasma is hindered, and hence follow grave disorders in the current of the nutritive fluids circulating in the interstices of the retina. Owing to this sclerosis of the retinal capillaries, the current of the plasma which comes from the central branches of the optic nerve is at first diminished and afterward suppressed. The choroidal current should aid by collateral circulation, but does not replace the absence of the retinal vessels. The process of hyperplasia of the connective tissue increases and ex-

tends to the larger vascular branches and to the connective-tissue framework of the retina. This aids in destroying the retina by compressing those elements which still survive. It advances slowly and ends by attacking the largest vessels and the interstitial connective-tissue of the retina and optic nerve. The retiua is thus transformed into a connective-tissue membrane crossed by fibrous cords which arc covered by masses of pigment cells.

The Relations between Ocular Symptoms and Dental Lesions.—Power (*Ibid.*) classifies as follows the phenomena which may appear in the eye in connection with certain morbid conditions of the teeth: 1. Phenomena of reflex irritation which affect striated or non-striated muscular fibers. 2. Phenomena of reflex irritation which affect the mucous membrane and the cornea. 3. Reflex irritation affecting the optic nerve and retina, or the intra-ocular tissues. In the first class we put paralysis of the ciliary muscle, paralysis of the intra-orbital muscle, paralysis of the iris, paralysis of one of the muscles of the eyeball, and paralysis of the orbicular muscle of the eyelids.

Lesions of the Trifacial Nerve in Locomotor Ataxia.—Galezowski (*Ibid.*) continues his series of remarks upon ocular lesions in connection with locomotor ataxia, and this time takes up the lesions of the fifth nerve. He finds that they may occur at all periods of ataxy, though they are more common in the early stage. Sometimes there is a sort of hyperæsthesia disseminated all over the circum-orbital region, especially on one side, accompanied by very severe intermittent pain. These patches of hyperæsthesia all lie along the course of the branches of the fifth nerve. The lancinating pains may be propagated to the eyeball, which becomes the seat of a veritable neuralgia. Sometimes patches of anæsthesia are met with, which, however, only appear after severe pain, and are in a sense transformations from hyperæsthesia. These anæsthetic patches are also situated along the branches of the fifth nerve, the insensibility coming on gradually and sometimes becoming absolute. The local treatment should consist especially in the employment of revulsives, chiefly blisters. The continuous galvanic current, applied directly to the particular branch or branches affected, sometimes renders good service. In some cases methodical hydrotherapeutics gives good results. Galezowski also speaks well of the "mixed" mercurial treatmeut, combined with mercurial inunction. He has also employed hypodermic injections of the cyanide of mercury, making a solution of 3 grains of the cyanide in 2½ drachms of water, and injecting every day from five to ten drops. In the general treatment of ocular lesions of whatever nature, occurring in the course of ataxy, Galezowski also recommends as a hypodermic injection a solution of cyanide of gold and potassium, and also the bromide of gold and potassium, the latter being not so acid as the former.

Clinical and Pathogenetic Connection between Detachment of the Retina, Myopia, and Glaucoma.—Drausart ("Ann. d'ocul.") has been investigating this subject in connection with the operative treatment by iridectomy and sclerotomy, and draws the following conclusions: 1. There are clinical and pathogenetic relations between glaucoma, detachment of the retina, and myopia which seem incontestable. These relations may possibly explain the beneficial effect of iridectomy on detachment of the retina. 2. If iridectomy, in connection with the use of pilocarpine and the horizontal position, is regarded as the best method of treatment for detachment of the retina, on the other hand, sclerotomy, iridectomy, and all the therapeutical agents opposed to excess of tension, and employed in progressive myopia, must be regarded as most powerful adjuvants in the prophylactic treatment.

Astigmatic Keratitis.—Martin (*Ibid.*) continues his previous discussion of this subject in a fourth paper, and formulates two statements as follows: 1. Congenital astigmatism is often, but not always, accompanied by a flattening of the eyeball. 2. In half the cases, the spots upon the cornea produced by a keratitis coincide with a flattening of the organ. His final conclusions are as follows: 1. Cases of corneal spots without astigmatism are rare. 2. The degrees of astigmatism grouped round each patient are much greater than those observed in an equal number of patients who have never shown any ocular lesion. 3. Muscular spasm varies in importance in different affections. 4. In many cases where astigmatism has been discovered it exists in connection with hypermetropia, as in scrofulous keratitis, where more than half the patients examined were hypermetropic. In these cases the hypermetropia is no doubt partially the cause, as well as the astigmatism.

Glaucoma produced by Homatropine.—Sachs ("Centralbl. f. prakt. Augenheilk.") reports a case of acute glaucoma produced by the instillation of homatropine. The patient was a man, aged fifty-eight, who came to the clinic desiring to be measured for a pair of reading-glasses. He had never seen well at a distance. Both eyes showed a shallow anterior chamber with normal tension and normal pupils. One drop of a one-per-cent. solution of homatropine was instilled, and, after mydriasis had been produced, it was found that the lens in each eye showed a zone of punctate opacities between the nucleus and the anterior capsule. There was no disease in the fundus, and the visual field and color-sense were normal. The next day the patient came with the complaint that, shortly after having left the clinic the day before, he had been attacked with pain in the temple and forehead, marked disturbance of vision, and vertigo, and that these symptoms had continued. The right eye showed a typical picture of a moderate acute glaucoma; cloudy cornea, punctate epithelium, very shallow anterior chamber, pupil dilated to 5·5 mm. and immovable; arterial pulsation on the disc; increased tension; vision reduced to the power to count figures at three metres; limitation of the field on the temporal side. Eserine was immediately instilled several times, and in an hour all signs of glaucoma had vanished.

The Pathological Anatomy of Primary Sarcoma of the Iris.—Thalberg ("Arch. of Ophth.") gives the results of his examination of the eyeball of a woman, aged sixty-four, which had been enucleated for irido-cyclitis dolens. The development of the neoplasm from the endothelium of the iris could be distinctly traced at the place where the corneal tumor passed over upon the anterior surface of the iris. The development of this sarcomatous neoplasm seemed apparently the result of a cataract extraction. From its origin in the endothelium, and from the form and size of the cells, it was evidently a sarcoma, and of the round-cell variety. In the peripheral (most recently formed) portion the tumor had the appearance of a simple granuloma. In the central (oldest) portion there was a rather sudden transition from these small cells into large polygonal and round sarcoma cells; among them were some large spindle cells. By division of the large polygonal cells, small ones were formed, which at first retained their polygonal form, but, by further division, passed over into round cells as large as lymph cells. The cornea was considerably thickened and infiltrated, and blood-vessels ran from it into the tumor. The growth filled the anterior chamber, formed a vascular connection with the cornea, and passed through the opening in the center of the capsule into the vitreous; but it did not enter the iris tissue proper.

The Comparative Frequency of Eye Diseases in the White and Colored Races in the United States.—Burnett (*Ibid.*) has been investigating this subject with some care, and has made a very interesting article. Taking *conjunctival diseases* as a whole, he finds that they are of about the same relative frequency in the two races. *Scrofulous conjunctivitis*, including herpes of the conjunctiva, sclera, and cornea, is very much more frequent in the colored race. When we come to *trachoma*, Burnett has never seen a genuine case in the negro race, even among the mulattoes. He thinks that the trachoma granule, follicle, or whatever name we may give it, is a deposit of material analogous in character to tubercle. At least they both seem to have this in common, that when they disappear the tissue in which they were imbedded is destroyed, and a cicatrix is the result. There is another similarity in the successive crops of these deposits which may occur. He thinks each fresh attack of trachomatous inflammation is the manifestation of a fresh deposit, and, where there is a series of them in a number of years with these resultant cicatrices, we see that total destruction of the mucous membrane so commonly met with in old cases. As regards diseases of the cornea, we find in the negro a disproportionately large number of inflammations of all kinds. When we come to iritis, the percentage among the negroes is twice that among the whites, though the percentage of syphilitic iritis in the negroes is not greater than among the whites. From his own experience, Burnett thinks that, other things being equal, the negro offers as good a general prognosis in eye operations as the white race, though the former is rather more liable to reactions on the part of the iris after extractions.

The Indications and Contra-indications of Jequirity.—De Wecker

(*Ibid.*), in a second communication on this subject, affirms that there is never any purulent secretion so long as the jequirity ophthalmia lasts; a thin watery discharge trickles down over the cheeks, while a whitish, viscid substance covers the edge of the lids. Jequirity does not produce a purulent, but a croupous or croupo-diphtheroid ophthalmia—croupous, if the remedy is only applied superficially; croupo-diphtheroid, if an intense action has been produced by rubbing or the application of strong infusions. No danger attends the careful single or even repeated application of a three-per-cent. infusion to a normal, non-secreting conjunctiva. The jequirity ophthalmia produces the least amount of scar-tissue, and favorably affects that which has previously existed.

Further Observations on the use of Jequirity.—Knapp (*Ibid.*) has another brief communication upon the use of jequirity in ophthalmic practice. He thinks that the occurrence of diphtheria, and occasionally diphtheritic inflammation of the most deleterious kind, must be registered as one of the possible consequences of the application of jequirity infusion. In cases of inveterate, dense pannus with advanced cicatrization of the conjunctiva, the remedy is incapable of producing diphtheritic infiltration or purulent discharge to any great extent, for the cicatricial tissue, very scantily supplied with blood-vessels, can not furnish nutritive material enough for either an infiltration into the depth of the conjunctiva or an abundant purulent secretion.

New Formation of the Epithelium of the Anterior Capsule of the Lens in Adult Animals in Conditions of Health and Disease.—Falchi ("Arch. f. Ophth.") has been making some investigations into the frequency of indirect cell-division in the epithelium of the anterior lenticular capsule, and concludes as follows: 1. In the normal state this process is much rarer among mammalia and birds than among amphibia. 2. In adult rabbits, after a wound of the central portion of the anterior capsule, the indirect cell-division of the anterior capsular epithelium occurs most frequently in the neighborhood of the wound; at a certain distance from the wound the process is but rarely met with; and at points very distant from the wound it is never seen. Even in the vicinity of the wound the number of cells involved in the process was never large, and they were generally isolated, not conglomerate.

A Light-reflex from the Retina.—Heuse (*Ibid.*) calls attention to an appearance, hitherto undescribed, which may be seen with the ophthalmoscope in the upright image. It consists of a narrow, oval ring of light on the retina, which changes its shape according to the position and property of the illuminated spot. If it strikes a wide retinal vessel, the ring is changed into the shape of a heart; sometimes a portion of the ring passes into a broad, diffuse, shining streak; sometimes two faint rings are seen, the one included within the other. In two instances Heuse saw, at the spot where the ring was, a distinct, pale, inverted image of the candle-flame. The ring is best seen when the observer is very close to the eye observed. Reflected figures of a similar shape may often be seen at the bottom of vase-like vessels which are homogeneously illuminated. He regards this ring as a reflex from the walls of the interior of the eye. He assumes a double reflection within the shell of the retina in such a way that from the first reflex image, which is subjectively perceived, there results a second reflection toward the source of the original reflection. This reflex can not be seen in all emmetropic and hypermetropic eyes. It may be found in about one third of children's eyes, and is rarer in older persons.

Glaucoma.—Jacobson (*Ibid.*) has a long and interesting paper, which is mainly devoted to the relations existing between acute and chronic glaucomatous attacks, and to the causation of both. He thinks that the diagnosis of chronic glaucoma can not be made independent of the appearance of the so-called glaucomatous or marginal excavation. This excavation is rather to be regarded as a late stage of the process. The diagnosis of chronic glaucoma may be made from every excavation of the optic disc in connection with the subjective symptoms of periodic obscuration of sight and rainbow vision, and the objective symptom of constant increase of tension. Failure of vision, periodical headaches, indefinite states of tension, are all of secondary diagnostic value. By the spreading out or extension of the vitreous, every point of the ocular surface suffers an equal pressure. The yielding portions of the optic disc give way to this pressure more than any other parts of the eye, while, in the anterior part of the eye, the lens, zonula, ciliary processes, and iris also give way. As soon as the periphery of the iris is pressed against the cornea, Fontana's space is closed; and, as soon as this position becomes fixed by adhesion or by a permanent change in the vitreous, the exit of lymph ceases to a great extent, and this leads to glaucomatous degeneration. Jacobson draws the following conclusions from his observations: 1. The disturbance of central and peripheral vision in chronic glaucoma may be explained by the excavation of the optic disc; this is the pressure-excavation. 2. The marginal excavation is a late symptom, which is preceded by a shifting of the vessels at first backward in the vicinity of the central canal, and afterward on the margin of the excavation. 3. The prodromal stage of chronic glaucoma is characterized by four symptoms: subjective obscurations, excavation of the central canal, dilatation of the pupil, and increased tension. 4. Iridectomy is of most avail in the prodromal stage. 5. Among the causes of the prodromal stage are the accommodative strain of hypermetropes on account of the venous stasis which follows prolonged muscular contraction. 5. The glaucomatous eyeball maintains its hardness longer after enucleation than the normal eyeball. 7. The cause of the hardness is the increase in volume of the vitreous. 8. The hypertrophied vitreous spreads backward toward the central canal of the optic nerve; forward toward the space between the lens and the ciliary processes; it presses the latter against the origin of the iris, the latter against the cornea, and closes Fontana's spaces. Sometimes the vitreous may even alone obstruct the exit of the lymph. 9. The clouding of the media in acute glaucoma and in the prodromal stage is due to an œdema and not to an inflammatory product. 10. The obscurations of the prodromal stage without clouding of the media point to an extended circulatory disturbance as cause, such as venous stasis or arterial anæmia. 11. In the increased amount of the vitreous humor we have a lasting cause for further venous stasis and œdematous and inflammatory infiltrations. 12. The transition from acute to chronic glaucoma is explained directly by the increase in tension; the transition from chronic to acute glaucoma may, perhaps, be explained by the venous hyperæmia in the anterior half of the eyeball, in consequence of the increase in volume of the vitreous.

Jequirity Ophthalmia.—Wecker (*Ibid.*) again enters upon the discussion of this subject in a critical answer to von Hippel's recent paper. He starts with the axiom that the intensity of action of the drug increases with the strength of the infusion. He then states that the more the conjunctiva swells and the more evident the signs of acute or chronic purulent ophthalmia appear, the more difficult it is to produce the specific jequirity ophthalmia with its croupo-diphtheroid exudation, and hence the less reliance can be placed upon its action. Further, the more the trachomatous condition is complicated by papillary swelling, hyperæmia, and increased secretion, the more difficult it is to produce the croupo-diphtheroid jequirity ophthalmia. He is firmly convinced that true granulations and trachoma are cured by jequirity, but that false granulations or the papillary hypertrophy of chronic purulent ophthalmia are rather made worse by its use. The duration of the stage of incubation varies with the looseness or tightness of the eyelids, which allow more or less air to pass into and over the conjunctiva which has been bathed with the infusion.

A Case of Traumatic Pulsating Exophthalmos partially cured by Ligation of the Common Carotid, and entirely cured by Extirpation of the Aneurysmal Varix of the Orbit.—Knapp ("Arch. f. Augenheilk.") reports a case of this kind occurring in a woman aged forty-eight. Seven years previously she had received a blow on the left temple, from which she was unconscious for several days. The blow produced complete and permanent paralysis of the left side of the face. The left eye became at once prominent, but was reduced; the lids could not be closed, and in a few months she began to hear a pulsating noise in the left side of the head. This gradually increased in intensity and annoyed her extremely. After a year the blood-vessels of the lids began to swell and the eye became prominent. From this time all the signs of a pulsating tumor in the orbit became very marked. The left common carotid was ligated on November 29, 1880, and immediately after the operation a weak systolic murmur was audible, and forty-eight hours later a weak pulsation could be felt in the vessels above the orbit. In the course of the year the enlarged blood-vessels of the face gradually subsided, but there was no change in the exophthalmos, which slowly increased. On October 12, 1882, the eye was enucleated

and then the tumor carefully extirpated, and the entire contents of the orbit were removed. This operation resulted in a complete and radical cure. Knapp thinks that the period from the time of the injury to the appearance of the exophthalmos was longer than usual, and it is probable that the injury consisted of an inconsiderable laceration of the carotid, which resulted in a communication between the artery and the cavernous sinus. The chief mass of the recurrent tumor in the orbit was an aneurysmal varix, while the smaller tumor met with in the extirpation was a pulsating cavernoma. The very large blood-vessel which was divided at the bottom of the orbit was the superior ophthalmic veiu. In explanation of the manner in which the extirpation of the entire contents of the orbit brought about the cure of the communication with the cavernous siuus, Knapp assumes that the sudden obliteration of the orbital veins caused a thrombus in the cavernous sinus, which proceeded from the mouth of the ophthalmic vein, but extended so far into the sinus as to cover the laceration in the carotid.

A Case of Sudden Amaurosis with Subsequent Hemianopsia Homonyma Superior.—Wiethe (*Ibid.*) reports a case of this nature in a man aged fifty-four. Two years before the patient had had acute articular rheumatism with cardiac complication. Five months before Wiethe saw him he had fallen from a ladder a distance of three metres and struck on the back of his head. There was bleeding from mouth, nose, and ears, and he was unconscious for several hours. The following Easter apoplexy and left hemiplegia supervened, but in a few weeks he recovered completely. The day before Wiethe saw him his vision suddenly became clouded, and in an hour and a half he was entirely blind. The pupils were dilated *ad maximum* and immovable. The eyeballs were immovable with parallel axes. Ophthalmoscopically, nothing abnormal was discovered. The patient complained of violent headache. Two days later the left pupil grew narrower and reacted to light, and the patient saw a faint cloud, and later in the day could count fingers with the left eye at fifteen feet and with the right eye at twelve feet. On the fifth day the headache had disappeared and the pupils were of normal size and reaction. Some days later the patient could count fingers at eighteen feet, and the color sense was normal. There was an apparent hemiopia of both eyes upward, on testing the field of vision. A diagnosis was made of hæmorrhage at the base of the brain in the neighborhood of the optic chiasm. The patient lived for nine months and a half, and died of strangulated hernia. At the autopsy there were found atheroma of the arteries at the base of the brain, and old apoplectic foci in the left parietal lobe and left temporal lobe, in the left optic thalamus and left lenticular nucleus, and also in the medulla of the right frontal lobe, and the cortex of the right sulcus olfactorius was the seat of chronic pachymeningitis. There was not a trace of any hæmorrhage in the vicinity of the chiasm, optic nerves, or optic tracts, nor of any fracture of the skull.

Stretching of the External Nasal Nerve in Neuralgia of the Ciliary and Trifacial Nerves.—Lagrange ("Arch. d'ophthal.") draws the following conclusions from his own observation and experience: 1. Stretching of the external nasal nerve acts beneficially on ciliary neuralgia. 2. The pain can be cured in every case without reference to visual troubles resulting from grave lesions of the deep structures of the eyeball. 3. This special effect produced by stretching the external nasal nerve may be explained by the relations of this nerve-trunk to the ophthalmic ganglion. 4. The stretching may act in two ways: either by reflex action or by the production of an actual solution of continuity between the sensitive root of the ophthalmic and the trunk of the nasal nerve. 5. In neuralgia of the trigeminus, stretching of the external nasal nerve is of no special value.

Miscellany.

A Reminiscence of the Civil War.—Under the title of "A Ride with Sheridan," Dr. A. D. Rockwell gives a very interesting account of a portion of his campaigning experience, in a recent number of the "Magazine of American History." The following passage from Dr. Rockwell's article vividly sets forth one of the aspects of an army surgeon's life:

And here, without any invidious distinction, attention may be called to the work of the medical staff of the army, who labored without hope of special preferment or possibility of distinction. They shared the fatigue and much of the danger of the campaign, and in emergencies their labors were simply incredible. On this very march, for instance, after a long day's ride, when all others were sleeping, the surgeons collected about the ambulances, and, with the dim light of candles, dressed each wound with gentle care. Every effort was made to save the lives of those who were not too far gone. The dying were passed by, excepting to minister to their immediate wants, and the dead were quickly buried. As I recall, at this distance of time, those nights of toil, with wagons against the dark background crowded with wounded, and surgeons here and there bent low over the sufferers, engaged in their humane ministrations, the scene loses none of its weird and solemn impressiveness. We passed over the recent battle-field of Spottsylvauia, where the destructive effects of the terrific shower of shot and shell were plainly visible. Broken branches of trees were on every haud. Many trees were almost completely denuded of bark and foliage, some were riddled with bullets, and others were felled to the ground by the shots. Brigadier-General Grant, of the Vermont Brigade, Sixth Corps, thus graphically describes the close and deadly fighting at the celebrated "Angle": "It was not only a desperate struggle, but it was literally a hand-to-hand fight. Nothing but the piled-up logs or breastworks separated the combatants. Our men would reach over the logs and fire into the faces of the enemy, would stab over with their bayonets, and many were shot and stabbed through the crevices and holes between the logs. Men mounted the works, and, with muskets rapidly handed them, kept up a continuous fire until they were shot down, when others would take their places and continue their deadly work. . . . Several times during the day the enemy would show a white flag about the works, and, when our fire slackened, jump over and surrender, and others were crowded down to fill their places. . . . It was there that the somewhat celebrated tree was cut off by bullets; there that the brush and logs were cut to pieces and whipped into basket stuff; . . . there that the enemy's ditches and cross-sections were filled with dead men, several deep. . . . I was at the 'Angle' the next day. The sight was terrible and sickening, much worse than at Bloody Lane (Antietam). There a great many dead men were lying in the road and across the rails of the torn-down fences, and out in the corn-field, but they were not piled up several deep, and their flesh was not so torn and mangled as at the 'Angle.'"

The New York Academy of Medicine.—A Section in Laryngology and Rhinology will be organized on Wednesday evening, the 23d inst., and Dr. R. P. Lincoln will read a paper entitled "The Surgical Uses of Electricity in the Upper Air-Passages." The Section in Obstetrics and Diseases of Women and Children will meet the same evening, and Dr. Egbert H. Grandin will read a paper entitled "An Obscure Case of Abdominal Gestation, with Remarks bearing particularly on Timely Diagnosis and Treatment." Notice is given that neither the paper nor the discussion is intended to cover the subjects of tubal and interstitial gestation. The Section in Ophthalmology and Otology will hold a meeting on Monday evening, the 21st inst. A paper on "Contrast of Colors" will be read by Professor Ogden N. Rood, of Columbia College, and one on "Antiseptics in Eye Surgery" by Dr. Henry D. Noyes.

A Jewish View of the Operation of Craniotomy.—In the "American Israelite," Dr. M. Mieiziner, of Cincinnati, says that in Mishna *Oholoth*, vii. 6, the undisputed decision is laid down that "in case of a dangerous parturition it is justifiable to kill the unborn infant in order to save the mother, as her life precedes its life." Such operation is, however, not permitted after the infant has already been partially born, as in the latter case the maxim applies, one human life must not be set aside on account of another. In his commentary on Talm. Sanhedrin 72*b*, where this Mishna is quoted, Rashi explains the reason of the distinction between these two cases to be that the unborn infant is not yet a *distinct personality* with an *independent* life; hence the duty of saving the mother's life is to prevail, while in the second case its individuality is established; hence the legal principle must apply that one life must

not be destroyed to save another. The authoritative codes of Maimonides (Hilchoth Rotzeach u Shemirath Nephesh I. 9), as well as of R. Joseph Caro (Choshen Mishpat 425. 2), adopted the decision of the Mishna as the rule of Jewish law.

The Health of Chicago.—According to the Health Department's "Condensed Statement of Mortality," the deaths in November included 1 from small-pox, 36 from scarlet fever, 79 from diphtheria, 39 from croup, 6 from whooping-cough, 1 from typhus, 39 from typhoid fever, 5 from cerebro-spinal fever, 8 from malarial fever, 15 from other zymotic diseases, 7 from diarrhœal diseases, 103 from pulmonary phthisis, and 82 from acute lung diseases.

Bromidia.—Dr. Thomas Stretch Dowse, of London, in a letter to the manufacturers of this preparation, says: "I am glad to speak in praise of your preparation named bromidia. As it is a known compound in quantity and quality, its virtue should be known, and not even the most fastidious of physicians can refuse to prescribe it. I have found it a most valuable hypnotic and sedative, and it unquestionably controls the circulation of the brain generally, and the nervous centers and gray matter in particular. In muscular spasm and in epilepsy its effect is very marked."

The late Mr. Vanderbilt.—At a special meeting of the Faculty of the College of Physicians and Surgeons, the Medical Department of Columbia College, in the City of New York, held on December 10, 1885, the following preamble and resolutions were unanimously adopted:

Whereas, By the death of William H. Vanderbilt there has been taken from the community a citizen from whose hands the college has received a splendid addition to its means of usefulness, be it

Resolved, That we offer hereby our tribute of mourning for the loss of a benefactor whose service to the advancement of education has been great and enduring—as broad in scope as free in gift—and whose enlightened generosity will ever be held in grateful remembrance by ourselves and our successors.

Resolved, That we tender our heartfelt sympathy to the family of the deceased in their bereavement.

Resolved, That, as a token of respect, all exercises at this college be suspended on the day of the funeral, and that we attend the same in a body.

Resolved, That these resolutions be communicated to the family, and be duly published.

[Signed] John G. Curtis, M. D.,
Secretary of the Faculty.

Errata.—Dr. William A. Hammond, whose article on Unilateral, Hallucinations we published last week, informs us that we were in error in attributing to him the possession of the degree of LL. D.

In the article by Dr. Bacon and Dr. Roosa, in the same issue of the Journal, page 659, for "Dr. William T. White" read *Dr. W. H. White.*

THERAPEUTICAL NOTES.

The Physiological Action of Tobacco.—In the Fiske Fund Prize Dissertation, No. XXXIV, entitled "The Physiological and Pathological Effects of the Use of Tobacco," recently published by Messrs. P. Blakiston, Son, & Co., of Philadelphia, the author, Dr. Hobart Amory Hare, presents the facts and arguments that have led him to the following conclusions:

1. Tobacco smoking does not decrease the urine eliminated, but rather increases it. 2. Tobacco does retard tissue waste. 3. Tobacco and its alkaloid cause convulsions in the primary stage of the poisoning, by depressing the reflex inhibitory centers in the cord. 4. It causes the palsy of the second stage, by paralyzing (*a*) the motor nerve trunks, (*b*) the motor tract of the spinal cord. 5. The sensory nerves are not affected by the drug. 6. Nicotine contracts the pupil, by stimulating the oculo-motor and paralyzing the sympathetic, this action being peripheral. 7. Nicotine primarily lowers the blood-pressure and pulse-rate; (*a*) secondarily increases pressure and rate; (*b*) thirdly, decreases pressure. 8. The primary lowering of pressure and rate is due to pneumogastric stimulation, associated with vaso-motor dilatation. 9. The secondary stage is due to vaso-motor constriction and pneumogastric palsy. 10. The third stage is due to vaso-motor dilatation returning. 11. Death in poisoning from this drug is due to failure of respiration, the action of the drug being centric. 12. The blood-corpuscles are broken up and crenated by the action of the poison. 13. In death from nicotine poisoning the blood shows changes in *spectra*. 14. Death can be brought about by the cutaneous absorption of nicotine. 15. Tobacco increases intestinal peristalsis in moderate amounts, and produces tetanoid intestinal spasms in poisonous doses. 16. The liver seems to destroy the poison, although this destruction is participated in by any set of capillaries in other parts of the body. 17. Tobacco smoking increases the pulse-rate and decreases arterial pressure.

Hypnone as a Hypnotic.—The fanciful name hypnone has been applied to methylphenylacetone. At the request of M. Dujardin-Beaumetz, who insists that it should be used only in cases of sleeplessness from over-excitement of the brain, and not where there is pain, M. Pierre Vigier ("Gaz. hebdom. de méd. et de chir.") has experimented with regard to its administration. The amount necessary to produce sleep varies from four to ten drops, which should be taken all at once, for divided doses do not succeed. The drug is scarcely soluble in water, and but slightly soluble in glycerin; but dissolves readily in alcohol. A syrup may be made in the following proportions:

Hypnone	1 drop;
Ninety per cent. alcohol	15 grains;
Syrup of orange-flowers	75 "
Syrup of cherry-laurel	15 "

Let the drop of hypnone fall into the alcohol, add the syrups, and keep in a tightly-stopped bottle. In like manner an elixir may be made of the following ingredients:

Hypnone	1 drop;
Sixty per cent. alcohol, Syrup of mint, each	45 grains.

The taste of these preparations is said to be very bearable. The drug itself has a very hot taste, and its odor reminds one of essence of bitter almonds, with a suggestion of wintergreen.

Iodol, a New Antiseptic.—The "St. Petersburger medicinische Wochenschrift" mentions iodol as a new antiseptic, and says that, while it is free from the unpleasant odor of iodoform, and does not produce poisoning when applied to wounds, it is not only a powerful antiseptic, but also a local anæsthetic, and favors the formation of granulations. It is prepared from ethereal animal oil (oleum animale æthereum), and is a fine crystalline powder, of a brownish color, almost insoluble in water, but readily soluble in alcohol, in ether, and in chloroform. It is precipitated from its alcoholic solution by the addition of water, but bears a considerable addition of glycerin without becoming turbid.

The Treatment of Lienteric Diarrhœa in Children.—M. J. Simon ("Progr. méd.") orders the following powders in cases of rebellious lienteric diarrhœa in children five or six years old:

Powdered crabs' eyes	15 grains;
Sodium bicarbonate	8 "
Magnesia	30 "
Calumba	4½ "
Nux vomica	1½ "

Divide into twenty powders, one to be taken twice a day, before eating. If the child refuses to take the powders, he orders:

Tincture of cinchona, " " rhubarb, " " calumba, each	75 grains;
" " nux vomica	8 "

Dose, five to ten drops, before each meal. In addition, the diet is to be regulated.

A Suppository for Chronic Cystitis.—The "Union médicale" publishes the following formula, attributed to Mallez:

Morphine hydrochlorate	⅙ to ⅓ grain;
Powdered stramonium	½ "
Cocoa butter	q. s.

For one suppository, to relieve the pain of chronic cystitis or that which follows lithotrity.

Original Communications.

VULVAR AND VAGINAL ENTEROCELE.*

BY T. GAILLARD THOMAS, M.D.,
SURGEON TO THE NEW YORK STATE WOMAN'S HOSPITAL.

THERE are five varieties of hernia which may show themselves in the vagina and vulva:

1. Cystocele, or hernia of the bladder.

2. Rectocele, or hernia of the anterior wall of the rectum.

3. Vaginal enterocele, or descent of a portion of the small intestines into the vagina.

4. Pudendal enterocele, pudendal hernia, or descent of the small intestines into the labium majus of one or both sides; and

5. Perineal enterocele, perineal hernia, or descent of the small intestines by protrusion through the perinæum.

Were one inclined to go very fully into detail, other varieties might be given, based upon the contents of these hernial sacs, in which the ovaries, the uterus, and the Fallopian tubes, either empty or filled with the products of conception, have in exceptional cases been found; or upon some extremely rare and extraordinary development of this condition—such, for example, as one case mentioned by Burns and quoted by Sir Astley Cooper,† in which the base of the bladder, passing down alongside of the right wall of the vagina, formed a hernia in the labium majus of that side. For practical purposes, the varieties of hernia which I have mentioned will, I think, fulfill all the requirements of the case.

As the title of this paper announces, I propose to pass by herniæ of the bladder and anterior wall of the rectum, merely with the mention of them which has been made, and to confine my remarks to descent of the intestines through the pelvic roof, and their protrusion into the labia majora, into the vagina, or through the perinæum.

Although these varieties of hernia have been known for at least a century and more, it is curious to see how very generally they have been ignored in systematic treatises upon gynæcology. And this is the more remarkable since errors in diagnosis of them are very liable to occur, and, when occurring, would put both practitioner and patient in a most deplorable position. To sustain this statement, let me refer to the most recent works upon gynæcology, which are now used as text-books by students of medicine in this country and in Europe. In the works of A. Martin, Hart and Barbour, and Emmet, no mention of vaginal and vulvar enterocele is made; in those of Barnes and Edis a mere mention is made, and in those of Courty and Thomas very short and unsatisfactory accounts are given.

Even in literature outside of systematic treatises, and in that of serial character, it is difficult to find much upon the subject. The truth of this will be appreciated from the statement that Littré and Robin, in their "Dictionnaire de médecine," published about ten years ago, quote largely, in their description of it, Sir Astley Cooper, who wrote as early as 1804.

In 1736, Garengeot was, according to A. Bérard,* the first to describe this form of hernia, and he was followed by Verdier, Hain, Sandifort, and Richter. As I have already stated, Sir Astley Cooper treated of it fully in his celebrated work upon hernia in 1804. The best account of it with which I have met is that given by A. Bérard in the "Dictionnaire de médecine," published in 1846.

Instances of this accident have been put on record by the following writers: Davis, in his "Principles and Practice of Obstetric Medicine," Levret, Gunz, Boivin and Dugès, Smellie, Fordyce Barker, and Peter Young, of Edinburgh. The last-named gentleman published a very interesting paper upon the subject in the "Edinburgh Medical Journal" for April, 1882, and put upon record a striking case which illustrates most of the important features of the lesion when occurring during parturition and soon after it. In the transactions of the New York Obstetrical Society for 1878 will be found a very able and exhaustive article upon the subject by Fordyce Barker, containing several illustrative cases occurring during pregnancy and parturition, and detailing a valuable case reported by Dr. B. A. Clements, U. S. Army, in which eight distinct attacks occurred.

VAGINAL ENTEROCELE.—This variety of the disorder consists in a descent of the intestines into the pelvic cavity, either in front of or posterior to the broad ligament of one side. As Boyer and Richter long ago pointed out, the intestines never descend directly in the median line, either anteriorly or posteriorly, on account of the intimate relations of the vagina at these points. They always descend a little obliquely, and most frequently posteriorly.

Usually the intestines alone descend in these hernial protrusions, but sometimes the omentum accompanies them; and Petrunti has reported one case in which the hernial tumor consisted of nothing but omentum. Usually, too, it is the small intestines which form the hernial protrusion, but Levret † has put one case on record in which the sigmoid flexure of the colon did so, and Boivin and Dugès ‡ mention one in which a portion of the large intestines came down as low as the perinæum and obstructed the vagina.

Vaginal hernia, as a rule, develops itself in the following manner, under the influence of causes which will soon be mentioned: A loop of intestine gradually pushes downward the prolongation of the peritonæum which forms the pouch of Douglas until it impinges upon the outside of the wall of the vagina and causes it to arch inward. This mechanical influence being continued and gradually increased, a tumor forms in the vaginal canal, inverts one wall of that canal more and more completely, and may end by escaping from the vulva and hanging outside the body, as a complete prolapse of the bladder or of the uterus would do.

* Read before the New York Academy of Medicine, December 17, 1885.

† "The Anatomy and Surgical Treatment of Abdominal Hernia," by Sir A. Cooper.

* "Dict. de médecine," tome xxx, p. 460.

† "Observations sur les polypes," Young's article, *loc. cit.*

‡ "Diseases of the Uterus," p. 511.

Under these circumstances it is evident that the tumor which protrudes has for its component parts—first, the inverted vaginal wall; second, the peritonæum; and, third, the intestines. Sir A. Cooper, in giving a description of these cases, says: "I wish it, however, to be understood that I have had no opportunity of examining this disease in the dead body, and that I am here describing it from what is known of the structure of the parts, and not from actual dissection." And Bérard, writing toward the year 1840 * and declaring that it is very important to know whether "the entire thickness of the vaginal wall is inverted and forms the envelope of the tumor, or if the external coat is torn so as to present an opening through which the hernia passes, carrying before it only the internal tunic of the vagina," asserts that at that time Sandifort was the only author who had reported an autopsy, and that he had neglected to mention this point. In looking up the literature of this subject, I find reports of several autopsies, and yet, so far as I have been able to ascertain, this point still remains unsettled.

Unquestionably the greatest danger which attends this form of hernia, and the same remark applies to the two other varieties which we shall consider, arises from the possibility of an error of diagnosis occurring from the practitioner's being off his guard, and therefore not sufficiently careful in the practice of differential diagnosis. The tumor occurring during labor and obstructing the progress of the fœtal head, a too rapid conclusion may be arrived at that an ovarian or parovarian cyst with a long pedicle has been pushed into the pelvis, a trocar and cannula are plunged in, and the operator is horrified at the escape of fæcal matter and intestinal gases. Or, if the condition be found to exist in the non-parturient woman, an effort is made to remove it, and, as this effort advances, the operator becomes painfully enlightened as to the error into which he has unfortunately fallen. Let me quote two cases to impress this important fact upon the minds of my hearers. The following is related in the "Centralblatt für Chirurgie," May, 1879: The woman, aged fifty-two, had had twelve children, the last born twelve years before. On examination, a swelling, about three inches long, reddish blue in color and covered by granulations and pus, protruded between the labia. A diagnosis of polypus of the uterus was made and the tumor removed. After suffering severe pain in the abdominal region for several hours, death ensued. Upon autopsy, there was found in the pelvis half a pound of liquid blood. A portion of the great omentum and a piece of the transverse colon had been cut away in the mass. In the posterior wall of the vagina there was an opening about five centimetres in diameter. Gunz relates the following: A woman had a tumor occupying one wall of the vagina and presenting at the vulva. A surgeon, mistaking it for an abscess, plunged a bistoury into it, intestines protruded, and the patient died of gangrene.

The most frequent cause for the varieties of hernia which we are considering to-night is parturition. Under the influence of utero-gestation all the pelvic tissues are greatly hypertrophied and relaxed, and, under the violent efforts of child-expulsion, the relaxed parts are strained by pressure from the intestines which are forced down upon them. Nevertheless, it must be borne in mind that some of the most striking cases of the accident which have been placed on record have occurred in nulliparous women. These are usually due to violent efforts, falls, and the previous existence of pelvic tumors which have burst or been removed.

Vaginal hernia, so long as it remains in the pelvic cavity and does not interfere with parturition, is usually a matter of little moment and the source of little inconvenience. As Klebs * points out, it is not prone to undergo strangulation, for the reason that, the peritoneal protrusion having no neck, constriction does not often occur. Under certain malign influences, however, occurring during parturition, as well as in the non-parturient state, such as pressure from the fœtal head, inflammatory processes, fæcal impaction, torsion of the contents of the sac, or the existence of a neoplasm, strangulation may occur.

The symptoms which are apt to develop are difficulty in locomotion, pelvic tenesmus, or "bearing down," colicky pains, dragging sensations, tendency to constipation, and, in time, vomiting. Should the accident complicate parturition, obstructed labor is apt to result.

Upon vaginal examination, a tumor of greater or less size is found in the vagina, and is diagnosticated by the following physical signs: It is supple, soft, and yielding; decreases upon pressure; gives a sense of gurgling to the finger if not to the ear; increases upon the patient's coughing or straining; yields resonance upon percussion, and is very generally reducible if the patient be placed in the knee-chest position and efficient taxis be practiced.

Vaginal enterocele may be confounded with the following conditions by a careless and rapid diagnostician: Prolapse of vagina, uterus, bladder, or rectum, or a combination of these displacements; with vaginal cyst, parovarian, or ovarian cyst; with a fibrous tumor presenting low down in the pelvis; with a "cold abscess" of the pelvis; or with a marked case of tubal dropsy.

It will be seen, by a review of the rational and physical signs already given, that the behavior of a true enterocele of the vagina under pressure differs very much from that which would characterize the pathological conditions just mentioned.

Why, then, it may be asked, is such caution inculcated with reference to the possibility of erroneous diagnosis?

Because error creeps in from the practitioner's being too confident, too much off his guard, and too little inclined to consider the possibility of a mistake. If he approach these cases calmly, philosophically, and in a proper spirit of diagnostic investigation, it is very improbable that an erroneous diagnosis will occur. Most cases present striking features.

Sir Astley Cooper's † description of a case seen by him is so graphic that I can not refrain from quoting it at length. The patient was "a young woman, aged twenty years, who had never had children, and whose case, I was informed by Mr. Stocker, apothecary of Guy's Hospital, was worth examination on account of a tumor projecting

* The second edition of the "Dict. de méd." appeared in 1846.

* "Path. Anat.," p. 970.

† *Op. cit.*

into the vagina. She was ordered to place herself in the recumbent posture with the shoulders a little elevated, and, an examination being made *per vaginam*, I felt a swelling a little above the os externum vaginæ, the size of which was that of a small billiard-ball. It was situated at the posterior part of the vagina, but rather to the left side; it was elastic and not at all painful to the touch. When I compressed it, it readily passed away, but, upon directing her to cough, it was reproduced. When I ordered her to place herself on her knees the swelling became very tense, and much larger than before, and, when she coughed, it dilated as any other hernia, but more forcibly.

"Having placed her again in the recumbent posture, I pressed the swelling entirely away by keeping the fingers about half a minute on the posterior part of the vagina, and then carrying the fingers higher up in the vagina, above the seat of the tumor, near to the os uteri, and, having pushed the vagina toward the rectum, I directed her to cough, and the tumor was not reproduced. Still pressing at the same part, I desired her to rise, and, so long as the pressure was sustained, the hernia did not return, but almost immediately, as the fingers were removed, the hernia became as large as before."

No description could be more graphic than this as applied to hernia occurring posterior to the broad ligament.

It must be borne in mind that, like hernia occurring elsewhere, those forms which we are now considering may show themselves in two ways: first, by a brusque and sudden development marked by alarming and decided symptoms; and, secondly, by a development so gradual and uneventful as to symptoms as to escape recognition entirely until the mere mechanical results of the hernial tumor force themselves upon the attention of patient or physician. At the end of this paper I shall relate a very striking and remarkable instance of the latter form of development. An equally striking illustration of the former is given by Dr. Young, in the article already referred to, in which all the symptoms of incarceration of the intestines rapidly and unmistakably showed themselves to be entirely relieved by successful taxis.

In certain very rare cases acute vaginal hernia occurs as a consequence of some traumatic influence destroying the continuity of this canal in its upper part. A striking instance of this, which occurred in the service of M. Auger, is reported by M. Pennel, in "La France médicale" for November, 1881. The patient, three months pregnant, endeavored to bring on abortion by the use of vaginal injections. One of these was immediately followed by violent colic, and in a few days after by abundant hæmorrhage which continued for several days. At that time a loop of intestines escaped from the vulva, which could readily be returned to the abdomen, but would at once prolapse. On the day after this occurrence the cæcum made its appearance, as evidenced by the presence of the vermiform appendix. In time this proved to be irreducible, and gangrene occurred, followed by escape of fæcal matter. During the progress of this condition abortion took place and a fœtus was expelled. In time the vaginal opening of the intestine closed entirely, fæcal matters passed normally, and the patient made not only a complete, but a rapid recovery.

Some years ago I called a consultation of two physicians in a case of interstitial pregnancy to decide the question of laparotomy. One of these gentlemen, anxious for an extremely thorough and conscientious diagnosis, refused to express an opinion until he had had the privilege of passing his entire hand into the vagina. I acceded to his wish, anæsthetized the patient, and his desire was fulfilled. As he withdrew his hand, however, a loop of intestine escaped from the vulva through a laceration which he had made in the upper part of the vaginal canal. I at once put the patient in Sims's position, introduced a speculum, and sewed up the rent. The patient recovered after having narrowly escaped death from acute peritonitis, and my colleague the annoyance of a suit for malpractice.

I once saw a similar hernia follow an attempt to replace a retroflexed uterus by a sponge probang in the hands of a most able and cautious gynæcologist. As the retroflexed fundus was pressed upon, the sponge suddenly burst through the vagina into the peritoneal cavity, and, being withdrawn, came forth entangled in a loop of small intestine. The examiner at once sewed up the opening with silver wire, and the patient recovered without a bad symptom.

It is not so much in the acute as in the gradually developing, creeping, insidious cases that the danger of erroneous diagnosis lies in ambush for the unwary and impulsive surgeon.

Pudendal Enterocele, or Pudendal Hernia, demonstrates its existence by the presence of an elastic tumor, about as large as a small hen's egg, or a pigeon's egg, about the middle of the labium majus of one side.

It may originate in two ways. As Paul Broca * has fully pointed out, the round ligaments of the female, which are the analogues of the spermatic cord of the male, after passing down through the inguinal canals, lose themselves in two glove-finger prolongations of fibrous character, which run down through the labia majora. Following the course of these ligaments through the abdominal rings and the inguinal canal the intestines sometimes descend, as they do along the spermatic cord in getting to the scrotum, and reach their ultimate point of descent in these dartoid sacs. Again, they sometimes reach the pudendum by passing downward between the vagina and the ramus of the ischium, thus reaching the labium majus from within the pelvis. In its commencement the latter variety resembles exactly vaginal hernia; but, instead of inverting the vagina before it as that does, it separates the vaginal wall from the ischium and insinuates itself between these parts.

Some of the French writers † divide hernia of the labia majora, or pudendal enterocele, into two varieties: first, "anterior labial hernia," or that which eventuates from the inguinal form; and, second, "posterior labial hernia, or labio-vaginal hernia," or hernia forming by extension of the peritonæum down in front of the broad ligament and alongside the vagina to the vulva.

* Cruveilhier's "Anatomy," chapter "External Organs of Generation."

† De Sinéty, "Manuel pratique de gynécologie."

From inguinal hernia ending by descent into the labium majus the internal variety may be thus distinguished: (1) the finger, pushing the tumor upward, will pass into the pelvic cavity between the ischium and vagina; (2) at the level of the os uteri, or thereabout, it will enter the pelvic roof; and, (3) pressure being maintained on the inguinal canal, and the patient being ordered to cough, it will, in spite of the pressure, recur.

In diagnosis the following conditions of the labia majora may be confounded with pudendal hernia:

Cyst or abscess of the vulvo-vaginal gland;

Cyst of the labium minus, or majus;

Abscess of the labium majus;

Fatty or fibrous tumor of the labium;

Tumors descending from the pelvic cavity.

Dr. Galabin reports, in the "Transactions of the Obstetrical Society of London" for 1884, what he believed to be a hydrocele, an egg-shaped cyst, two inches and a half long, translucent, occupying the labium majus. It had existed three years in a patient aged fourteen, been tapped once, and a straw-colored fluid removed. Dr. Galabin divided the skin on a director, and found a cyst free except at the anterior end toward the inguinal ring, where a firm cord was divided. The patient recovered.

Saenger (in "Arch. für Gynäkol.," vol. xvi) reports two cases in which the contents of labial herniæ were found to be tumors of the broad ligaments. In one case, reported by Hecker, the woman, aged forty, had noticed since childhood a tumor situated in the right labium majus. This mass, formerly easily returned into the abdomen, was at the time of operation irreducible. An incision was made over the tumor, which was found to be a myoma of the ligamentum rotundum; weight, three hundred and thirty grammes.

Paletta reports a case which was similar, a fibro-myoma of the round ligament being found as the contents of a labial hernia.

The differentiation of pudendal hernia from these conditions of the labia should be very carefully considered, for, if an erroneous diagnosis be made here, a fatal result might very probably prove the consequence.

The diagnostic signs which prove most reliable, and which may almost be styled pathognomonic, are these: First, airy feeling upon palpation; second, gurgling upon replacement; third, diminished tension in the dorsal decubitus; fourth, diminution of bulk upon taxis; fifth, resonance upon percussion; sixth, succussion upon coughing; and, seventh, intestinal pains of a colicky character.

As I have already said in reference to vaginal enterocele, there are no very great difficulties attending the differentiation of the disease. The danger is that the possibility of hernia at this point may be forgotten, and deductions drawn without considering it. Although the probability of error be not great, the appalling nature of the accident in which it would result warrants the relation of the following case, which is illustrative of its possibility: A patient called upon me with the following history: She had had an abscess just below the external abdominal ring, which, after poulticing, had been evacuated by her physician about a month before the time of her visit to me. After this she had felt well until a week before, when, after a muscular effort, the pain had returned with all the original signs of abscess, and these had continued, although she had painted the part steadily with tincture of iodine, as she had been directed to do in case of such an occurrence. Being in great haste at the moment, I examined the enlargement while the patient was standing, and, under a recent cicatrix which was painted with iodine, I discovered what I supposed to be a reaccumulation of pus. As the patient came to me, in the absence of her physician, merely for the evacuation of this, I placed her in the recumbent posture, and, lancet in hand, proceeded to operate. But, to my surprise, I discovered that change of posture diminished the size of the enlargement. This excited my suspicions, and, upon further examination, I found that a recent hernia had occurred under the old cicatrix.

Perineal hernia may affect both male and female. In the latter it consists of the descent of the intestines between the vagina and rectum, the advance being made posterior to the broad ligament, and continuing until the perineal muscles are forced apart, and the gut, with its peritoneal envelope, is arrested by the skin. In these cases Sir Astley Cooper declares that the hernial sac "protrudes as far as the skin of the perinæum, but does not project it so as to form an external tumor; its existence in the male can be only ascertained during life by an examination by the rectum; but in the female it may be felt both by the rectum and by the vagina. The sac lies between these two canals."

All these varieties of hernia are usually readily amenable to taxis, and this I have invariably in my experience found greatly facilitated by the knee-chest, or genu-pectoral, position. In some rare cases strangulation occurs. Under these circumstances the same surgical practice is indicated as in inguinal or crural hernia—namely, cautious opening of the sac and section of the constricting band by passing up a probe-pointed bistoury.

Before closing this paper, I desire to put upon record a remarkable case of extreme vaginal hernia, which presents some features which I have never met with in such literature of the subject as has fallen under my observation:

Mrs. K., a multipara of small figure and spare habit, thirty-nine years of age, residing in Middletown, Conn., called upon me in my office, and gave me the following history: About six years ago she noticed that a lump presented itself at the vulva, and that she began to suffer from difficulty in locomotion, frequent micturition, painful defæcation, dragging in the back and loins, colicky pains in the bowels, and general nervousness and malaise. During the past six years this tumor had steadily increased in size, until it had come down to the middle of the thigh on the right side. At the time I saw her she was greatly emaciated, and suffered so much from the symptoms which have been enumerated that she felt that any resource which held out the prospect of even partial relief would be a boon to her. While the tumor hung out of the pelvis, she could neither stand, walk, nor sit with any comfort, and when by taxis it was restored to the pelvis, she found it so very difficult and painful to empty the bladder and rectum that she was compelled voluntarily to force it out again.

Upon physical examination, as the patient lay upon the back, I discovered a large pinkish-colored tumor hanging from the vulva, as represented in Fig. 1, and presenting all the gross

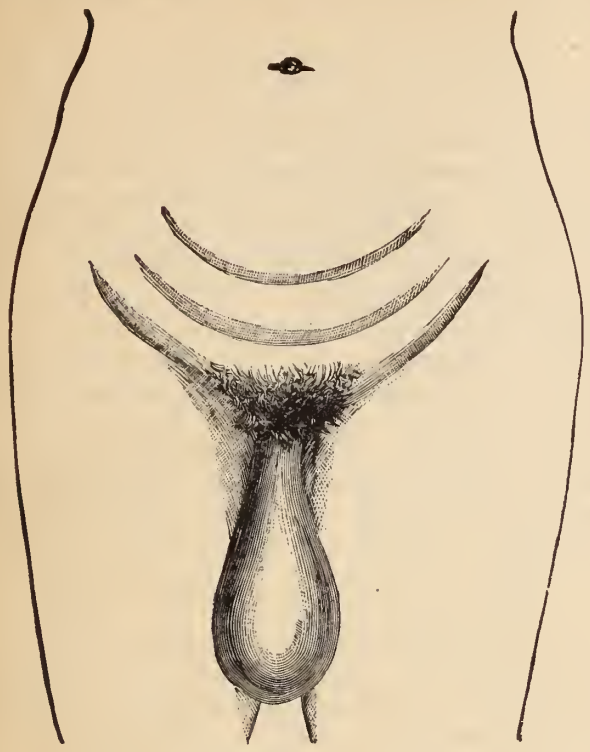


Fig. 1.

appearances of a huge cystocele. As soon as a minute examination was made it at once became evident that this superficial impression was entirely erroneous. The index-finger being passed around the tumor and up the vagina, the tumor was found to be attached to the ischium on the right side of the vulva, so that there was no vaginal space there at all, while on the left side it passed up readily and discovered the uterus almost out of reach in the left side of the pelvis. A catheter being passed into the bladder, that viscus was found high up above the pubes and obliquely in front of the uterus.

Taxis being practiced in the knee-chest position, the tumor disappeared with a very slight gurgle, its contents evidently retreating into the pelvis through an opening on the right side. Only once in manipulating the mass did a slight gurgling sound make itself manifest; resonance upon percussion did not appear distinctly, and yet there could be no doubt that hernia did exist. After the contents of the sac were returned to the abdomen it was evident that their retention there, or even the retention of the sac itself within the pelvis, would prove impossible by any mechanical contrivance which could be devised, for two reasons—first, the great weight of the mass; and, second, the fact that pressure of it against the bladder and rectum when it was returned to the body interfered so greatly with the functions of these viscera as to render the patient utterly uncomfortable.

And yet the deplorable condition of the patient and her great mental and bodily distress urgently called for active interference. She had consulted many medical men, had been discouraged from seeking surgical relief, while all lesser methods had failed to give her aid, and now both she and her husband were desperate, and willing to adopt any plan which held out the least hope for them.

It was under these circumstances that I suggested the following operation: I proposed to perform laparotomy; cause an assistant to keep the hernial sac well within the pelvis by one hand in the vagina; pull all the contents out of the sac; seize this at its most dependent portion (A, Fig. 2), drag it up into

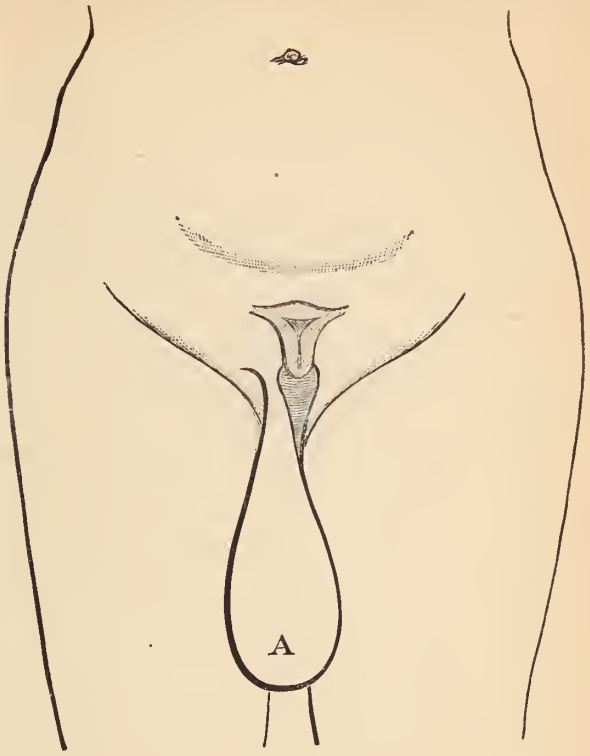


Fig. 2.

the abdominal wound (Fig. 3), and fasten it there by suture, sustaining the heavy sac, meanwhile, by two knitting-needles passed through and lying flat across the abdomen (Fig. 4).

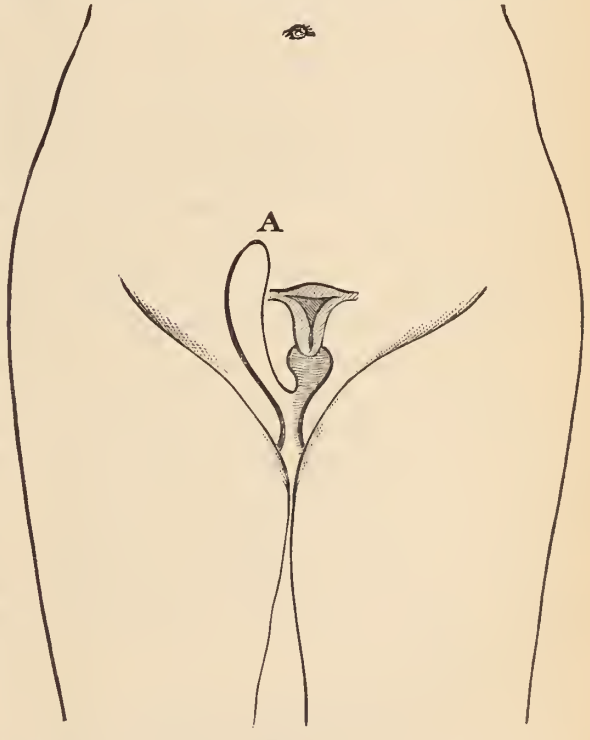


Fig. 3.

As soon as this was explained to them they eagerly accepted the proposal, and the patient entered my service in the Woman's Hospital. There Dr. Emmet and Dr. Bozeman saw her with me, agreed in the diagnosis, and indorsed the operation proposed.

Upon cutting through the abdominal wall, after an assistant had, as I have stated he was to do, pushed the hernial mass

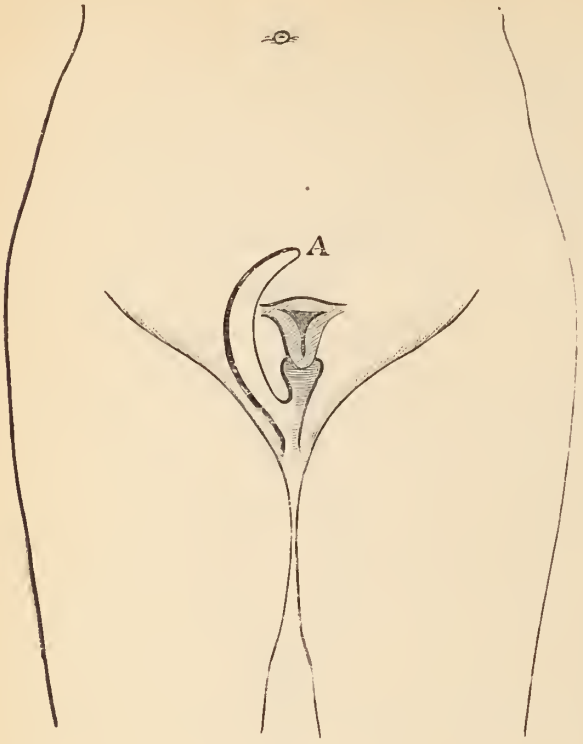


Fig. 4.

back into the pelvis, I was surprised to find in the pelvis a soft, fibrous tumor, which had evidently been pushed up from below, on a level with the symphysis pubis. It was very movable, covered by peritonæum, disconnected with the uterus, and, upon careful examination, proved to have no connection with the bladder. I was entirely at a loss to determine its relations, but, in view of the desperate character of the case, decided at once to remove it. This I did by splitting the peritoneal covering, tying a number of bleeding vessels, draining the sac with a glass tube, and fastening the sac into the abdominal wound, as I have said that I proposed to do. The patient made a good recovery, and so far, more than a month having now passed since the operation, has continued to be free from any return of the hernia. I confess that I feel apprehensive about the future, but the present is quite gratifying and completely satisfactory.

My explanation of the case is this: This very movable tumor, which appeared to have no fixed anchorage in the pelvis, had originally pushed the vagina before it by entering the pelvic cavity behind the broad ligament of the right side; the intestines had pressed down upon this, and together they had made up the contents of the sac.

And now the question suggests itself, What was the nature of this tumor? Dr. Coe, the pathologist of the Woman's Hospital, has furnished me the following report of his examination of it:

"*Report on Specimen removed by Dr. Thomas at the Woman's Hospital, November 12, 1885.*

"*Gross Appearance.*—A soft, shapeless mass of tissue, which bears a certain resemblance to an hypertrophied bladder.

"Weight, 10 ounces.

"Measurements, 22 × 15 ctm.

"Average thickness, 1·5–2 ctm.

"The growth is covered in some places by a layer of peritonæum, and over its exterior are numerous torn pieces of tissue, marking the sites of adhesions. The vascular supply of the exterior of the mass is quite extensive, but its interior is bloodless and poor in vessels.

"On section, no signs of cyst-formation can be found; nothing but a softened, œdematous, fibrous tissue. This tissue is easily separated by the fingers so as to form pseudo-cavities, but no true, preformed cavity is present anywhere.

"The tissue varies in color at different points. On holding the mass up to the light, it is seen to be traversed by bundles, or trabeculæ, of reddish fibers (smooth muscle?), which offer a contrast to the general whitish ground of the tumor.

"*Microscopically*, (1) The growth consists of ordinary fibro-muscular tissue, similar to that of a uterine myo-fibroma. Vessels are few in number.

"(2) The fluid squeezed from the interstices of the tissue is colorless, and contains no cellular elements, except a few blood-corpuscles (lymph?).

"(3) The tissue, covering the exterior of the growth, is a delicate membrane, strengthened by interlacing fibers of connective tissue, in the meshes of which are numerous large, epithelioid cells. Nerve-fibers and blood-vessels cross the field in all directions.

"*Inferences.*—(1) This is not an organ, *i. e.*, the bladder.

"(2) It is not an ovarian cyst.

"(3) It is not composed (at least to any great extent) of inflammatory tissue.

"What is it? I submit two theories, both of which are merely theories—viz.:

"(1) The growth is a local hypertrophy of the pelvic connective tissue.

"(2) It is a sub-peritoneal uterine fibroid, which has become thoroughly œdematous.

"I incline to the former view for the following reasons:

"1. The situation of the mass at the time of operation, as described to me.

"2. The absence of a distinct pedicle.

"3. The absence of a complete peritoneal covering.

"4. The absence of any 'géodes,' or cavities, in the mass, such as are almost invariably found in a softened fibroid.

"Finally, the *tout ensemble* of the tumor, which forbids the thought that it has ever been a firm, hard growth, such as a fibroid.

"*Origin of the Growth.*—The presence of adhesions, in which the mass was buried, the dilated condition of the blood-vessels in those adhesions, and the general œdema of the tissue, all point to some obstruction of the circulation in the tumor. It is not difficult to regard this phenomenal appearance as due to simply a localized œdema of the pelvic connective tissue."

(Signed) H. C. Coe.

That this tumor had no connection whatever with the uterus or bladder I feel quite sure. My impression is that it belongs, as Dr. Coe's report intimates, to a somewhat rare class of tumor, arising from the pelvic areolar tissue or the round ligaments, of which quite a number have been recently reported by German pathologists.

Dr. McCosh has kindly looked up the subject for me, and I present some of his researches.

A. Martin, in his recent work upon the "Diseases of Women," says: "In the broad ligaments are to be found, also, solid tumors which are described as myoma or fibro-myoma. They are not connected with the uterus, but spread out between the epithelial layers of the ligamentum latum,

and can from that point develop as large abdominal tumors, or may grow downward toward the vagina, and, finally, at the side of the vagina, bulge out as far as the vulva, where they present themselves for operation. In rare cases they have pushed through the great ischiadic foramen."

The same author also reports the case of a woman who complained of great weight and vaginal pressure. On examination, he found a prolapsus of the anterior vaginal wall, and also of the posterior, Douglas's pouch being filled with a soft mass which seemed to arise on one side of the uterus. He performed laparotomy, and found the mass to consist of an œdematous fibro-myoma of the broad ligament.

Schmidt reports a case of a solid tumor attached by a pedicle to the broad ligament, which caused marked prolapse of the anterior vaginal wall.

Schröder acknowledges the existence "of connective-tissue tumors, of very soft consistence, which are saturated with fluid, and which arise in the pelvic connective tissue, and in this situation (subserous) continue to develop.

"Their anatomical relations correspond to subserous ovarian cysts," etc.

M. Hofmeier ("Gesellsch. f. Geb. und Gyn.," Berlin, October 24, 1885) reports a tumor, of the size of the fist, situated between the anterior vaginal wall and the urethra, causing a decided prolapse, and projecting above the level of the vaginal wall to the size of an egg, the spot being somewhat ulcerated. After division of the capsule, it was easily enucleated. Its attachment was deep in the connective tissue of the pelvis; and it belonged to the rare class of soft fibroid tumors of pelvic connective tissue.

It is highly probable that the tumor which I removed belonged to one of these curious and rare classes.

Unfortunately, little can be said concerning the treatment of vaginal and vulvar herniæ, for the reason that there is but one variety, the pudendal, which eventuates from inguinal hernia, for which very much can be done. That variety is as amenable to treatment by the ordinary truss as inguinal hernia is. The other varieties can, to a limited degree, be relieved by pessaries, perineal pads, abdominal bandages, etc.; but we are poor in methods of decided relief, and utterly wanting in those of cure. It appears to me that the plan suggested, and partially carried out in the case which I have related, promises more than any other which has yet been brought forward; but of the validity of this surmise time and experience must give the proof. Certain I am that, if another case of large vaginal hernia presented itself, I should feel inclined to try laparotomy, dragging up the sac and fastening it in the abdominal wound.

B. Schmid says ("Handbuch f. Chir.," Billroth und Pitha) that attempts were made by Huguier at radical cure of vaginal hernia by an oval excision of part of the posterior vaginal wall and closure by suture, but without any lasting result. He must, indeed, be a sanguine surgeon who hopes for much from such procedures.

Errata.—In the report of Dr. R. J. Hall's remarks on the bacillus of syphilis, published in our issue of December 12th, page 671, for "Süssgarten," *passim*, read *Lustgarten;* and, for "giaconic," read *de Giacomi.*

ADHESION OF THE SOFT PALATE TO THE WALL OF THE PHARYNX.*

By CLARENCE C. RICE, M. D.

In reviewing the literature relating to this class of cases, one must conclude that very little has been accomplished for their relief. It would appear that, where this unfortunate condition has existed, as a rule no surgical measures have been attempted. In the records where the line of treatment has been indicated, nothing more than temporary benefit seems either to have been sought or obtained. In the histories of a considerable number of these cases, where there was almost complete occlusion of the middle pharynx, we find the lesion accurately described, but no allusion made to operative procedure. Many of the systematic treatises on surgery refer to partial destruction of the pharynx by ulcerative process, but no mention is made of resulting adhesion of the mucous surfaces. The difficulty of reaching the affected part, dangerous hæmorrhage from an inaccessible quarter, and the strong tendency to recurrence after the adhesions were separated—these were sufficient obstacles to deter the surgeon, and to make the prognosis of successful operation doubtful. Fifty or even thirty years ago—before the days of the rhinoscopic mirror, when little could be seen, the operator working in the dark and mapping out landmarks with his finger—it does not seem strange that surgeons avoided post-nasal operations whenever the demand for interference was not imperative.

Writers of to-day present a prognosis hardly less gloomy. Verneuil remarks that "nothing is easier than to separate adhesions, and nothing more difficult than to prevent their recurrence." Mackenzie says that "great relief can be afforded to the patient as long as he remains under treatment; but no cure can be predicted, as the stenosis always returns when mechanical measures are suspended." Sémon's opinion is, "that attempts at dilatation are only of service so long as used." Cohen says that "the tendency to reunion is very great; that he has seen a number of these operations performed with very little benefit." And Bosworth: "It must be confessed that at present we possess no means of remedying this frequently distressing condition; all that lies in our power is simply to palliate some of the most prominent symptoms." In view of such opinion, the operator will hardly welcome this class of patients to his office. But such prognosis, I think, may be misleading. The same verdict should not be applied to all cases, since the lesions caused by inflammatory ulceration in the upper and middle pharynx differ so greatly as to location and extent. It is not to be expected that a pharynx in which all semblance of mucous membrane has disappeared, and the muscular tissue been replaced by a fibrous structure, can ever give its owner much happiness. Comfort may be left out of the reckoning; but that such a pharynx may be made available for the passage of air, that the nasal voice may be corrected, and the sense of smell partially restored, is quite possible.

* Read before the American Laryngological Association, June 25, 1885.

In considering the prognosis, these cases should be divided into two classes:

1st. Where the *sole lesion is the adhesion of the soft palate to the walls of the pharynx*, and

2d. *Where, in addition to this, extensive cicatrization has narrowed the normal caliber of the naso-pharynx.* In determining the probable success of surgical treatment it is most important to ascertain to which of these classes the patient belongs. Has the ulcerative process extended above the level of the soft palate? and have the deeper tissues been involved? These are the questions to be decided. My own experience would lead me to believe that in the majority of instances the deformities are occasioned by superficial rather than deep ulceration. Union of the soft palate and pharyngeal wall may be a result of simple erosions, and that, too, when only one surface is involved. Here the cicatricial stricture is, of course, less formidable and more amenable to treatment than where there is deeper destruction.

Belonging to the second class is a case reported by Dr. William Turner,* and referred to in Dr. Cohen's book. It was one of almost complete occlusion between the middle and superior pharynx. An autopsy showed that very extensive changes had taken place. The anterior pillars were normal, but the uvula had disappeared, and the posterior pillars had become absorbed in the union of surfaces. On removal of the pharynx from the vertebral column, the deep muscular structures were found to be almost wholly altered. Subsequent contraction had greatly diminished the diameters of the pharynx. Although about normal at its superior extremity, it gradually became narrower below, until at the level of the hamular process the lateral diameter was not more than half an inch. This point corresponded in location with the junction of palate and pharynx. Below, the tube became enlarged. Dissection demonstrated that the muscular fibers of the superior and the upper portion of the middle constrictor muscles were entirely replaced by connective tissue. The palatal muscles were not changed.

This autopsy teaches the importance of an early diagnosis, that the ulcerations may be controlled before they involve the deep structures and produce lasting deformity. To my mind, the contraction of the pharynx above the line of adhesion is the most discouraging feature in the treatment of these cases. I believe it is much easier to separate adhesions and to prevent their recurrence than to enlarge the cicatrized pharynx. In searching for the cause of nasal dyspnœa and pharyngeal discomfort, too much stress has been placed on the adhesions, which are to be plainly seen in the back of the mouth, and too little on the narrowed tube above, which can not be so readily observed. It is for this reason that the operator is frequently disappointed in the small improvement in nasal breathing after he has freed the adherent surfaces. The trouble above remains.

The highest grade of contraction occurs in hospital and dispensary practice, where we find those unfortunates who, in addition to an hereditary scrofulous or tuberculous diathesis, have acquired the syphilitic poison. Ulcerations under such conditions are rapid and destructive, and frequently have attacked all the soft parts before the patient comes under medical supervision. Extensive disorganization often takes place behind the soft palate or pharyngeal pillars before physician or patient is aware of anything more serious than an ordinary sore throat, pain not being always a prominent symptom. The physician should be suspicious of any painful affection of the pharynx the cause of which is not apparent and which does not yield readily to treatment; such a case should have the benefit of a rhinoscopical examination at once.

Ulcerations of the pharynx have gained the reputation of being insidious, because they often attack primarily parts which are not easily seen. The angle of the pharynx behind the posterior pillars is a favorable location for the commencement of ulceration, which in this hidden pocket is apt to escape observation. I have seen a number of cases where this was the first point of attack. I remember an interesting example of this kind where the progress of inflammation was easily studied on account of a wide cleft in the palate. The child was suffering from scrofula or congenital syphilis. The mucous membrane showed a constant tendency to degenerate, and the posterior surfaces of the pillars were always the first localities to succumb. Constant friction between the mucous surfaces at this point and the retention of irritating secretion are exciting causes. Superficial ulcerations undoubtedly occur here during attacks of simple pharyngitis which are repaired without adhesion. It is in those cases where the syphilitic or tuberculous dyscrasia are present that we find the evidence of a destructive process.

Erosions or superficial ulcerations may escape detection even when located in plain view. There may be so little change in color, and the depth of the ulceration may be so slight, that loss of tissue is determined more by the fact that the surface bleeds when touched than by its gross appearances.

In addition to adhesion and cicatrization, another pathological change takes place which renders these cases difficult to treat satisfactorily, and this is the formation of new connective tissue. Not only is the normal structure replaced by it, but there is actual hypertrophy, which diminishes the diameters of the pharynx in all directions. This condition compromises the success of operative measures.

The process of inflammation and cicatrization is an interesting one. The soft palate, almost wholly a muscular structure, is so constantly in motion that it would seem impossible for it to become adherent to neighboring structures; but this result follows quite easily and naturally. The pillars of the pharynx, as has been said, are first involved, and later the soft palate is drawn to the posterior wall of the pharynx. This is accomplished in two stages: the first is the retraction of the palatal muscles, which have become shortened by the loss of tissue, consequent upon ulceration, and the second is the union of the pillars to the wall of the pharynx. The palate is thus forcibly drawn backward, little by little, until it rests upon the back of the

* "Edinb. Med. Journal," January, 1860, p. 612.

mouth. The ulceration extends to it from the sides, and the mischief is done. The unsymmetrical appearance of the palate indicates where the disease began and the course it followed, for all the tissues are drawn toward the point first attacked. The tendency to adhesion is increased whenever the muscular tone and mobility of the palate are diminished. This is true also in perforations of the palate, since the current of air passes through the artificial opening and no longer diverts the uvula from the back of the mouth.

The occlusion between the middle and upper pharynx is frequently nearly complete, only a small communication remaining. Dr. Bosworth says: "A perfect closure never occurs"; and my observation tallies with his. But Dr. William Turner, at the time of writing the article already referred to, stated that he had just had a case reported to him by Dr. W. H. Flower, assistant surgeon of the Middlesex Hospital, where there was complete occlusion.

The ætiology of pharyngeal ulcerations is well known. They rarely occur in the simple varieties of pharyngitis, but are a frequent complication of the eruptive fevers and typhoid, diphtheria, scrofula, syphilis, tuberculosis, lupus, phagedæna, epithelioma, etc., and sometimes result from post-pharyngeal abscess, caries of the vertebræ, and traumatism.

It is unnecessary to enlarge upon this, but it is wise to appreciate these well-known pathological changes, because the prognosis will depend wholly upon their nature and extent.

It is not an uncommon occurrence to find patients, in the throat-wards of hospitals, suffering with pharyngeal adhesions. Usually they obtain little relief and remain as long as they are permitted. I am unable to speak definitely of several cases which I saw in the hospital, as they did not specially interest me at the time. In private practice they are much less frequently seen.

The first case I had the opportunity of studying was at the office of the first president of this society, the memory of whose good works we honor and whose loss we to-day lament. I am confident that the cheerfulness and assurance with which he operated, and the good results he obtained, grounded me in the belief that much could be done for the relief of these unfortunate ones. In the case referred to, Dr. Elsberg used the blunt-pointed staphylorrhaphy knife in separating the soft palate from the pharynx. He made forcible dilatation with his finger, and, to prevent reunion, gave the patient a hard-rubber palate-retractor, and instructed him to draw the palate forward many times each day. This procedure was successful in largely benefiting the patient.

The operations performed to separate adhesions have differed but little. Before the day of the galvano-cautery most surgeons seem to have preferred gradual dilatation by means of bougies, sounds, sponge-tents, air-bags, etc., and rapid dilatation with the finger, to the use of the knife. The danger of hæmorrhage was deemed a strong argument in favor of non-cutting instruments. It was the general opinion, too, that, if cut surfaces were made, they would again become adherent, with an increased amount of contraction. Rothenberg made an advance step when he recommended that a portion of the cicatricial tissue be excised, and so, after separating the surfaces, he dissected off the rough edges with forceps and scalpel.

Diefenbach passed ligatures through the soft palate, drew it forward as far as possible, and held it away from the pharyngeal wall by fastening the cords around the ears.

Dr. A. P. Cook, of Kentucky, describes, in the Philadelphia "Medical and Surgical Reporter" of March, 1873, an interesting and, at that time, an original plan for keeping the ulcerative surfaces apart. The case was one of syphilitic ulceration. The entire palate was adherent, with the exception of a minute opening, through which only a small probe could be passed. He used specially devised knives, the blades at right angles to the shaft. With the handle of a tablespoon, introduced behind the palate, he measured the extent of separated surfaces; he then hammered out a piece of sheet lead to the required size, and suspended it behind the veil of the palate by two strings which were passed through the nostrils. The patient wore this constantly for six weeks. The writer says: "It did not interfere with deglutition, and successfully prevented readhesion." If such an interposing medium can be worn without too much discomfort, it is certainly more efficacious than pieces of lint, and is more comfortable than forcible traction by means of ligatures.

At times it has been deemed advisable to guard against hæmorrhage by preliminary tracheotomy. Dr. T. Gilbert Smith, of London, arrived at the following conclusions: (1) Tracheotomy; (2) divisions of adhesions with guarded knife; (3) a number of notches are preferable to a long incision; (4) cutting should be done from above downward, that the whole wounded surface may be seen. These instructions are more pertinent to strictures of the lower pharynx. J. William White, in Holmes's "Surgery," recommends that an artificial opening be made through the soft palate in cases where there would be great difficulty in preventing readhesion. The main object, he says, in such operation is to restore the sense of smell. It is also suggested that, after severing attachments, longitudinal incisions through the palate be made, to counteract muscular contraction and to prevent the palate, as a whole, from being brought against the pharynx. But the condition established by operations of this kind is hardly preferable to a closed naso-pharynx.

An article by von Lesser,* of Leipsic, having the attractive title "A New Procedure for the Separation of the Soft Palate from the Wall of the Pharynx," describes the following operation:

"Patient was syphilitic; surfaces were adherent, except at small opening near uvula. This free portion was split parallel to its surface; the anterior plate was divided into halves by a median longitudinal section; the lateral halves were detached from pharyngeal wall; the freshened surface of the triangular apex of posterior plate was united with the wounded angle of the anterior plate. Finally, each detached half of the anterior plate was duplicated, the medial edge of the wound being turned backward and outward, and

* "Berlin. klin. Wochensch.," No. 23, 1879.

fixed by sutures in this position. The mucous membrane of the lateral portions of velum thus faced the wounded surface of the pharynx. Reunion was in this way prevented."

In closing, I will briefly report the history of a patient I saw at my office. The plan of treatment followed presents but few original points. In fact, there seems to be little opportunity for new surgical methods here, but I believe that persevering work will do much for these patients, and they will not be condemned as incurables:

Case.—Mrs. J., aged thirty-eight, married in her twenty-second year, mother of five children, consulted me in March, 1883. Her husband was a prosperous business man. She occupied a good social position at her home in a Southern city. She was of healthy parentage, though there had been several deaths from phthisis in her father's family. Patient was of average height, pale, somewhat emaciated, and I was impressed with her careworn expression. She breathed noisily through the mouth; sense of smell gone; voice nasal. She complained of a feeling of great dryness and discomfort at the back of the nose and mouth. She was unable to clear the pharynx of tenacious mucus, which always collected there, and which constantly annoyed her. She swallowed with some difficulty, and liquids frequently passed into her nose. She was extremely nervous, a condition exaggerated by tinnitus of the left ear. Hearing was impaired on both sides. She had a hacking cough, and had lost fifteen pounds in weight.

She gave this history of her malady: Her health was good until the birth of her last child, three years previous. Confinement was followed by pelvic cellulitis. She recovered after serious illness, lasting several months. It was while convalescing that she was attacked with sore throat. She remembered only that swallowing was painful, but there was not much discomfort when her throat was at rest. These symptoms lasted two weeks, and interfered but little with her recovery. Her physician prescribed gargles, and she supposed that her throat was entirely well. It was some weeks later, when she found it difficult to breathe through the nose and there was a feeling of constriction in the back of the mouth, that she suspected something was wrong. She says that neither the physician nor herself was aware of any ulceration, and this is to be credited because there were no cicatrices below the junction of the mucous surfaces. The physician who attended her died two years later, so that I was wholly dependent upon the patient for these facts. In regard to causation, the most careful inquiries of the patient and her husband produced no evidence that it was a syphilitic lesion. I could find absolutely nothing to base such an opinion upon. The character of the people was such that their statements were to be believed.

The type of the ulceration was probably either scrofulous or tuberculous, since the patient was suffering from bronchial catarrh, and there was consolidation at apex of left lung. Her respirations, about thirty per minute, seemed unduly increased, considering the amount of pulmonary trouble, but the frequency was due to the necessity of mouth-breathing and the discomfort of a dry pharynx. The back of the mouth presented a very unsymmetrical appearance; all the soft structures were drawn to the right. The right pillars were blended in one mass, and on the left the pillars, as well as the uvula, had been drawn half an inch out of position before they had become adherent to the wall of the pharynx. An opening, one fourth of an inch in diameter, at the right of the uvula, was the only communication with the posterior nares.

The patient was under treatment for two months. The plan adopted was as follows: I dilated the passage with steel sounds until it was large enough to admit the finger (which, after all, is the best dilator). Traction was then made until the opening measured three fourths of an inch across. A small curved sound was passed for the purpose of exploring the lateral attachments. On the right side the point of the sound could be carried downward behind the posterior pillars for a considerable distance. Using the sound as a guide, I burned through to it, with the galvano-cautery knife, at the junction of the mucous surfaces, establishing a second communication. A platinum wire was passed through the opening just made, and drawn out through the original aperture into the mouth. The loop was threaded through an insulated cannula attached to a cautery battery. The adhesions included within the wire were separated by shortening the loop and passing a current through it. The cannula was bent at right angles, point upward, so that the snare was tightened in a direction parallel with the posterior wall of the pharynx.

I repeated the same procedure in dissecting off the uvula, and twice more in detaching the left side of the velum. Here it was necessary to burn through more tissue, as the adhesions extended higher up. Division of the bands near the left Eustachian orifice relieved materially the tinnitus. There was no hæmorrhage. Traction was constantly made with the finger by the patient as well as myself. In addition, she used a hard-rubber palate-hook every few hours. For a time I had the patient wear at night a plate of hard rubber of proper size, one eighth of an inch thick, with rounded edges, suspended by cords through the nostrils. It gave little discomfort, and may have aided in keeping the surfaces apart, though I consider continued traction of the soft palate the most important means of preventing readhesion. There is far less danger of secondary union when the tissues are separated with the galvano cautery loop, as the edges are thus thoroughly cauterized. The patient was able to breathe through the nose comfortably, and the sense of smell was restored to a large extent.

I treated a case last winter very much like the one here reported.

A man, thirty-five years of age, in good health. The soft palate was adherent to the wall of the pharynx along the greater part of its border, the result of syphilitic ulceration. The tissues were separated in the same manner by the galvano-cautery loop, and reunion was prevented by the same method used in the former case. But here I had the benefit of the use of cocaine, which is of immense advantage, not only in the relief of pain, but in a much more important particular—the control of muscular action. By a free use of cocaine the soft palate can be made nearly immovable, so that, after being freed from the pharyngeal wall, it hangs directly downward, and does not continually invite reunion by being in contact with the neighboring mucous surfaces. A third advantage is that it diminishes the inflammatory reaction necessary to repair.

DISCUSSION.

Dr. Mackenzie: I question strongly the diagnosis of tubercular or scrofulous ulceration in the class of cases reported by Dr. Rice. The localization of tubercular ulceration in the naso-pharynx, especially when associated with cicatrices, if it exist, must be the rarest of pathological events. I regard the large majority of these cases as syphilitic, although the same result may be brought about through the ulceration which follows diphtheria, the essential fevers, and other forms of blood-poisoning. The social standing counts for nothing in the diagnosis.

I would like to say, in reply to Dr. Ingals, that, while it would be a great pity to call all destructive ulceration in the naso-

pharynx syphilitic, it would be a still greater pity, in uncertain cases, not to give the patient the benefit of the doubt. I should like to call special attention to the peculiar tendency of syphilitic lesions to isolation in some portion of the upper respiratory tract, and this long after the disease has apparently run its course; or, in another class of cases, where there has been no previous history of syphilis. In such cases a tertiary ulcer in the nose, on the palate or in the larynx, or even trachea, may be the first thing to call attention to the existence of syphilis.

This tendency of the syphilitic virus to crop out in some portion of the upper air-passages, without pre-existing syphilitic lesions in other parts of the body, or long after the original disease has apparently spent its force, is a point of considerable interest. In this connection, too, I may cite the case reported by me in the "Wiener medicinische Jahrbücher" in 1881, in which the trachea was the seat of isolated syphilitic lesions; and another reported last year in Baltimore, where, on autopsy, the only evidences of syphilis were unmistakable signs of that disease in the nasal passages.

Dr. Robertson: This high-arched condition of the palate and its frequent occurrence in syphilis have been explained as being due to the loss of permanent teeth. From this, contraction of the jaw results and arching follows. The same would occur in congenital syphilis from the frequency with which the teeth are lost.

Dr. De Blois: I think Dr. Mackenzie's remarks are too sweeping, for, in my limited experience, I have had three cases of ulceration under the velum and in the position to produce adhesions. I know these cases were tuberculous, for the patients died of tuberculosis, and post-mortem examinations were made. Adhesions had not taken place, but there is no reason why they should not have.

Dr. Delavan: The subject of Dr. Rice's interesting paper was presented to this association several years ago in an elaborate article by Dr. A. H. Smith. In this Dr. Smith referred to a case of syphilitic adhesion which I reported to him, in which I had operated successfully by separating the attachments of the velum with the pharynx and immediately applying to the incised surfaces pure mono-chloracetic acid. Healing took place without adhesion, and the result was remarkably good.

Dr. Ingals: I believe that most of the cases are syphilitic, as has been claimed, but it is too bad to call all patients syphilitic in whom we do not know what is the matter. I have recently seen a case in which the mode of operation was easy and satisfactory, at least for the time being. The patient had adhesions both of the palate and tongue to the pharynx. The opening below was so small as to greatly interfere with swallowing and breathing, being not more than three eighths of an inch in length by an eighth of an inch in breadth. He attempted to divide the adhesions, which were very extensive, by cutting through them with the galvano-cautery knife; but the proceeding was very slow, and, after a couple of applications, the patient was allowed to sit aside while other patients were being seen. He soon sent word that he was choking. I then found that there had already been swelling as the result of the canterization, which was so great as to make it unsafe either to leave the patient in his present condition or to repeat the operation. I then incised the adhesions with a knife bent at a right angle, cutting about an inch on one side and nearly as far on the other, with the result of making an opening through which the largest œsophageal bougie (more than half an inch in diameter) could be passed. The adhesions above had been easily divided by means of bent scissors such as are used by gynæcologists. The patient left the city for his home within a couple of weeks, so that the ultimate result was unknown.

Dr. Rice: I am always pleased to be able to satisfy myself of the absence of syphilis in a case, because I believe that many physicians are overfond of finding this disease, and that it is already burdened with lesions frequently due to some other malady. It is the duty of every physician to place the blame where it belongs. The majority of the cases of adhesive inflammation are syphilitic. My first case, so far as could be ascertained, was not. A pelvic cellulitis, following a severe confinement, was the exciting cause. The predisposing causes were a moderately bad family history, a severe grade of catarrhal inflammation of the upper air-passages, and the first stage of phthisis of one lung. I believe such a combination of pathological conditions sufficient to occasionally cause a post-nasal or pharyngeal catarrh to assume an ulcerative and adhesive form—the so-called scrofulous inflammation. The use of the galvano-cautery knife, as described by Dr. Ingals, is very tedious, so little tissue can be separated at one time, and readhesion rapidly takes place. The use of the platinum loop, as described in this paper, is very satisfactory. There is but slight inflammatory reaction.

THE DIAGNOSIS OF INJURIES TO THE SACRO-ILIAC ARTICULATION.*

By E. A. LEWIS, M. D.,
BROOKLYN.

The object of this paper is to call attention to a class of injuries which I believe to be not uncommon, and which I also believe are apt to be overlooked—*i. e.*, considered as contusions. I hope also to give a few symptoms which are diagnostic.

Let me call attention briefly to the anatomy of this articulation.

The ligaments which hold the sacrum and ilium together are simply anterior and posterior sacro-iliac. The anterior, thin ligamentous bands stretching from one bone to another; the posterior, thicker and more numerous fibers, making a strong ligament.

These ligaments proper are supplemented by the greater and lesser sacro-sciatic, and by the lumbo-sacral and ilio-lumbar from the transverse process of the last lumbar vertebra. Thus the articulation, as you here see it, seems to be, and is, a very strong one. Nevertheless, when force is applied to it in certain directions, it may not require a very great amount of violence to cause a separation, or partial separation, of the bones. I do not mean a displacement causing deformity, for this would require very great violence, owing to the way the sacrum is wedged in at the base of the spine; but I do mean an interference with the integrity of the articulation, giving rise to certain symptoms which differ from those of simple contusion, or may be associated with them. Two cases have come under my observation within the last two or three years which illustrate the particular points to which I wish to call attention.

On October 20, 1882, Thomas O., aged thirty-six, a strong man, in perfect health, was riding a spirited horse. The animal was restive, and, in prancing, threw the rider with some force forward, so that he struck astride the sharp shoulders of the horse, and they acted as a wedge between the nates. Mr. O. felt injured, and immediately dismounted, but found he could

* Read before the Medical Society of the County of Kings, November 17, 1885.

not stand. He was removed to his home in an ambulance. Examination showed no contusion whatever. There was no interference with any function of life. The urine and fæces passed naturally. There was no paralysis of any kind. Pressure over the crest of the left ilium caused pain at the corresponding sacro-iliac articulation. There was no external evidence of displacement. The patient could lie only on his back; in this position he was perfectly comfortable. The slightest movement toward either side, by which lateral pressure was made on the pelvis, caused intolerable pain. During the third week he began to be able to turn slightly on to the right side, but for two months could not lie on the left side at all. At the expiration of one month he began to get about on crutches. For over three months he used a cane. For nearly a year he had to drag his left leg up-stairs, going up with the right leg first. At the present writing he prefers to carry a cane when walking any distance. He can not stand unsupported on his left leg. He still walks with a slight halt in his gait, caused by using the right hip joint as a pivot on which to swing the pelvis, not advancing the left leg and thigh naturally. This defect in locomotion was very apparent at first, but improved gradually. This injury seems to be permanent, and to disable the patient from any active occupation.

The second case was complicated by other serious injuries which need not occupy our time. This patient, Mr. L., was also a robust, middle-aged man, in perfect health. On April 20th of this year he was injured by a very heavy gate, under which he was rolled some distance. So far as his pelvic injury was concerned, he exhibited similar symptoms to the preceding case, *i. e.*, he could lie at ease on his back, but any attempt to turn on either side caused great pain. There appeared to be no deformity at the right sacro-iliac articulation, but pressure on the right side of the pelvis caused great pain at that point. There was no disturbance of the pelvic organs or paralysis of any kind. He laid in bed nearly a month without being able to turn on either side; then gradually could get over to the left.

At the end of two months he could lie for a very short time on his right side. He, too, began to be able to get about on crutches before he could lie at ease on either side. He walked with the same swing in his gait, depending on his left lower extremity principally for support, and using his left hip as a pivot to swing the pelvis. He experienced the same trouble in going up-stairs, being obliged to advance the left leg first and draw the right after. At the present time he is well, with the exception of the slight swing in his gait. This is improving. He can not, however, stand alone on his right leg for any length of time. He promises to make a better recovery than the first case related.

The points in diagnosis which I wish to call attention to are:

1. The history of the injury. Any force which rotates the pelvis under severe pressure, or any force which acts as a wedge between the sacrum and innominate bone, is liable to injure this sacro-iliac articulation, although it does not cause complete separation and deformity.

2. The symptoms are usually associated with those of contusion of the hip, but differ in this, that the patient must lie only on the back for a long period of time, the slightest lateral pressure on the pelvis being unbearable.

3. The patient is able to be assisted to the erect posture and to move about on crutches for some time before being able to lie on either side.

4. Many months elapse before the patient can walk with ease, and frequently the injury is permanent to the extent of rendering him unable to do any active work.

5. A peculiar affection in walking, the uninjured side being used as a pivot on which to swing the pelvis, and thus save strain on the affected articulation.

I believe there is many a man going about to-day with some difficulty who has suffered from this injury, which has been considered and called "contusion of the hip," or, perhaps, simple "injury to the hip," without further specification as to its character.

This class of injuries is apt to have a permanent defect in walking.

The articulation is never so strong as before the accident.

The points in differential diagnosis may be arranged as follows:

Contusion.	*Injury to Sacro-iliac Articulation.*
The cause is a direct blow or fall.	The cause acts as a wedge between the sacrum and os innominatum, or rotates the pelvis under severe pressure.
The thigh of the affected side will not endure passive motion.	The thigh of the affected side may be freely moved without causing pain.
Patient can turn or be turned on the side after a short time without causing much pain.	Patient can not turn or be turned on either side for a long time, and can even walk about some before being able to endure any lateral pressure on the pelvis.
Patient suffers pain in the soft parts surrounding the hip joint.	Patient suffers no pain when lying quietly on the back, unless the injury is accompanied by contusions.
Patient recovers completely in a few days, or, at most, weeks.	Patient does not recover for months, and frequently the injury is permanent.
There is apt to be ecchymosis and tenderness on pressure over the soft parts.	There is no ecchymosis, and pain on pressure is only felt when the force is applied to the bony pelvis, and then at the seat of injury—*i. e.*, the articulation.

The explanation of the symptoms of pain on lateral pressure, and the ability to stand erect and walk some before being able to lie on the side, is not difficult. A glance at the pelvis in its natural position will show. It is naturally inclined at an angle of 60° to 65°, and pressure from above downward or from below upward is made against the bony pelvic ring, and inclines to press the articular surfaces together and not to call on the ligaments at all; while lateral pressure inclines to put the ligaments on the stretch and separate the joint surfaces.

Such surgical works as I have had access to have not mentioned injuries of the character I have spoken of at all, or have passed them over with a very few words. The more serious injuries, involving fracture of the pelvis with great violence and much deformity, are the only lesions

mentioned at or in the neighborhood of this sacro-iliac articulation. The opportunity to study more cases, such as I have detailed, will, doubtless, develop more symptoms which are characteristic of this peculiar form of injury. I have seen several cases in which I suspected this injury, but the two mentioned seemed to show the prominent symptoms detailed so clearly that I thought them worth putting on record. No change was noted in the length of the lower extremities, nor was any to be expected, as the femora and hip joints were not injured.

CEREBRAL ABSCESS FROM A CRANIAL FRACTURE.*

By D. MORRIS WOOLLEY, M. D.,
BROOKLYN.

On July 30th, about 7 P. M., I was called to attend a boy, fourteen years of age, who had fallen from the roof a two-story-and-basement house. He was then in convulsions. There was considerable tumefaction over the right eye and supra-orbital portion of the frontal bone. There was no laceration of the tissues, and, from the great œdema present, it was impossible to make out any fracture. I immediately applied hot water to the feet, and gave rectal injections of whisky.

In the course of two hours I succeeded in equalizing the circulation and controlling the convulsions. The boy was finally restored to consciousness.

At this time the family physician, who is a homœopathist, came in, and I, of course, surrendered the case to him. But, had it been my case, from what I know of antiseptic surgery, I should not have hesitated in making an exploratory incision in the scalp. However, the boy was treated by this homœopathic physician for about ten days, when the family, becoming dissatisfied, again sent for me. During these ten days, I was informed, the boy had been all the time conscious, with only slight spells of delirium in the evening. It was asserted that he even went to the table and partook of meals with his usual appetite, the principal trouble being considerable pain over the eye, with much more swelling than ever.

I learned that morphine, which had been given him, greatly increased the delirium. The night previous he suffered much from pain. I found a large abscess forming and pointing just above the eye. This was poulticed with flaxseed made with hot lead-and-opium wash, and I ordered potassii bromid., grs. 10; sodii bromid., grs. 10; chloral hydratis, grs. 5, three times a day. As a substitute for morphine, I gave ext. hyoscyamus in pills of two grains each, all of which seemed to act like a charm, giving good sleep. At this time his temperature was only 100°, and he had a full pulse of about 70. His pupils contracted and freely responded to light.

The next day I found him in bed, reading a story with great interest. This I forbade. Curious to say, this boy was remarkably bright and had an excellent appetite, the only symptom being at times much pain, which increased till his temperature was about 101° and pulse 65, when I made an incision just above the eye, where the abscess seemed to be pointing. I think fully one quarter of a pint of laudable pus came out. The cavity was washed with 1-to-2,000 bichloride-of-mercury solution, a drainage-tube inserted, and the wound dressed antiseptically twice a day. The temperature fell to 99·5° F. A day or so after, another incision was made over the squamous portion of the temporal bone, when the probe detected a depression of bone and an apparent fracture. It was not until we got rid of the pus and probed extensively that anything like a depression or fracture could be made out. I then suggested to the father the necessity of trephining, but, after consulting two or three physicians, it was thought that to wait for further symptoms was the best plan.

For a few days after the incisions were made he had much less pain, and did apparently well, the pulse ranging between 60 and 70, and the temperature under 100°. But the pain returned to the region of the right eye, increasing each day with so much severity that large doses of bromide of potassium and ext. of hyoscyamus failed to produce sleep. Finally, on Saturday, at 5 P. M., August 22d, I for the first time gave, hypodermically, five minims of Magendie's solution of morphine, because for twenty-four hours he had not slept, owing to intense pain. This relieved him and produced sleep. His pulse now was 58, and temperature under 100°. All this time the boy had been intelligent, his pupils responding freely to light. Two hours afterward I found him comatose, with a temperature of 104° and a pulse of about 140. I concluded that he must now be suffering from acute encephalitis due to the burrowing of pus through some fracture of the skull.

I immediately called in Dr. Walter B. Chase, and we gave twenty grains of antipyrine hypodermically and ten grains by the mouth. In less than one hour the temperature fell to about 102°. Next morning the temperature was 100°. In the evening it rose to 102°. At this time we held a consultation, calling in Dr. J. H. Hunt. We decided to trephine on the following morning. We gave chloroform for anæsthesia because least liable to cerebral excitement. After making an incision and dissecting up the scalp we found a stellate fracture of the right frontal bone just above the orbit. In the center of this fracture was a triangular piece of loose bone with one of the angles penetrating the substance of the brain, causing a deep abscess into which you could put your finger. We took this bone out and elevated a portion of the rest. About five hours later the temperature went up to 104°, and it was again shortly afterward reduced to 102° by antipyrine. The next morning, which was Tuesday, the temperature remained the same. In the afternoon there was an elevation to 103°. Gave antipyrine, with some slight return of consciousness, but pupils somewhat dilated. Wednesday morning the temperature was down to 101°, with a good pulse of about 100. In the evening the temperatute went up to 102°, with contracted pupils. The next morning it went down to 100·75°. In the evening there was another marked elevation to 104·25°. At this time there seemed a marked change for the worse; the pupils were more dilated than ever, the breathing was heavy, the pulse 140 and very weak, and the coma more profound.

I injected twenty grains of antipyrine hypodermically, and gave ten grains by the mouth. Shortly after, the temperature fell to 101·5°. He regained some consciousness, speaking in monosyllables. About midnight the temperature was taken by the nurse and found to be slightly subnormal.

On Friday morning the temperature was 101·5°, the pulse good and full, and I was told that the boy recognized those around him and was at times quite conscious. I went again to see him at 2 P. M., and the temperature was up to 104°. Again I gave twenty grains of antipyrine, which by the evening had brought it down to 101·25°, with a good, full pulse.

On Saturday morning the temperature and pulse were the same. In fact, there was no change that day except his being at times slightly conscious, having said to his sister, when annoyed, "Get out!" No antipyrine was required this day. The case now seemed more hopeful—in a word, he was better than any time since the operation, and we felt that nature was going to

* Read before the Brooklyn Pathological Society, October 8, 1885.

bring the boy through. But Sunday told a different tale. That morning the temperature was 104°, with a full, rapid pulse. Twenty grains of antipyrine failed to produce any effect, and by evening the fever was raging at 104·5°, with a pulse of 142.

I gave 3 ss. of antipyrine and applied ice to the wrist. Here I would say that the ice-bag had been continuously applied to the great vessels of the neck ever since the commencing night of the high fever. However, we again, in a few hours, succeeded in bringing the temperature down to 101°, the pupils contracting and responding to light.

On Monday morning at eight o'clock the temperature was 102·75°. I undressed and washed out the wound as usual with 1-to-2,000 bichloride-of-mercury solution. During the last two or three days there seemed to have been more discharge of pus than usual, but presenting a very healthy appearance.

In the evening the temperature was 102·6°. He answered "Yes" to the question "Do you see?" On Tuesday morning the temperature was 103·25°, with a full pulse of 140. Gave twenty grains more of antipyrine. That evening the temperature and pulse were about the same. I repeated the same quantity of antipyrine and reapplied ice to the wrist. I asked him if he felt any pain. He faintly replied, "My eye hurts."

Wednesday morning the temperature was 103·6°. Gave twenty grains of antipyrine. In the evening the temperature went up to 104·8°, the highest point yet reached. Again gave twenty grains more of antipyrine, and the temperature, in less than two hours, fell to 102°, and by twelve o'clock that night it was 101°.

Thursday morning, temperature 103·5°. Left foot cold, while the rest of the body is warm. Since last night, for the first time, there has been difficulty in swallowing. There is a tremor to the pulse. When the left leg is touched, it causes some distortion of the facial muscles. There is now a greater change and a more anæmic condition of countenance. It looks as though the vital centers were being disturbed. In the evening the temperature was 103·25°. Gave twenty grains of antipyrine, without any effect.

On Friday morning there was still a greater change for the worse. The countenance was that of the Hippocratic expression, the temperature again reaching 105·25°. It did not seem that he could last over two hours, yet his heart was beating well, and, with the vitality present, he might live till night. He died that afternoon about six o'clock. The next day Dr. Hunt and I held an autopsy, but, much to our surprise, found no meningitis except a localized portion around the point of fracture. We found no other changes except a deep abscess which had broken into the right lateral ventricle.

The conclusion which may be drawn from this case is, that this abscess had commenced to form immediately after the perforation of the dura mater, and the irritation caused by the triangular piece of bone, and that perhaps the high fever and sudden coma came after the rupture in the ventricle.

I think there is also one important lesson which may be drawn, and that is, that we are apt to be too conservative at times. It strikes me that, without antiseptic precautions, very little may be lost by trephining while a great deal may be gained. In all probability, had an operation been made immediately after the accident, the chances of the boy's life would have been greatly enhanced.

The Department of Public Charities and Correction of the city of New York has been allowed $1,537,300 to cover the expenses for the coming year.

Book Notices.

Contributions to the Topographical and Sectional Anatomy of the Female Pelvis. By D. Berry Hart, M. D., F. R. C. P. E., Lecturer on Midwifery and Diseases of Women, School of Medicine, Edinburgh, etc. Edinburgh and London: W. & A. K. Johnston, 1885. 4to, pp. 8, xii plates.

We have several times been gratified by being able to speak in commendation of Dr. Hart's researches in pelvic anatomy, and these beautiful plates call no less for praise than the author's previous publications. They relate for the most part to sections of frozen cadavers. The descriptive text, brief as it is, deserves careful reading, preferably in connection with Dr. Hart's other contributions to the anatomy of the pelvis.

Contributions to Surgery and Medicine. Part I. Intestinal Disease and Obstruction. London: H. K. Lewis. Pp. 284.

The title of this work hardly conveys an adequate idea of its scope and contents. It is an essay by Hugh Owen Thomas on the intestinal lesions of typhoid fever and the milder forms of obstruction, with particular reference to treatment. With operative procedures it has little or nothing to do, and the therapeutic methods may be summed up in two words—rest and starvation. The action of opium and belladonna is carefully studied, and the indications for their use are given. All active methods of manipulation, purgatives, enemata, kneading, etc., are condemned.

The work has been carefully done, and shows study. The latter half of the book is made up of a large number of histories of cases, with appropriate comments.

BOOKS AND PAMPHLETS RECEIVED.

La Patogenesi del Colera. Dal Dottore Giuseppe Paoletti, Sottotenente Medico di Complemento. [Estratto dal "Giornale Medico del R°. Esercito e della R^a. Marina."]

Hereditary or Degenerative Ataxia. By W. Everett Smith M. D., Framingham, Mass. [Reprinted from the "Boston Medical and Surgical Journal."]

Synopsis of Proceedings of the Third Annual Meeting of the American Rhinological Association.

Correspondence.

LETTER FROM WASHINGTON.

The American Public Health Association.—The Inspection on the Canadian Frontier.—Proposed Sanitary Legislation.—The Cholera in Japan.

Washington, *December 14, 1885.*

Since my last the city has been enlivened by the presence of the American Public Health Association. The President, Senator Harris, and Representative Beach were expected to be present at the opening, but the President only sent a letter, and the other gentlemen had other engagements. The meeting, however, was successful, and, although perhaps there were those little elements of discord so often present at gatherings such as this, where every health officer has some special measure of his own to put through, yet, as a whole, it was harmonious and creditable to all concerned. The election of Dr. H. P. Walcott, of Cambridge, as president, was a deserved compliment to a distinguished health officer, and broke up the pestiferous custom of perpetually electing the vice-president, without any regard to

special fitness. No man has been more thoroughly identified with Southern sanitary matters than Dr. G. B. Thornton, of Memphis, who was elected first vice-president, and Canada was appropriately recognized by naming Toronto as the next place of meeting, and a Canadian as second vice-president.

The special features of the meeting were the papers read and the social pleasures. Among the interesting papers, those of Dr. Joseph Holt, of New Orleans, Dr. O. W. Wight, of Detroit, Dr. Armstrong, of the Marine-Hospital Service, Dr. Hartwell, of the Johns Hopkins University, and Dr. John Morris attracted unusual attention. Dr. Holt is an orator as well as an efficient health officer, and the reading of his paper was accompanied by round after round of applause. Dr. Wight maintained that the disinfection of the abominable sewers of Detroit by burning sulphur at each man-hole had been followed by a great reduction in the death-rate from diphtheria and scarlet fever, and that the sulphur fumes speedily found out all the defective traps in houses; and many amusing instances were given of its effectiveness. Dr. Hartwell's paper was on the method of physical training adopted in Germany to secure the *mens sana in corpore sano*, and the methods of the "Turners" as well as those of the gymnasium professors were fully explained. There is no doubt that the time is coming when the "pale-faced, stoop-shouldered student" will be only a reminiscence. There is no longer any reason why intellectuality should be regarded as a necessary sequence of chronic dyspepsia and mal-assimilation. Dr. Morris's paper dealt strongly with the necessity for crematories everywhere, in order to insure proper facilities for cremation of the dead. He cited the evils of the existing practice of inhumation near our cities so forcibly that the "Republican" the next morning editorially spoke of the water drank by the Philadelphians as a product of the rain-fall into the Schuylkill mixed with a large percentage of the distillate from the bones of their ancestors.

The trip to Mount Vernon and the oyster roast were very successful.

The Marine-Hospital Bureau has ordered the discontinuance of the inspection at the International and Suspension Bridges, in accordance with the request of the State Board of Health of New York. The maritime inspections at the lake ports have been discontinued owing to the closure of navigation and the efficient work now being done by the health authorities of Ontario.

Senator Palmer has reintroduced the bill prepared by Dr. Wight, of Detroit, last year, providing for a Commissioner of Health for the United States.

Senator Eustis, of Louisiana, has introduced into the Senate the bill prepared by Dr. Holt to provide "for the appointment of a commission to investigate the declared discovery of inoculation of yellow fever, and protection so afforded against that disease." The bill contemplates the appointment of three commissioners, who shall proceed to Brazil, investigate Freire's alleged discoveries, and report thereon. Thirty thousand dollars are to be provided for the expenses of the commissioners. Senator Harris, of Tennessee, has reintroduced the bill to rehabilitate the National Board of Health and restore its former functions, which expired in June, 1883. This Senator, it will be remembered, is the chairman of the Public Health Committee of the Senate, or, as it is somewhat euphemistically styled, the "Select Committee to Investigate the Introduction and Spread of Epidemic Diseases." Speaker Carlisle has not yet appointed the Public Health Committee of the House, but it is presumed that he will do so this week, and that the Hon. Lewis Beach, of New York, will be appointed.

Press dispatches, confirmed by the Department of State, announce the increase of cholera in Hiogo and Osaka, Japan.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. APPLETON & Co.
Edited by FRANK P. FOSTER, M. D.
NEW YORK, SATURDAY, DECEMBER 26, 1885.

THE ALUMNI OF THE WOMAN'S HOSPITAL.

It is always a good thing for the graduates of an educationa, institution to organize themselves into an alumni associationl even if for no other reason than that it serves to keep alive the *esprit de corps* that readily takes root among young men, but is apt to droop under the heat of the actual conflict of life unless nurtured and sustained by some specially favoring circumstances. But there are other reasons why such organizations are to be commended, not the least of which is the influence that they are more and more getting to be able to exert in strengthening the hands of the managers of the institution, whatever it may chance to be, and, to some extent, in shaping its policy. It is only within a very few years that associations of the alumni of medical colleges have aspired to much more than social objects in this country, but now they may fairly be said to have lifted themselves far above that plane, as witness the laboratory, the annual prize, and the Cartwright lectures, established by the exertions of the Alumni Association of the College of Physicians and Surgeons. That is one of our oldest colleges, and it is but natural that its alumni should have made their association conspicuous among like organizations; but the very creditable showing that has been made by a number of other similar bodies argues their early achievement of commensurate importance.

When we speak of educational institutions it does not follow that we have in mind exclusively those which furnish didactic instruction in the various branches of medicine, and round it off by conferring the doctorate. On the contrary, nothing could be more truly educational—more drawing out—than the training that the young graduate gets during his term of service on the house staff of a hospital. Moreover, the bond of personal sympathy is far closer between the few to whom such a service is necessarily restricted than it can be among the more miscellaneous and far more numerous students of a college. We presume it may therefore be inferred that the rarity of associations of hospital alumni is due to the idea that numbers are necessary to success, but we are confident that a hospital alumni association which has recently been formed is destined to an amount of success that will speedily disabuse the profession of that notion, especially as the hospital is a comparatively new one and also a special one, and therefore subject to the full drawbacks that may be supposed to attach to the formation of successful associations of hospital alumni.

We refer to a gynæcological society composed entirely of gentlemen who have served on the house staff of the Woman's Hospital, in New York—a society that is now well organized and started on its career. Necessarily its members are for the most part young men, but many of them are already known

wherever gynæcological literature penetrates; and that it should have been able, in the few years of its existence, to rear a body of alumni so promising and so favorably known is not the least of the laurels to which the pioneer woman's hospital of the world may lay claim. The programme arranged for the first meeting of the new society seems to us exceedingly creditable, and we do not doubt that the proceedings at the annual meetings which are to follow will prove of equal value and importance. The formation of the society is a good move, and we wish the organization all possible success.

MINOR PARAGRAPHS.

THE "MEDICAL TIMES AND GAZETTE," OF LONDON.

It is rumored that this most estimable journal will cease to be published with the close of the present year. This will be unwelcome news for those who have been accustomed to peruse its columns, especially during the two years that it has been under the editorial management of Dr. Philpot. The "Times and Gazette" was always a valuable journal, but Dr. Philpot has made it, so far as the editorial columns are concerned, by far the most readable of the London weeklies. We shall sorely miss it from our exchanges.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Fourth Division of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 22, 1885:

DISEASES.	Week ending Dec. 15.		Week ending Dec. 22.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	0	5	0
Typhoid fever	16	5	19	5
Scarlet fever	50	5	52	21
Cerebro-spinal meningitis	3	3	1	1
Measles	6	2	14	1
Diphtheria	75	33	104	41
Small-pox	5	1	12	1

Pasteur's American Patients.—News has been received that the Newark children who were lately sent to Paris, in order that they might undergo proteetive inoculation against rabies at the hands of M. Pasteur, have arrived in good condition and have been subjected to the early inoculations of the series.

Small-pox in New York and Brooklyn, as well as in a number of other places, although not verging on epidemic prevalence, is coming to light far oftener than it is comfortable to contemplate. It is reported that the number of patients now in the Flatbush Hospital is greater than at any other time during the last three years.

Diphtheria in Ontario.—The schools are reported to have been closed in Delaware, Ont., on account of the prevalenec of diphtheria, and it is said that for the same reason certain Sunday-school entertainments which were to have eome off at about this time have been postponed.

A Conviction for Criminal Abortion has been obtained in Cleveland, Ohio, and it is satisfactory to learn that the heaviest penalty possible, imprisonment for seven years, has been imposed on the prisoner.

An Impostor.—Dr. Silas C. Blaisdell, of Brooklyn, E. D., writes to us as follows: "F. W. Cowan, a graduate of the University of last year, has been visiting various physicians and obtaining money on false pretenses, representing himself as having been robbed, etc., while visiting the city, purporting to come from Newark, N. Y. Dr. Cooper, clerk of the University, has in his possession several cards from physicians already swindled by this impostor, and would like the card of any other having a similar experience with this disgrace to the medical profession."

The Death of Dr. John S. Heard, of Newburg, N. Y., took place on Friday, the 18th inst. The deceased was a graduate of the College of Physicians and Surgeons, and formerly practiced medicine in New York. After taking his medical degree he served on the house staff of the New York Hospital. At the time of his death he was seventy years old.

The Death of Dr. Isaac G. Collins, of Sing Sing, N. Y., occurred on the same day. He was a graduate of the Albany Medical College, and had been president of the Medical Society of the County of Westchester. He was fifty-three years old.

Society Meetings for the Coming Week:

Tuesday, *December 29th:* Boston Society of Medical Sciences (private).

Wednesday, *December 30th:* Auburn, N. Y., City Medical Association; Berkshire District, Mass., Medical Society (Pittsfield).

Thursday, *December 31st:* Cumberland County, Me., Medical Society (Portland).

Friday, *January 1st:* Practitioners' Society of New York (private).

Saturday, *January 2d:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

OBITUARY.

John Christopher Draper, M. D., LL. D.—Professor Draper, a son of the late Professor John W. Draper, died, after a brief illness, on Sunday, the 20th inst., in the fifty-first year of his age. He was a native of Virginia, but was educated in New York, having been graduated from the academical department of the University of the City of New York, and subsequently from the medical department of the same institution. When he had obtained his medical degree, which he did in 1857, he served on the house staff of Bellevue Hospital, and was soon afterward made professor of analytical chemistry in the University of the City of New York. For three years, from 1860 to 1863, he served also as professor of chemistry in the Cooper Institute. Since 1863 he has been the professor of natural history and physiology in the College of the City of New York, and since 1866 professor of chemistry in the medical department of the University of the City of New York. He received the degree of LL. D. from Trinity College in 1873.

Albert Holmes Smith, M. D., of Philadelphia.—Dr. Smith, whose untimely death we briefly mentioned last week, was a native of Philadelphia, where he received his education and afterward practiced his profession. He was a graduate of both the academical and the medical departments of the University of Pennsylvania. After taking his medical degree he became resident physician to the Frankford Asylum for the Insane, in which capacity he served for a year and a half, and then became a member of the house staff of the Pennsylvania Hospital. He began private practice in 1859, and in the same year he was made an assistant physician to the Philadelphia Lying-in Charity. In 1862 he was appointed accoucheur to the Philadelphia Hospital, and the following year physician and lecturer to the Lying-in Charity. He was one of the founders of the American Gynæcological Society, of which he was chosen president

in 1883. He was also one of the founders of the Obstetrical Society of Philadelphia, a fellow of the College of Physicians, and a member of the Philadelphia County Medical Society and of the Philadelphia Pathological Society.

Dr. Smith was an accomplished obstetrician and an earnest and lucid teacher. He was a man of fine physique, and his conscientiousness as well as his amiability raised him high in the esteem of his professional brethren and of the community in which he lived. For more than two years before his death it was evident that his health was hopelessly shattered, and that period was marked by great suffering, which he bore with patient resignation. He was in his fifty-first year at the time of his death.

Letters to the Editor.

THE CHLORIDE-OF-SILVER CELL *VS.* THE GRENET CELL.—A REPLY TO DR. RANNEY.

BROOKLYN, *December 15, 1885.*

To the Editor of the New York Medical Journal:

SIR: In your issue of the 28th ultimo is contained an article by Dr. Ranney upon the worth of the chloride-of-silver battery, which I had recommended so warmly in your Journal of July 18th. Dr. Ranney intimates that he is impelled to write upon the subject because of a feeling of "duty to correct some statements made in that article" (mine) "apparently on insufficient information." I propose, in reply, to make plain that, from the beginning to the end of Dr. Ranney's letter, there is scarcely a statement that is not made on insufficient information, and this not *apparently*, but *indubitably* so. Indeed, so numerous and so crass are the incorrect statements that one is almost led to doubt whether Dr. Ranney has ever seen the battery on which he passes judgment—a doubt to which corroboration is lent by the fact, stated to me by the manufacturer, that Dr. Ranney would not even let him—the maker—show him the instrument.

Dr. Ranney says: "The chloride-of-silver-and-zinc element as the basis of a battery is not new." If the doctor will turn to my article, he will be happy to ascertain that I never said it was. On the contrary, I expressly spoke of this type of battery as being made by Gaiffe, of Paris. I shall also have occasion, in this letter, to convince Dr. Ranney of the worth of one made many years ago by De la Rue.

"Dr. Gray need not have written to foreign countries (as he states in his article that he has done) to obtain much valuable information respecting its rise and fall. The 'chloride-of-silver' battery presented to the profession some years since by the Western Electric Company is practically the same as the one Dr. Gray now extols. True, it had glass cups in place of rubber ones (which cost more), and it lacked some other of the mechanical features described by Dr. Gray, although the latter are but copies or slight modifications of identical devices employed by other manufacturers of this city and Europe. Its excitant was the same, the elements were the same, the cell was practically the same, and the battery was light and easy to handle (the only claim, in my opinion, which it ever had to 'universal recognition'). The battery was sold extensively at first by a reputable firm in this city, and probably equally so elsewhere. This firm finally declined to continue selling it, and I am informed that the Western Electric Company has since discontinued its manufacture. So much for the history of the 'chloride-of-silver battery' in this country from a practical standpoint."

No, Dr. Ranney, this is not all of the history; this letter will carry it up to date:

"WESTERN ELECTRIC COMPANY,
"NEW YORK, *Dec. 1, 1885.*

"DEAR SIR: In regard to Dr. Ranney's article in the "Medical Journal," we would say that he is correct in the statement that we are not especially pushing the sale of the chloride-of-silver battery as a medical battery. The reason he assigns, however, is incorrect. The true reason is that we are not pushing in this city the sale of any medical batteries, because it requires more special attention than we are prepared to give it. We are, however, selling this battery very extensively *as a testing battery, its constancy and durability especially recommending it to well-posted electricians for that purpose.**

"Yours truly,
"WESTERN ELECTRIC CO."

As to the mechanical features of the battery described by me being mere copies or modifications of others, it is only necessary to say that all the details of construction are contained in my article; that Dr. Ranney could have indicated to me wherein they were copies or modifications; that the Patent-Office has regarded them as sufficiently original to grant the maker a strong patent; that the battery as thus made has given greater satisfaction than any previous one of the same kind.

Although it is true that the elements of this battery are the same as in others that have been made, the excitant is not the same. It is here the sulphate of zinc, while in the others it has been some of the soluble chlorides. As this peculiar excitant bears an important relation to the internal resistance, as well as to the durability of the elements, it follows that it is not correct to say, as Dr. Ranney does, that "the cell is practically the same."

"Dr. Gray admits that Mr. Schoth, of Europe, has thus far failed to make a satisfactory battery with this form of cell."

I did not *admit* it—I *stated* it, and very distinctly. I fail to see that this fact has any other importance than that a man in London failed to do what a man in Paris and another in New York succeeded in doing.

"Dr. Gray has tried his own battery but a few months; yet, because it works and is light, he gives it his unqualified indorsement. Is not the conclusion on its face rather a hasty one?"

That depends very largely on who puts on the face. I think that Dr. Ranney has somewhat altered its complexion. We can obtain some knowledge of the original lineaments by the following reproduction of what I actually did say: "The instrument which, as I have already said, I have had in daily use for *some five months, and which has many days been jolted about in my carriage over rough city streets for five or six hours at a time, has maintained its current unimpaired in quantity or quality.*"

Dr. Ranney goes on to inform us that "this type of cell has a low electro-motive force, and generates but a small quantity in the battery Dr. Gray describes."

First, as to the electro-motive force. Niandet—who, as Dr. Ranney will probably admit, is an authority in electrical matters—puts the electro-motive force of the Daniell cell—which, as Dr. Ranney will again admit, is usually taken as a standard—at figures varying slightly from 1 volt to 1·079 volt, according to the density of the solutions used. In the same table, De la Rue's chloride-of-silver battery is given at 1·051 volt. De Watteville—who, as Dr. Ranney will probably not deny, is good authority—states that the Gaiffe chloride-of-silver cell has an electro-motive force "about the same as the Daniell's, 1·03 volt." It is well known to electricians that, in 1873, Mr. Latimer Clark communicated to the Royal Society an account of a cell so ingeniously and delicately constructed that its electro-motive force would not for months show a difference of more than $\frac{1}{1000}$ part

* The italics are mine.

of the whole electro-motive force, and even this infinitesimal difference could be accounted for by an accidental difference of temperature. This would seem to be a good enough standard for any reasonable man. It so happens that Mr. Hamilton, of the Western Union Telegraph Company, possesses some of these Latimer Clark Standard Cells, and the chloride-of-silver cell which I described in my article has been compared with them and found to have an electro-motive of 1·03 +, being thus practically the same as these exquisite Latimer Clark cells.

Second, as to the quantity. An elementary application of Ohm's law would show Dr. Ranney that, through such high resistances as are usually those of the human body, the quantity of electricity which will be carried by any battery will depend very largely upon the electro-motive force employed, and that the size of the plates and the capacity to generate large quantities of electricity have no practical bearing on the result. Only a certain quantity of electricity can be used about the human body, and that quantity is not large, the maximum being about forty milliampères. In the construction of batteries for medical purposes, there is seldom any difficulty about obtaining sufficient quantity, the chief obstacles being the weight, the constancy, and the liability to spill.

We are furthermore told that "the elements are costly, and are not regarded by well-posted electricians as possessing the durability Dr. Gray claims for them. It is true that the silver can be reclaimed (when the fluid is saved after the elements are consumed and subjected to certain chemical processes), but few physicians would go to that trouble for the purpose of saving a few dollars. Dr. Gray estimates that it will cost 'about $8 per year' for repairs. Even at this very low estimate, the battery becomes decidedly expensive. He fails, moreover, to state the first cost of the instrument—so that comparison on that score with the cost of other batteries made by reputable manufacturers is impossible."

1. As to cost. The cost of a fifty-cell battery of this kind, with electrodes and pole-changer, is $65, being about fifteen to twenty dollars more than that of other batteries of the same power. But, in my opinion, this additional cost is more than repaid by the durability, the infrequent recharging, the light weight, and the value of the silver ultimately reclaimed—as I shall soon show—in the chloride-of-silver cells. One might suppose that the same "few physicians" who would disdain going to the "trouble for the purpose of saving a few dollars" would also disdain the additional cost at the outset.

Dr. Ranney states that the silver is reclaimed from the fluid by certain chemical processes. As a matter of fact, the silver is not reclaimed from the solution, but remains in a block of refined metal of exactly the shape into which the chloride of silver was originally cast, and this block can be removed readily by any one with a pair of pinchers, together with the wire which holds it. Does this not make it impossible to avoid the conclusion that Dr. Ranney is grossly ignorant of the cell which he attacks? I have had the silver so remaining in a single cell weighed, and its actual value is fifteen cents, which for fifty cells would be $7.50—about enough to pay for renewal of all these cells after a year or eighteen months' service!

2. As to "well-posted" electricians not agreeing with me as to the durability of the cell.

Gordon, in his standard work,* has a quotation from De la Rue which states that he had been for three years working a battery made of the chloride-of-silver elements "with, practically, a constant electro-motive force."

De Watteville, in his equally standard work on electro-therapeutics, says: * "I am not aware of any other battery which combines to the same extent durability, portability, and efficiency."

Messrs. E. S. Greely & Co., successors to the firm of L. G. Tillotson & Co., of New York, whom Dr. Ranney will probably recognize as well-known manufacturers of electrical instruments, have adopted the battery described by me not only for medical uses, but also as a standard testing battery for such service as depends specially upon constancy and durability. This firm is even arranging to issue a special circular on the subject.

Professor A. K. Eaton, whom all "well-posted electricians" know as a manufacturer of electrical measuring instruments, employs this same battery in "standardizing" or calibrating his meters.

Messrs. George Tiemann & Co. are arranging to keep this battery in stock, and are preparing circulars for a wide advertisement of its merits.

The opinion of the Western Electric Company is contained in the letter given above.

I do not deem it necessary to multiply similar opinions.

"In the third place, great stress is laid by Dr. Gray upon the light weight of the battery (9 to 12 pounds). Personally, I fail to see why a physician who owns a buggy and horse need to care much if a few pounds of weight are or are not dispensed with, provided he can carry the machine easily from the carriage to the house of each patient without assistance."

In the first quotation which I have made above from Dr. Ranney he says, speaking of the battery made by the Western Electric Company, that its lightness and easiness to handle constituted its only claim, *in his opinion*, to "universal recognition." He thus expressed his opinion that a battery might have no other claim than lightness and easiness to handle, and yet be entitled to "universal recognition." Some thirty lines further on, he can not see why lightness—one half of the claim to "universal recognition"—should make any difference! It would thus seem that not only does Dr. Ranney not know the chloride-of-silver cell, but that he has only a bowing acquaintance with his own opinions. But, although the first of these two opinions refutes the last, I would say in addition that, although I am rather of muscular build, there is considerable difference, in my opinion, between the 9 to 12 pounds of the chloride-of-silver battery and the 25 to 30 pounds which other batteries of like size may weigh. A battery that can be carried lightly in the hand is usually preferred by the disinterested to one that causes a temporary lateral curvature of one's vertebral column.

For the Grenet cell Dr. Ranney claims many advantages. Let us examine them in detail.

1. Cheapness of construction.

The Grenet cell *is* cheaper, as I have said; how much cheaper, I do not need to repeat.

2. "A fluid which can be renewed when required at a cost of a few cents."

I have a battery containing 35 Grenet cells, and the actual cost of the necessary fluid for all of them is 75 cents—not a few cents. As this needs to be renewed at least every month, sometimes every two weeks, the annual cost of renewal would be $9 and over, as against $8, after 18 months' service, with the silver cells.

3. "A cell whose elements last a long time, and cost about ten cents each to replace when they at last are consumed by the fluid."

If Dr. Ranney used his Grenet cells much he would find, as I have, that the elements will last about three or four months.

* "A Physical Treatise on Electricity and Magnetism," vol. i, p. 216.

* "Medical Electricity," New York, 1884, p. 61.

4. "A high electro-motive force."

The electro-motive force of the Grenet cell is 1·7 volt. But this is only when the cell is freshly charged, and by work this gradually diminishes until it becomes too low for use. The chloride-of-silver cell, as we have seen, is 1·03 volt, and we have also seen that it is remarkably constant.

5. "A considerable quantity of electricity."

It is not necessary to repeat what we have already said about Ohm's law.

6. "An easy way of overcoming polarization when the battery is in use."

Dr. Ranney seems to have made a new discovery about the Grenet cell. I frankly admit that I do not know what he means by this.

7. "A clean instrument, which, when properly made, will not spill the fluid."

This, when piously examined, is the most remarkable statement of all, for the double reason that it furnishes additional proof, if any were needed, that Dr. Ranney has never seen the chloride-of-silver cell which he attacks, and also because it provokes grave doubt as to whether he has ever closely examined the Grenet cell which he advocates. The chloride-of-silver cell which I described is a glass or rubber bottle, into which is screwed a rubber top. It is therefore tighter than a corked bottle. Into this bottle are put the fluid and the elements, and the wires coming from the elements come through the rubber top. This cell, therefore, does not spill, as Dr. Ranney evidently infers. On the other hand, the Grenet cell is a jar, on the top of which is loosely laid a plate, this plate holding the elements. It can very easily spill. In order to prevent it spilling, some batteries composed of it are so made that the elements can be hoisted up, or the jars can be lowered, and a rubber-covered board or gutta-percha plate is thrust in between the elements and jars thus separated, and held in place by a spring. This board or plate—the so-called "hydrostat"—is, of course, a part of the *battery*, not of the *cell;* and, as can be seen at a glance, is cumbrous as compared with the neat compactness of the silver cell.

8. "The ability to select the cells employed from any part of the battery."

Still more proof that Dr. Ranney has never seen the battery which I described, or else he would have known that to its plates are attached two wires terminating in hollow plugs, and that by these plugs one can select any cells whatsoever.

9. "A simplicity of construction which admits of repair by the physician himself, if he possesses a screw-driver and a pair of pinchers."

To this list should be added a sweet and equable temper, total abstinence from profanity, mechanical ardor sufficient to enjoy a half-hour to an hour's plying of the aforesaid screw-driver and pinchers in the midst of one's office hour or just when one is sallying out on his rounds, or at other opportune moments of life, and also philosophy enough to find amusement in the occasional necessity for sending the battery to an electrical mechanic in spite of pinchers and screw-driver.

Since writing my article in July I have had four months' additional trial of the particular battery which I described, making nine months in all. The battery was then accidentally turned upside down for several hours, and thus injured. The cells were taken out and carefully examined, *and it was found that they were only used up to about one half of their capacity.* The battery would, therefore, have run eighteen months had it not been for the accident.

Nor is my experience a single one. Dr. J. B. Hunter, of New York, now uses this battery exclusively for his work in practice and at the Woman's Hospital, and has just ordered a third one. Dr. J. J. Putnam, of Boston, has been using one for six months, and states that he is well pleased with it. Dr. B. Sachs, of New York, writes me: "I have had the new chloride-of-silver battery in almost daily use for more than five months, and I am extremely well pleased with it. I find that it fulfills all that Mr. Barrett claims for it. It is durable, very easy to manage (if one knows anything at all about batteries), and portable. As I am in the habit of using an absolute galvanometer in all applications, whether for diagnostic or therapeutic purposes, I can safely say that the electro-motive force of these cells has not sensibly diminished in the course of five months." Dr. Charles K. Mills, Professor of Diseases of the Mind and Nervous System in the Philadelphia Polyclinic, reports that he has used the battery for several months with great satisfaction. "Its portability," he writes, "greater than that of any other battery of equal current strength, the absence of corrosion, and the little trouble required in its management, are features of excellence which will serve to make it deservedly popular with specialists and general practitioners."

"Some months ago Dr. Brown, of this city, exhibited, at a meeting of the Clinical Society of the New York Post-Graduate Medical School, the very battery which Dr. Gray now presents as novel. The remarks of Dr. Brown were published, without the cut, in the 'New York Medical Journal' in February, 1885. If I am not mistaken, Dr. Brown had been instrumental in calling the attention of the manufacturer to several of its best features."

The maker informs me that the "several of its best features" suggested by Dr. Brown were—that the handle should be made larger! As the battery was shown to Dr. Brown, as well as to many other gentlemen, after it had been made at my suggestion, I have never understood that Dr. Brown has made any claim to priority in the matter. Dr. Ranney will be glad to learn, however, that, at the time Dr. Brown showed the battery, he incidentally remarked that "this little battery was the best portable galvanic battery he knew of."

"In closing, I would say that the sentence in Dr. Gray's article which impugns the many advantages claimed for the Grenet cell, both by myself and others, for a portable galvanic apparatus, is not in accord (as far as I can learn) with the experience of thousands who are to-day using this form of cell in Europe and this country. It seems to give universal satisfaction when properly managed and cared for."

These remarks are answered, I think, by what I have already said.

I charge, therefore, that Dr. Ranney was entirely ignorant of the chloride-of-silver battery upon which he attempts to pass judgment, because—

1. He did not know what the excitant of the cell was.

2. He did not know that any of its cells could be selected at will.

3. He had not the remotest idea of how the silver was reclaimed.

4. He did not know what the worth of the silver was when reclaimed.

5. He knew nothing of the cell's durability.

6. He did not know that it was impossible to spill the contents of the cell unless the cell were broken.

Incredible as it may seem, Dr. Ranney went so far as to write this: "If I should state in the commencement that I have intentionally omitted this form of cell from the list of those which I have depicted and recommended in my forthcoming work upon 'Electricity in Medicine,' and that I have done so for good and sufficient reason, I must either admit myself to be unacquainted with the progress lately made in electrical de-

vices, or I must prove the soundness of my convictions. I prefer to attempt the latter."

I leave it to my readers to determine whether the "attempt" has been successful. If not, taking Dr. Ranney at his own word—what follows?

I desire to return my thanks to Dr. Ranney for thus affording me a further opportunity of calling the attention of the profession to what I consider to be by all odds the best portable battery as yet made for medical purposes.

Yours very truly,

Landon Carter Gray.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of December 8, 1885.

The President, Dr. Charles McBurney, in the Chair.

Supra-pubic Lithotomy; Suture of the Bladder-wound; Primary Union.—Dr. Pilcher presented a man, twenty-one years of age, upon whom, two weeks ago that day, he had operated for the removal of stone from the bladder by the supra-pubic method, as perfected by Petersen, of Kiel. The patient had suffered from symptoms of stone about nine years. After etherization, a rubber ball having been introduced into the rectum, it was distended with about ten ounces of water, after which nine ounces of a warm solution of boric acid were injected into the bladder through a soft-rubber catheter. The result was to cause a very marked protuberance of the bladder above the pubes, and to make exposure of its antero-superior wall by incision above the symphysis pubis remarkably easy. The wall of the bladder having been exposed, he followed the suggestion of von Antal of making an incision first through the muscular wall of a beveled shape, so as to increase the width of the fresh surfaces afterward to be united by suture. This step having been accomplished without serious inconvenience, the blue color of the mucous membrane of the bladder could be plainly seen by all present in the operating-room of the Post-Graduate Medical School, where the operation was performed. Upon the incision into the bladder being completed, the stone was seized and removed without difficulty. It was of moderate size, weighing 207 grains in its dry state, and was composed of a nucleus of uric acid with an external layer of oxalate of lime, principally, with some triple phosphates. The ease with which the interior of the bladder could be inspected, after removal of the stone, was particularly noteworthy. The posterior wall was clearly visible, and the whole anterior wall was easy of exploration. The catheter, through which the preliminary injection of boric-acid solution had been made, was left *in situ*, to insure continuous drainage of the urine; the wound in the bladder was closed at seven or eight points by fine silk sutures passing through only the muscular and submucous layers. The suprajacent musculotendinous layer was then closed by a running catgut suture, and the subcutaneous tissue was brought together and supported with three hare-lip pins, and finally a superficial line of sutures was placed through the integumental wound. A little cotton, sprinkled with iodoform, was laid upon the wound, and the man was put to bed and did perfectly well. The catheter was removed on the ninth day, and the pins were taken out the day following. On the eleventh day the man went to his home, permanent primary union throughout the whole extent of the wound having taken place without unpleasant symptoms of any kind. It was now fourteen days since the operation.

About fifteen months ago Dr. Pilcher had advised with regard to an operation in the case of a child ten or eleven years of age, in whom, according to his wish, the supra-pubic method was likewise adopted. The operation was performed by Dr. McPhail at the Brooklyn Orphan Asylum. In that case no attempt was made to close the vesical wound, and the supra-pubic wound was left to granulate, while the bladder was drained by a pair of drainage-tubes passing through the supra-pubic wound to the base of the bladder and outward over the pubes and down between the thighs, after the method of Perrier. The progress of the case was as satisfactory as could be expected; granulation took place and the wound ultimately healed, the patient being discharged cured at the end of the third or fourth week.

He thought the case presented had a bearing more particularly upon what seemed to be taking place at the present time—namely, a readjustment of views with regard to the relative merits of cutting and crushing methods for the removal of stones from the bladder.

Dr. Briddon asked Dr. Pilcher whether he objected to the operation of crushing.

Dr. Pilcher replied that he should not object to crushing, yet it seemed to him that under ordinary circumstances such an operation as this was more favorable for the patient. He might say, however, that he had been especially led to do the supra-pubic operation in this case to illustrate to the general practitioners who formed his class what he considered to be the best operation which would be available to those who had not acquired the technical skill necessary to crush a stone in the bladder.

Dr. H. B. Sands thought that it would hardly be proper to allow a case of this sort, successful as it was, to go without an expression of doubt as to the expediency, if not as to the propriety, of removing a stone of the size of the one presented, and which seemed to be friable, by any cutting operation. This patient had certainly recovered very promptly, else he would not have been shown within a fortnight; but it was probably within the experience of most of the surgeons present that, after crushing stones quite as large as this one, and even larger, the patients had been able to leave the hospital in the course of a week. He acknowledged the very great superiority of Petersen's operation in certain cases, but he thought it could not be recommended to the general practitioner as one free from risk. It seemed to him that it was one which would always require considerable skill in order to avoid danger to life, and our experience was not large enough to enable us to recommend it as preferable to one which had stood the test of extensive trial, and had proved to be almost absolutely safe in healthy young adults. As an example of successful operation he would accept Dr. Pilcher's case, but as an example for imitation he would reject it.

Dr. A. C. Post recalled a case in which he performed lithotripsy long before evacuation of the bladder had been introduced, three crushing operations having been performed at his clinic, the patient returning to his home on each occasion, a distance of about nineteen miles. No unpleasant symptoms developed.

Dr. Briddon said that within a few weeks past he had removed a stone by the crushing operation in a man over seventy years of age who had enlargement of the prostate and cystitis of an aggravated character. The operation lasted three hours, and more than six hundred grains of calculous material were removed, yet the man was able to leave the hospital within a week. Eight or nine days ago he performed Bigelow's operation on a man sixty-nine years of age, who left the hospital within a week with relief from his bladder symptoms. But he

thought there was sufficient justification for the operation performed by Dr. Pilcher, for he certainly would prefer to be cut for a stone than to have the stone crushed by a man who was not accustomed to do the crushing operation.

The PRESIDENT asked Dr. Briddon whether he would not consider the first case to which he had referred as specially suited for the high operation.

Dr. BRIDDON replied that he would not want any better result than that obtained by crushing.

The PRESIDENT said that would apply to Dr. Pilcher's case as well, which was altogether of a different character.

Dr. BRIDDON said that if he had cut this man he would have chosen the high operation in preference to the lower one. In such a case the high operation was certainly preferable.

Dr. POST asked if there were not two sides to that question. In case of enlarged prostate with cystitis, did not the low operation afford a fair prospect of relief of the prostatic and vesical difficulty independently of removal of the stone? A number of cases had been placed on record with such a result by high authorities, such as Sir William Fergusson, Mr. Reginald Harrison, Dr. Gouley, and others.

Dr. BRIDDON said that such had not been his experience. If relief followed the operation, it was only of short duration, the symptoms returning with as much severity as before.

Dr. T. M. MARKOE remarked that, after all, there remained a certain number of cases, small to be sure, in which Bigelow's operation was unsuitable by reason of the largeness or hardness of the stone, in which he thought the question as to the advisability of the high operation in preference to the low one fairly presented itself. As to a comparison of the high or low operation with crushing, general surgical experience was decidedly in favor of the crushing operation. But, in cases in which crushing was inadvisable, the high operation as modified by Petersen he regarded as, in certain cases, preferable to any other, and it must be accepted as an admirable contribution to modern surgery.

On Rupture of the Ligamentum Patellæ, and its Treatment by Operation.—Dr. SANDS then read the following paper:

Three forms of injury to the knee are closely allied, by their causes, effects, and principles of treatment. These injuries are: simple transverse fracture of the patella, subcutaneous rupture of the tendon of the quadriceps extensor muscle above that bone, and a corresponding lesion of the inferior division of the tendon, known as the ligamentum patellæ. The experience I have gained in the management of two cases of the last-named accident which have fallen under my observation has led me to a brief study of its literature, from which I have gleaned a few facts of sufficient interest, perhaps, to justify me in bringing the matter to the notice of the society. At the same time, I desire to put on record a number of cases of this injury hitherto unpublished, and to describe an operation for uniting the ends of the divided ligament by suture, which I have performed upon the patient now exhibited before you.

Compared with fracture of the patella, rupture of the ligamentum patellæ is a rare event. Maydl,* whose statistics are the largest I have yet met with, was able to collect only sixty-five examples of the latter form of injury. In this paper I am able to report thirteen other cases treated in the Bellevue, New York, St. Luke's, and Roosevelt Hospitals. In order to form a rough estimate of the comparative frequency of the two forms of injury, I have caused a search to be made of the entire records of the four hospitals above mentioned, and have obtained the following result:

	Fracture of patella.	Rupture of ligamentum patellæ.
	Cases.	Cases.
New York Hospital	150	3
Bellevue Hospital	140	7
Roosevelt Hospital	44	2
St. Luke's	19	1
Total	353	13

A comparison of these figures gives a ratio of about 25 to 1.

The relative infrequency of rupture of the patellar tendon may be ascribed chiefly to its greater strength and thickness, its being less exposed to direct injury, and the great mechanical advantage with which indirect violence often acts in causing fracture of the patella. Thus, as has been remarked, when the knee is bent, and a sudden and powerful contraction takes place of the quadriceps extensor muscle, as in endeavoring to prevent the body from falling backward, the patella is acted upon by two forces, which, as its upper and lower borders are then free from contact with the femur, may cause it to break, in the same manner as a stick may be broken by bending it across the knee.

The remarks I wish to make may conveniently take the form of a commentary upon the cases which have come under my care, or which, as will be seen in the appended table, have been gathered from the hospital records above mentioned. I shall give only my own cases in detail.

CASE I.—Patrick Fitzpatrick, a car driver, thirty-five years of age, was admitted to my department of the Roosevelt Hospital October 19, 1882. Ten years previously his right patella had been fractured by striking his knee against the pole of a truck. Five months later the same accident recurred, the final result being a fibrous union between the fragments, which remained separated a distance of two inches. On the day of his admission into the hospital, while in the act of hitching his horses to a street car, he missed his footing in attempting to ascend the platform, and felt something suddenly give way. An examination detected evidence of an old fracture of the right patella, which had been broken about its middle. The distance between the fragments measured two inches, and the interval was occupied by a broad, thick, fibrous band. In the normal situation of the ligamentum patellæ was found a shallow depression, dependent upon a complete rupture of the ligament, which seemed to have been torn close to its inferior extremity. The patient was entirely unable to extend the leg. Much tenderness and swelling of the knee were present.

Treatment.—Extension of the limb in the horizontal position, with an ice-bag applied to the knee.

October 28th.—Pain and swelling have subsided; vertical suspension of injured limb; rubber bandage to the knee.

November 14th.—Apparatus removed; limb kept extended, and raised on a pillow. The gap below the patella has filled up.

December 3d.—Water-glass bandage applied from ankle to thigh. Patient allowed to walk.

7th.—Discharged from hospital, wearing the splint.

November 21, 1885.—Patient re-examined, three years after the injury. He states that, disobeying the instructions he had received on quitting the hospital, he removed the splint a few days afterward, and began to use the limb more freely. His knee remained stiff, however, until five weeks later, when, in descending a staircase, and being within two steps of the bottom, he imagined he had reached the end, and, putting forward his left foot, a strain came on his right knee, which was suddenly and forcibly bent. Some pain followed, and he thought he was severely hurt; but the next day he discovered that he was better, and that he could readily flex and extend the leg. At present, as he is now exhibited before you, he can flex it a little beyond a right angle, and can make complete extension with some force. He says he is not aware of any difference in the strength of the opposite limbs. Separation of the patellar fragments, two inches; length of the ligamentum patellæ the same on both sides.

* "Zeitschrift für Chirurgie," vols. xvii and xviii, 1882 and 1883.

Evidently, in this case, the rupture of the ligamentum patellæ was due to the severe strain to which it had been subjected by the weight of the body and the forcible contraction of the quadriceps extensor muscle. Whether transverse fracture of the patella usually results from direct or indirect violence is an open question. I agree with those, however, who contend that this injury may generally be traced to the latter cause; and I am sure that the same is true regarding rupture of the ligamentum patellæ. Maydl, in investigating the ætiology of this accident, analyzed forty-four cases, in only five of which the rupture could be attributed to direct violence. Most often it is occasioned by a powerful contraction of the quadriceps, occurring in an attempt to save the body from falling backward; at other times from falling forward or sidewise. Violent flexion of the leg, accompanying a fall from a height, may produce it, and it has been known to occur spontaneously during an attack of convulsions, as also during forced flexion practiced with the object of overcoming an ankylosis of the knee. In the last case muscular contraction can not be concerned in the rupture, which must be ascribed in part to pathological changes in or around the affected joint. Adhesion and fixation of the patella, or rigidity and contracture of the quadriceps muscle, may, by preventing the descent of the patella when the knee is bent, cause the ligamentum patellæ to be lacerated during forcible flexion, either manual or instrumental.

In some of the cases I have collected from our hospital records the agency of muscular contraction in causing the rupture is plainly evident. The case just narrated (10) is one in point. In another case (4) the man, while wrestling, was thrown down, striking the left knee. As he fell, he was conscious that something had given way; and, on trying to get up, he found himself unable to extend the right, or opposite leg. Another man (7) stumbled while carrying a barrel of flour, and, in a violent but unsuccessful effort to save himself from falling forward, heard something snap, and felt his knee suddenly give way, as he came down with his left leg helpless. Another (6), whose heel had been caught between two flag-stones, and who squatted quickly to pick up his hat, felt something give way, and immediately fell to the ground, unable to extend his legs. In this case the rupture occurred on both sides. In Case 13 the man slipped while crossing the street, and did not strike the knee. In Case 12, to be related presently, the injury was certainly due to direct violence, a heavy piece of timber having fallen across the knee. One patient (9) fell from a roof, sustaining fracture of the left thigh and rupture of the left ligamentum patellæ. Here the violence may have been direct, as also in Case 2, in which a sailor fell from a jib-boom a distance of thirty feet, striking his knee; and in Case 11, in which a fireman was buried beneath a falling building, and, on being extricated, was found to have received a fracture of the femur, a rupture of the ligamentum patellæ, and severe contusion of the injured limb. In Case 1 the patient fell from a wharf into the water, striking his knee against a boat. Whether, in the four cases last described, the rupture of the ligament was caused by direct injury, by extreme flexion of the knee, or by muscular contraction, must be a matter of doubt, and in the remaining examples the doubt concerning this point must be still greater. Thus, one man (5), while engaged in carrying a plank, fell upon his left knee; another, who was assaulted by three men and knocked down in front of his lodging-house, struck his knee against the door-step. In Case 3 the patient, while walking, stumbled and fell, striking his knee against the ground. Now, in all these cases, the circumstance that the knee was hit seems to favor the supposition that the rupture was occasioned by direct violence. But it is quite likely that such an inference would be wrong, and that the fall upon the knee may have been the result, not the cause, of the rupture. This explanation is corroborated by the probability that, in all these instances, the extensor muscles were forcibly contracted at the moment the accident happened.

It is well known that rupture of the ligamentum patellæ is far more frequent in the male than in the female sex. I have been unable to find more than five published cases in which females have sustained this injury, and the thirteen subjects whose cases I have recorded were all males. The relative frequency of the accident in the latter may be accounted for by their greater exposure to its exciting causes, and by the greater strength and activity of their muscles.

In one case (6), already mentioned, the rupture took place on both sides simultaneously. Four other cases of this double injury have been recorded—namely, two by Shaw,* one by Gibson,† and one by Hamilton.‡ In three cases (3, 7, 10) the rupture occurred in persons who had previously suffered from transverse fracture of the patella on the same side. In Case 3 the patella had been broken one year previously, and ligamentous union had taken place. In Case 7 the fracture occurred eight months before the rupture, and the uniting band measured two inches in length. In Case 10 the fibrous band was likewise two inches long, while a period of ten years intervened between the fracture and the rupture. I have found elsewhere only four other examples of this singular sequence,# from which, I think, two conclusions may be drawn. The first is, that a fracture of the patella may establish a predisposition to rupture of the ligamentum patellæ. In Flower's case, in which the rupture took place at the patellar attachment, this end of the ligament seemed to have ossified during the repair of the fracture; and to this circumstance he was inclined to ascribe the predisposition. Such could not have been the explanation, however, in Markoe's case (3), nor in the one I have reported (10), as in both of these there was no evidence of ossification of the ligament, which, however, was found to be ruptured at its tibial insertion. In the majority of instances, probably, the essential cause of the predisposition is a weakness of the limb induced by the earlier injury, which renders the individual less able to avoid the accidents that determine the later one. The second inference is, that the fibrous bond of union between the fragments of a broken patella may be able to bear a greater strain than the normal patellar ligament. This may be the fact, even when the uniting band is of considerable length, as in the two cases I have recorded. Additional evidence of the occasional strength of the ligamentous union of patellar fragments is afforded by the numerous examples of refracture of the patella in which the second fracture has taken place through a part of the bone before uninjured. It is noteworthy that, when rupture of the ligamentum patellæ has been preceded by fracture of the patella, the two lesions have always been found to exist on the same side of the body. The longest recorded interval between the two accidents is ten years, in Case 10; the shortest, eleven weeks, in Flower's case.

In seven of the cases I have reported, the seat of rupture is definitely stated. In three it took place at the upper, and in four at or near the lower attachment of the ligament. In two cases a small fragment of the patella was torn off; in one of these it could be distinctly felt, and in the other it gave rise to

* "Trans. of the Path. Soc. of London," vol. v, 1854.

‡ Gibson, "Surgery," 6th ed., vol. i, p. 395.

‡ Hamilton, "Fractures and Dislocations," 6th ed.

Nélaton, "Archives générales de médecine," 1858, p. 704, obs. vi; Flower, "Trans. of the Path. Soc. of London," vol. vii, 1859; Bulley, "Med. Times and Gazette," London, 1864; Zeis, "Archiv. für klinische Chirurgie," vol. vii, p. 755.

occasional crepitus when the ruptured parts were approximated. These results are in accordance with the general rule that the ligament is far less liable to give way in its middle than at one of its extremities, the lower being involved in about 50 per cent. of all cases. The rupture, wherever it occurs, is usually complete; my notes of thirteen cases furnish only a single instance in which a portion of the ligament remained intact.

The symptoms were in every case so plain as to leave no doubt concerning the nature of the injury. In one, the amount of retraction of the patella is said to have been slight; in another, it was two inches; and in all the gap between the severed parts could be distinctly made out. Prominent among the symptoms is inability to extend the leg. So far as I know, this loss of power is absolute when, as is usual, the rupture is complete. In transverse fracture of the patella, on the other hand, it occasionally happens that some power of extension remains immediately after the accident. An illustration of the preservation of this function to a remarkable degree came to my notice a few weeks ago, when a gentleman entered my office to consult me about an injury to his knee, which he thought he had sprained a few hours previously while playing in a tennis-court. In the mean time he had been able to walk, had gone down town to the Stock Exchange, and returned in a street car without suspecting the gravity of his injury, which, to my surprise, I found, on examination, to be a transverse fracture of the patella. The fragments, however, were in contact, and bony crepitus was well marked. We can readily understand why no such exception should ever be met with when the ligamentum patellæ is completely ruptured, since, under these circumstances, nothing is left to transmit the force exerted by the quadriceps except the insignificant aponeurotic attachment of a few of its fibers to the tibia.

The condition of the knee joint was noted in six cases, and in all but one the joint is said to have been distended and painful soon after the accident. Whether, as seems probable in this form of injury, the laceration extends into the joint, and whether the distension of the latter is due to the presence of blood or of inflammatory effusion, are points which have not yet been demonstrated. In any case, the swelling generally subsides, under appropriate treatment, in the course of a week or ten days.

The treatment adopted in most of the cases herewith reported was essentially the same as that usually followed in fracture of the patella, comprising extension of the knee, elevation of the injured limb, cold applications to the joint, and the use of pads, straps, and bandages for the purpose of approximating the ends of the ruptured ligament. As in the case of fracture of the patella, the retraction of the upper end appears to be largely owing to distension of the knee joint with fluid; and, until this has been absorbed or otherwise got rid of, any attempt to force it downward will prove futile, perhaps injurious. In one case (3), in which compresses and light bandages were employed very early, they certainly caused an aggravation of the symptoms, which compelled their removal, and a suspension of this part of the treatment for a period of four weeks. The final result, however, was satisfactory.

As a rule, such treatment as that described is followed by a fair amount of recovery of the functions of the injured limb. I regret that the notes of some of the cases I have collected are so defective regarding the results obtained as to possess little or no value. We know, nevertheless, that the continuity of the ruptured parts is usually restored in the course of six or eight weeks, the knee meanwhile gradually regaining its normal size and shape. Afterward the joint generally becomes movable, and the power of extension returns to a variable degree. Occasionally both the physical and functional results are excellent, as in Weir's case (13), in which, sixteen years after the injury, no difference could be discovered by measurement between the length of the patellar ligaments of the opposite sides, and in which the patient declared that the limb injured was quite as good as its fellow. Such a result, however, is exceptional, and the patella is apt to remain permanently more or less retracted, sometimes to the extent of several inches. Generally, as after fracture of the patella, the impairment of the power of extension bears a direct ratio to the length of the fibrous cord by which the severed parts are united; but this rule is not without exceptions. A case has been recorded in which a lengthening of six centimetres did not prevent complete voluntary extension of the leg; on the other hand, the power of extension may be seriously impaired, even when the uniting medium is short and firm. Here the disability is doubtless owing to some complication or sequel of the rupture, such as chronic inflammation of the knee joint, atrophy of the quadriceps muscle, or adhesions between the opposite surfaces of the upper part of the synovial sac which lies underneath the quadriceps. In such cases, flexion, as well as extension, is usually limited.

It is impossible to determine in what proportion of cases the power of extension is greatly damaged; but the number is larger than one would infer from a perusal of the published reports, in which very inferior results are often put down simply as "cures." We may be sure, however, that, in a certain number of instances in which no union takes place between the ruptured parts, the power of extending the leg will be entirely abolished, and the act of walking rendered impossible without assistance. Hitherto such cases have been treated by some form of mechanical apparatus designed either to prevent the knee from being bent, or to make artificial extension by means of an elastic force; but, so far as I am aware, no attempt has been made to re-establish the function of extension by an operation intended to restore the continuity of the ruptured ligament. Maydl states that, in a posthumous work by Veslingius ("Obs. anat. et posthum."), published in 1740, he found a notice of a case in which tenorrhaphy of the ligamentum patellæ was performed with success. He does not say, however, whether the injury was old or recent, and I have been unable to procure a copy of the work to which he alludes. In the case of the patient now exhibited I operated eight months after the accident, by bringing together the separated ends of the ruptured ligament and uniting them by sutures. The history reads as follows:

Case II.—Charles Kaulbach, a healthy man, forty-four years old, by occupation a rigger, was admitted, under my care, into the Roosevelt Hospital seven months ago, and gave the following history: In September, 1884, a heavy piece of timber fell across his right knee. He was at once disabled, and could neither walk nor extend the leg on the injured side. The accident occurred at sea, and the patient received no treatment beyond confinement in bed on account of pain and swelling of the knee. In December he entered a hospital in Calcutta, where the joint was incised to allow the escape of fluid. He recovered from the operation, but remained as weak as before in the knee, being unable to walk except when he wore a splint applied to the back of the limb in order to keep it straight. When he came under my charge he was still wearing a leather splint, which, although apparently well suited to its purpose, did not render locomotion easy. The gait was slow and unsteady, and the patient, otherwise in good health, was greatly discouraged in consequence of his infirmity, and declared his willingness to undergo any operation in the hope of regaining the usefulness of his limb. On examination, the right knee was found to be tender on pressure, and moderately swollen from an accumulation of fluid in the joint. The patella was displaced upward about two inches; it was freely movable laterally, but could not be drawn down to its normal position. Above, its relations with the quadriceps could be readily distinguished, but below it evidently had no connection with the tibia.

As nearly as I was able to ascertain, the ligamentum patellæ had

been completely ruptured close to its inferior point of attachment, and no attempt had been made to repair the injury. In place of the ligament there was a gap into which the skin could be readily depressed until the fingers encountered the femoral condyles. The power of extending the leg was entirely absent, and the patient, when lying upon his back with his leg extended, was unable to raise his foot from the bed.

On May 19th last I commenced an operation by making a longitudinal incision, six inches in length, in the median line on the anterior aspect of the knee, the center of the incision being opposite the lower edge of the patella. The cut was subsequently lengthened, both upward and downward, until it measured nine inches. On exposing the injured parts, in doing which the knee joint was freely opened, it was found that the ligamentum patellæ had been torn away from the spine of the tibia, which was now covered by only a small amount of dense fibrous tissue—sufficient, nevertheless, to allow a firm hold for sutures. A little more than an inch of the ligament, in good condition, was normally attached to the patella. There was a complete lack of union between the ends of the severed ligament, and a great deal of difficulty was experienced in bringing them together after they had been freshened with the knife. Before the upper end could be drawn down and placed in contact with the lower one, it became necessary to make many deep oblique and transverse incisions into the median and lateral portions of the quadriceps, and, even when this had been done as far as was deemed prudent, considerable force was required to secure apposition, which was maintained by two sutures of stout silver wire, the ends of which were twisted, cut short, bent flatwise, and buried in the wound. The mucous and alar ligaments were found redundant, and were partly removed with the curved scissors. The incisions in the capsule of the joint were closed by catgut sutures, and the external wound was united, except at its upper and lower ends, in the same manner. Two bone drains, one on each side, were inserted into the joint through openings made for that purpose, and one into each extremity of the median incision. During the operation a solution of mercuric bichloride, 1–1,000, was applied freely to the wound, which was afterward covered with iodoform gauze. The limb was next enveloped in a moss-bag, moistened with the bichloride solution, and finally fastened to a long, straight wooden splint, provided with a foot-piece. Previous to the operation the knee and adjacent parts had been shaved, scrubbed several times with soap and water, then washed with oil of turpentine, and finally disinfected with a solution of mercuric bichloride.

The subsequent progress of the case was uneventful, except that, during the first four days, the patient complained of almost constant pain. This was so severe on the second day that I removed the dressing and examined the wound, which, however, showed nothing which would account for the man's suffering. The drainage-tubes were cleared of a few clots of blood, and a fresh dressing like the first was applied. On the fourth day the pain began to diminish, and soon afterward it disappeared altogether. The wound was not dressed again until July 7th, seven weeks after the operation. It was then discovered that the wound had long before healed by primary union, except at its lower angle, where a minute skin ulcer remained, marking the site of one of the drainage-tubes. The wounds made for draining the joint were entirely closed. The patella was movable, as was also the knee joint, but no attempt was made to bend the leg beyond a few degrees. On July 21st the patient was allowed to get up, wearing a water-glass bandage. This could not be worn with comfort, and, a week later, was replaced by a leather splint, with which the patient walked about without much difficulty. He continued to use the splint until October, when he laid it aside. Meanwhile the knee has assumed nearly its natural size and shape, and it is evident that continuity of the ruptured parts has been re-established.

My house surgeon, Dr. George S. Huntington, has, at my request, furnished me with the following precise description of the patient's present condition, which can be verified by the members of the society:

"Measurements.—*Thigh:* Circumference at upper border of patella.—Right thigh, 13¾″; left thigh, 14″. Circumference at junction of middle and lower thirds.—Right thigh, 13½″; left thigh, 15½″. *Knee:* Circumference of knee joint over the patella.—On both sides, 13·9″. *Leg:* Circumference at junction of upper and middle thirds.—Right leg, 12¾″; left leg, 13″. Distance from tip of internal malleolus to lower border of patella.—Right side, 15·6″; left side, 14·4″.

"Functional Result.—A line drawn from the middle of the upper border of the great trochanter to the center of the outer surface of the external condyle is taken as the axis of the thigh. The axis of the leg is represented by a line drawn from the tip of the external malleolus to a point just anterior to the superior tibio-fibular articulation. On the left side, in full extension of the leg, these lines form with each other an obtuse angle of 174°. On the right side, when the patient is in the recumbent position, the amount of voluntary extension is as follows, the axis of thigh and leg forming an obtuse angle of 148°. When the patient is in a sitting posture the amount of extension is increased to 155°. *Passive Motion:* Extension of the leg possible to the normal limit; flexion to a right angle; rotation of the leg the same on both sides."

I will add that, in walking, the patient can easily and completely extend the leg; that for several weeks past he has been able to go up and down stairs without assistance; and that his limb is so steadily gaining in strength and freedom of motion as to warrant the hope of further improvement.

At all events, I think it will be admitted that, in this case, the operation has conferred a great benefit upon him by restoring the usefulness of the limb; and that, in similar cases, suturing of the ligament deserves a further trial. The principal difficulty likely to be encountered when the injury is not of recent date is that of bringing into contact the ends of the ruptured ligament. In my case this was accomplished only after the rectus and the vasti muscles had been extensively scored; and even then the parts could not be brought together without decided tension. I am inclined to believe that the pain the patient complained of during the first four days after the operation was caused by the traction of the sutures, and that it was relieved only when the sutures had cut through and receded far enough to moderate the existing tension. And, although I neglected to note the level of the patella immediately after the operation, its present elevation may be held as proving that the segments of the ruptured ligament separated from each other to a considerable extent after they had been sutured, the gap so formed being now occupied by newly formed ligamentous tissue, like that which, in ordinary cases of this injury, is furnished to repair it.

That which has most interested and gratified me in this and in several other severe operations I have performed in which the knee joint has been involved, is the impunity with which this articulation may be opened, and indeed somewhat roughly handled, provided antiseptic precautions are scrupulously observed. This fact was especially forced upon my attention in a case of old fracture of the patella in which I wired the fragments one year ago in the Roosevelt Hospital. The operation was performed in the usual manner, but the fracture was found to have been comminuted, and the fragments could not be brought into apposition without much difficulty, nor until the quadriceps muscle had been extensively exposed and repeatedly cut in order to obtain the necessary elongation. Meanwhile the bleeding was free, the knee joint was frequently sponged out and irrigated, and the operation was prolonged as well as severe. Yet the patient recovered, without an unpleasant symptom, under the use of a single dressing; and, when this was removed at the end of eight weeks, I discovered that the wound had healed throughout by the first intention, and that neither suppuration nor adhesive inflammation had taken place within the joint, which had a limited range of easy motion. Such cases afford, according to my judgment, indubitable proof of the marvelous improvements in operative surgery which have been wrought by antiseptic methods; and, when I see it stated in a standard American text-book, published only three months ago, that "the alleged superiority of the antiseptic method can not be

said to have been as yet demonstrated," I am amazed at the author's incredulity. Even among those who practice antiseptic surgery, however, some hesitation is occasionally felt about opening the larger joints; and operations involving the healthy knee joint are at present regarded by many with the same kind of apprehension which, not a great many years ago, deterred surgeons from invading the peritoneal sac. The latter procedure is, as we now know, reasonably safe; and I can not doubt that the operation of opening the knee joint is already, when properly performed, far safer. I confidently anticipate the time when skillful and careful surgeons will be able to divest it of all danger, either to life or to limb; and, whenever this period arrives, our time-honored but clumsy, tedious, and uncertain methods of treating both fracture of the patella and rupture of its ligamentous attachments may well be abandoned in favor of some form of operation calculated to secure an immediate union of the divided parts.

Dr. R. F. Weir exhibited the patient treated in St. Luke's Hospital for rupture of the ligamentum patellæ, who was referred to in Dr. Sands's paper. The accident occurred in 1869. The patient, a man aged forty-seven, while crossing the street, slipped and fell, but did not strike the knee. The rupture resulted apparently from his attempts to save himself from falling. He was taken immediately to the hospital. The patient was recently looked up, and, when asked, in the absence of a written history, upon which side the accident occurred, said the left; but he had since thought over the matter a good deal and was unable to say positively whether the right or the left leg was affected. The result was a remarkably good one, both as to function and as to physical appearances. The patient could

Case.	Hospital.	Age and Sex.	Date	Observer.	Side of rupture.	Cause.	Condition.	Treatment.	Results.
1	New York.	32; Male.	1844.	....	Right	Fall from a wharf into water, striking knee against a boat.	Joint much swollen; rupture at patellar insertion, carrying away a minute fragment of bone; patella not much retracted, and easily brought down.	Leeches, poultices, low diet; at end of ten days, pads and straps.	Firm union. Discharged "cured" at end of four months.
2	New York.	26; Male.	1854.	Watson	Right	Fall, thirty feet, striking knee.	Rupture of ligament just above tibial insertion; joint distended and painful.	Extension, cold lotions; crutches after four weeks.	Discharged "cured" at end of two months.
3	New York.	32; Male.	1859.	Markoe.	Left.	Slipped and fell, striking left knee.	Marks of fracture of patella sustained a year previously; fragments united by ligament; patellar ligament ruptured at tibial insertion; joint greatly distended and painful.	Single inclined plane, evaporating lotions, compress and bandage, which had to be removed on account of pain; reapplied four weeks later.	Discharged eleven weeks after accident, with firm union.
4	Bellevue.	60; Male.	1870.	Hamilton.	Right	While wrestling was thrown on left knee, and felt something give way. On attempting to get up he was unable to extend right leg.	Ruptured ligamentum patellæ.	Plaster-of-Paris bandage; figure-of-eight bandage to knee.	
5	Bellevue.	40; Male.	1874.	....	Left.	While carrying a plank, patient fell, striking left knee.	Complete rupture of ligament. Patient unable to stand or to extend leg; no pain or distension of joint.	Plaster-of-Paris bandage day after accident; renewed three times, and finally removed at end of six weeks.	Ligament united to tibia; knee somewhat stiff when patient was discharged eight weeks after injury.
6	Bellevue.	50; Male.	1874.	Wood.	Both.	Patient, whose heel had been caught between two flagstones, squatted quickly to pick up his hat, felt something give way, and fell to the ground helpless.	Each patella retracted from rupture of ligament; any extension of legs absolutely impossible.	Commenced seven months after injury. Posterior splint, figure-of-eight bandage.	Left hospital a fortnight after admission. Result not known.
7	Bellevue.	22; Male.	1874.	....	Left.	Patient, while carrying a barrel of flour, stumbled, and made a powerful effort to save himself from falling forward; heard something snap as he fell; found left leg helpless.	Signs of old fractured patella (eight months previously); firm fibrous union, 2 inches in length; immediately below the patella a groove corresponding with the ruptured ligament.	Posterior splint.	
8	Bellevue.	52; Male.	1878.	Stephen Smith.	Left.	Was knocked down, striking knee against door-step.	Much swelling and effusion in joint; rupture of ligament close to its attachment to patella.	Posterior splint, ice-bag; afterward figure-of-eight bandage, and traction with adhesive plaster.	Patient discharged with stiff knee eight weeks after injury.
9	Bellevue.	10; Male.	....	....	Right	Fall from a roof.	Fracture of left femur; rupture of right ligamentum patellæ incomplete, a few fibers only remaining intact.		
10	Roosevelt.	35; Male.	1882.	Sands.	Right	Slipped while getting on a street-car, and felt something give way.	Marks of old fracture of patella; fibrous uniting band two inches long; ligamentum patellæ ruptured near its tibial insertion.	Ice-bag; extension, at first horizontal, afterward vertical; rubber bandage.	Recovery, with useful limb.
11	Bellevue.	34; Male.	1884.	Dennis and Bryant.	Left.	Buried beneath a falling building.	Rupture of ligamentum patellæ; fracture of lower third of femur; severe contusion of limb.	Double-inclined plane for thirteen days; Buck's extension, twenty-five days; plaster-of-Paris bandage, six weeks.	Two years after injury patient has a stiff knee, with the leg extended; flexion easy to the extent of 5–10 degrees, where it is suddenly checked, apparently in consequence of adhesion and condensation of the quadriceps at the seat of fracture. Ligamentum patellæ reunited and firm, being lengthened only half an inch; patella movable laterally, but not downward; contraction of quadriceps causes no tension of ligamentum patellæ.
12	Roosevelt.	44; Male.	1885.	Sands.	Right	Blow from a heavy piece of timber.	Eight months after accident, power of extension entirely lost; patella retracted two inches; a depression in place of ligamentum patellæ, which seems to have been ruptured near tibial attachment.	Joint opened; ligament sutured.	Six months after operation, power of extension regained sufficiently to enable patient to walk with ease.
13	St. Luke's.	47; Male.	1869.	Weir.	Left.	Slipped while crossing street; did not strike his knee; walked, with assistance, twenty or thirty feet after the accident.	Rupture of patellar ligament.	Limb extended in plaster-of-Paris splint for six weeks.	Began to walk soon after removal of splint. Sixteen years later (1885), injured limb as good as other. Ligament same width and length as other by measurement.

use one limb as well as the other. Dr. Weir was unable to detect any difference in the appearance or length of the two patellar ligaments. The man was treated in the hospital about a month with a plaster-of-Paris splint. He then went home, and, by incautious walking, got up a synovitis and was confined to his house for another month.

Dr. Weir said four cases of rupture of the ligamentum patellæ had come under his notice, the first being during his interne service in the New York Hospital, and probably the one reported by Dr. Sands as occurring in that hospital under the care of Dr. Markoe. The second was the one narrated to-night. The third occurred in a gentleman from the West, treated at the Sturtevant House. The result was uncertain as to function, as he was treated only three or four weeks, when he went to his home, but union had taken place satisfactorily. The fourth case, which, however, did not properly belong to the class referred to by Dr. Sands, occurred in a case of stiffness of the knee joint supposed to be due to fibrous ankylosis of the patella, and in which an attempt was made to practice *brisement forcé*, with the result, not of fracturing the patella, but of rupturing the ligamentum patellæ. It healed promptly. Dr. Weir further reported that within the past two weeks he had been consulted by Dr. Loring, of Valparaiso, Ind., about the case of a woman, sixty-five years of age, who fell and sustained a rupture of the ligamentum patellæ on the left side from muscular violence. The gap was now of the breadth of a hand, and the limb was incapacitated except with the use of a posterior splint which enabled her to get about by the aid of crutches. The case was additionally interesting as having occurred in a female. Dr. Weir thought it was not generally enough recognized that the ligamentous band uniting the fragments of a fractured patella was frequently stronger than the bone itself.

Dr. Weir remarked that it had been suggested, as a means of overcoming the distance between the fragments of a recently fractured patella, to fracture the thigh bone; might this not be resorted to as a last measure in certain instances, where an operation was required, when the scoring of the quadriceps muscle would not permit the approximation of bony fragments in fracture of the patella, or of the tendon ends in rupture of the ligamentum patellæ?

Dr. L. A. Stimson said that the creation of a gap in cases of rupture of a tendon at its lower end was not produced solely by contraction of the muscle, as of the quadriceps femoris, but was produced in part, as in Dr. Sands's case, by retraction of the ligament itself. This had been observed constantly after fracture of the patella, and it was one of the reasons why it was so difficult to obtain union without a gap after that accident. Fracture of the thigh would not overcome a gap due to that cause.

The President would suggest the substitution of division of the patella for fracture of the thigh bone in certain cases for overcoming the gap, trusting to the well-known facility of formation of a ligamentous band to unite the divided patella. This procedure might be resorted to in some cases in which the separation was great and could not be overcome by division of the muscle.

Pott's Fracture at the Ankle.—Dr. Stimson presented a specimen illustrating a common fracture, but one in which we seldom had an opportunity to obtain the injured parts for study. The patient was sixty years of age, and sustained Pott's fracture at the ankle from a fall apparently caused by a cerebral lesion. He died three days after admission to the hospital. The characteristic deformity of the fracture was present, and crepitus was much more marked than usual. At the autopsy the fracture was found to be very oblique, beginning in front, an inch and a half above the tip of the malleolus, and extending upward and backward more than two inches. The internal lateral and lower tibio-fibular ligaments were ruptured, and the outer malleolus was displaced from a half to three quarters of an inch outward from the tibia. There was no fracture of any other part.

Miscellany.

The Mitral Cardiac Murmurs.—The study of the mitral cardiac murmurs at the present time is of importance to every medical practitioner, as well as of interest to those whose attention is especially directed to the diseases of the heart. In an able article in the January number of the "American Journal of the Medical Sciences," Dr. Austin Flint reviews our existing knowledge of these murmurs. He holds that there are four mitral murmurs—namely, (1) the systolic regurgitant, (2) the systolic non-regurgitant or intra-ventricular, (3) the presystolic, and (4) the diastolic. Each of these four murmurs has distinctive characters which individualize it. Two, three, and even all four may be combined in the same case. This statement, as will be seen, applies to the systolic regurgitant and to non-regurgitant murmurs. The names post-diastolic and post-systolic, proposed by Hayden, seem to the author unnecessary refinements, and, therefore, objectionable. If the reader would stop to reflect upon the inquiry whether the mitral murmurs offer topics for consideration and discussion of sufficient interest and importance to occupy the thirteen and one half pages which Dr. Flint devotes to them, let him refer to that portion of the elaborate and able work on diseases of the heart, by Hayden, which treats of the cardiac murmurs. He will there find a statement of the defects in our existing knowledge, together with differences of opinion in regard to the number of the mitral murmurs, their characters, their significance, and the modes of their production, which must convince him that they afford scope for an article extended much beyond the limits to which the author restricts himself. In fact, the object of the article is to present certain conclusions and suggestions without attempting to consider the subject comprehensively and fully.

On the Dilatation and Hypertrophy of the Heart which are not produced by Changes in the Valves.—That all the examples of cardiac hypertrophy and dilatation which we meet with in practice are not due to valvular lesions is a proposition which every one will admit. That attention has been called to such non-valvular cases by a number of authors is evident to any one who reads medical literature. And yet the recognition of these cases and their treatment have not become matters of ordinary practice. Dr. Francis Delafield (*Ibid.*) has been led, therefore, to group together the cases of cardiac dilatation and hypertrophy not due to valvular disease; to subdivide the group into its appropriate classes, and to state the characteristics of each class. Under the heading of dilatation of the ventricles occurring without discernible cause, Dr. Delafield gives sixteen clinical examples. Most of the patients were males, and many of them young adults. The invasion of the symptoms was sudden in seven cases, gradual in five, and in three was not stated. The disease ran in some cases an acute, in others a chronic course. In his own cases the shortest period was twenty-four days, the longest fifteen months. The heart's action was irregular and feeble, the physical signs of dilatation were evident; in some of the cases there was a systolic murmur, in others none. The dyspnœa was in most of the cases a marked symptom. Dropsy was developed in the more protracted cases, but not in those of shorter duration. The urine was diminished in quantity, the specific gravity being from 1·010 to 1·026; there was no albumin present, or but very little. The dilatation regularly involved both ventricles, and hypertrophy was the exception. The lungs, liver, stomach, spleen, and kidneys regularly presented the condition of chronic congestion which belongs to marked valvular lesions of the heart. The course of the disease was from bad to worse, and even the symptoms were but little alleviated by treatment.

The Theory of Bronchial Asthma, viewed in the Light of the Pathology of Hay Fever.—Hay fever occurs in winter or spring; some-

times it occurs at sea, or in the heart of a great city; sometimes, when no pollen can be found in the air, it arises after a full meal, or in the middle of the night; sometimes it appears almost instantaneously under the influence of intense light, the heat of a great fire, the odors emanating from certain localities, plants, and animals, some particular place or position occupied in driving, or from emotions and vivid ideas. In an able and suggestive paper (*Ibid.*) Sir Andrew Clark points out that in these and in all like cases there are clearly two main factors at work, a certain local or constitutional predisposition, and some immediately acting excitiug cause. That some such predisposition exists is plainly proved from the fact that the exciting agents which produce the malady in one class of persons entirely fail to produce it in another; and that these excitiug agents, in their relations to the persons acted upon by them, are in a remarkable manner specialized seems also proved by the circumstance that the emanations from a stable, which in one person provoke a severe attack, produce in another, liable to hay fever, no sensible effect. And of the persons subject to this disease, it must be said that they are not always affected in the same manner by the same agent; for sudden intcuse light which may bring on an attack at one time will quite fail at another; and so we are compelled to conclude that the organism, or some particular part of it, varies so much in its conditions that its relations to its euvironments are capable, without seusible structural alteration, of becoming completely changed. When we inquire into the family and personal history of an individual subject to hay fever we shall discover as the prominent point in it that the patient and his people are more or less "neurotic." There may be found among members of the patient's family the disease of which he is himself the subject, gout, such skin troubles as urticaria and eczema, migraine, neuralgia, epilepsy, and no inconsiderable sprinkling of pulmonary disease. But that which will be found the most widely, and will connect them all, will be a sensitive, an irritable, aud an unstable nervous system. In a scries of propositions the author sets forth what he regards as the teaching of a study of hay fever coucerning the pathology of bronchial asthma, holding that it is a neuro-vascular trophic disease, and has its roots in a special vulnerability of the respiratory mucous membrane, of the respiratory nerve-centers, and of certain portions of the sympathetic.

Notes toward the Formation of Clinical Groups of Tumors.—Mr. Jonathan Hutchinson, of London (*Ibid.*), says that, in his opinion, the time has arrived when it is both possible and desirable to make, for practical purposes, a much more detailed classification of tumors than has yet beeu attempted. Some grouping of the kind is needed, both for purposes of prognosis, and in order that we may lay down good rules for treatment. Such grouping must be accomplished chiefly by observation of external features of similarity, and of resemblance in general tendency. It is these conditions, rather than minute histological differences, which will be of chief assistance to the surgeon; or, perhaps, it may be convenient to have two classifications side by side, the one clinical the other histological, and let the two help each other at all points where mutual help is possible. Mr. Hutchinson does not attempt the ambitious task of presenting an arrangement of new growths based upon their clinical features and like histories. He is, however, so convinced, both of its desirability and of its practicability in the future, that he ventures to offer a few hints and detached memoranda, which may possibly prove helpful toward its attainment at some future time.

Treatment of Intestinal Obstruction by the Force-Pump.—Dr. H. Illoway, of Cincinnati (*Ibid.*), advocates the employment of enemata administered with sufficient penetrating power to pass beyond the ileo-cæcal valve and into the small intestines, and to produce peristaltic action. He advocates the use of the force-pump, and maintains (1) that enemata thus administered are superior to every other method of treatment in the rapidity with which they either relieve the symptoms or clearly indicate the necessity of surgical interference; (2) that they are entirely free from all danger, and in no way prejudice the ease should a surgical operation become necessary.

The Remains of William Harvey.—We desire to again call the attention of our readers to the effort being made for the restoration of Hempstead Church, where Harvey's remains were deposited, and to state that any subscriptions forwarded to us for that purpose will be duly acknowledged and forwarded to the treasurer of the Londou committee.

The New York Polyclinic.—Dr. Henry C. Coe has been appointed instructor in gynæcology, to fill the vacancy occasioned by the resignation of Dr. Clement Cleveland.

The Long Island College Hospital.—Professor A. P. Grinuell, M. D., of the faculty of the University of Vermont, will give the course of lectures on the practice of medicine at the Long Island College Hospital the coming year.

Brown vs. Purdy.—The facts of this case are briefly as follows: In November, 1879, Dr. A. E. M. Purdy was called to see Miss Angelina Brown. On his arrival he diagnosticated small-pox. He saw her later iu the day with Dr. A. S. Purdy, who likewise diagnosticated small-pox. Still later he saw her again with Sanitary Inspector Dr. C. E. Lockwood, whom he had uotified of the case. Dr. Lockwood's diagnosis was small-pox. The patient went or was sent to the small-pox hospital. On her arrival, the house physician, Dr. Bowen, made a diagnosis of small-pox, and so reported to the Board of Health. He subsequently revised his diagnosis and certified that Miss Brown was only suffering from eczema, and told her that she need not remain in the hospital. She voluntarily remained there, however, for some days.

After leaving the hospital she brought suit against the Drs. Purdy, claiming damages to the extent of $10,000. She asserted that the diagnosis made by Dr. A. E. M. Purdy, Dr. A. S. Purdy, and Dr. C. E. Lockwood was incorrect, that she had been damaged to the above-named amount by being sent to the small-pox hospital, and that she was sent there through the agency of the Drs. Purdy.

On the trial of the cause, in November, 1885, in the Superior Court before Judge Ingraham, the counsel for the defendants moved to dismiss the complaint, on the ground that the defendants had not sent the plaintiff to the small-pox hospital, but that the sending of Miss Brown to the hospital was the act of the Board of Health, for which the defendants were not responsible.

His Honor denied the motion, and ordered that the trial proceed before the jury.

The plaintiff on the stand gave a lengthy history of her experiences, and declared that she was not suffering from small-pox in November, 1879, but from the effects of a local irritant that she had applied to the skin.

The defendants testified minutely as to the symptoms and eruptive appearances present at the time of their examination, and declared that they were unmistakably indicative of small-pox.

Dr. Lockwood testified to the same effect, that his opinion was formed independently of the Drs. Purdy, and *that Miss Brown was sent to the hospital in conformity with the rules and regulations of the Board of Health.*

Dr. Austin Flint, Dr. E. L. Keyes, and Dr. George H. Fox testified that, from the recital of the symptoms and the character of the eruption, as detailed by witnesses, Miss Brown was undoubtedly suffering from small-pox at the time referred to. Other physicians were in court prepared to testify to the same effect.

At the close of the testimony the counsel for the defense again moved that the case be dismissed on substantially the same grounds as before, to wit: that it was the Board of Health, and not the Drs. Purdy, that caused the transfer of the plaintiff to the hospital.

His Honor again denied the motion, and in his charge to the jury said in effect that *the defendants had set in motion the machinery* that led to the plaintiff being sent to the hospital.

The jury brought in a verdict of $500 against the defendants.

The features of the case that are important to the medical profession of this State do not hinge on the correctness or otherwise of the diagnosis.

The essential point is whether a physician who complies with the law requiring him to report cases of suspected small-pox thereby becomes liable for any damage arising or claimed to have arisen through the subsequent acts of the Board of Health.

The decision of Judge Ingraham in sending the case to the jury would imply that the physician may thus become liable.

This decision, in accordance with judicial custom, will be considered law until reversed by a higher court.

The case of Brown *vs.* Purdy having been brought to the notice of the Medical Society of the County of New York, that body referred the matter to its *Comitia Minora*, with power. The Comitia, believing that it would be expedient to appeal from Judge Ingraham's decision, provided sufficient funds could be raised, appointed a special committee, consisting of members of the society, for the purpose of raising said funds.

This committee appointed a sub-committee to prepare a brief statement of the facts of the case, and the foregoing is their report.

[Signed] H. G. Piffard,
Daniel Lewis,
P. A. Morrow,
Frederick R. S. Drake,
A. H. Smith,
Sub-Committee.

In the light of the facts, as above stated, the special committee earnestly urge the members of the Medical Society of the County of New York to contribute to the fund now being raised for the purpose of carrying the case to the higher courts. To this fund Dr. A. E. M. Purdy has subscribed one thousand dollars, and Dr. C. R. Agnew five hundred dollars. Other subscriptions of one hundred dollars and under have been received. Additional funds are still needed, and may be sent by check or otherwise to the treasurer of the committee, Dr. A. B. Douglas, 123 East Thirty-sixth Street. Any part of the fund not required will be returned, *pro rata*, when the suit is decided.

By order of the Special Committee.

[Signed] Daniel Lewis, *Chairman.*
F. R. S. Drake, *Secretary.*

The Importance of Mechanical Training to Medical Men.—We are allowed to make the following extract from a letter lately written by Dr. Morris H. Henry, of New York, in answer to an invitation to be present at a meeting held in reference to the Gramercy Park School and Tool House: "I have always felt a sincere interest in the development of every industrial art, and the education and training of boys to manual labor. It is the basis of and incentive to progress and success. In the practice of my own profession, whether in chemistry, experimental physiology, or practical medicine or surgery, this want and absence of early manual training are severely felt when, alas! it is almost too late for their repair to be of good service. A good knowledge and training of the hands—guided by average intelligence—are not yet fully appreciated by a large proportion of those on whom we depend for skilled industrial work. I speak from personal experience. A portion of my early school-days was spent in a school of art. The inspirations and practical advantages of that atmosphere have been of no small benefit to me in the practice of medicine. The labor you have assumed must bear good fruit."

The Physiology of the Bile.—In an article on Ideal Cholecystotomy, etc., published in the "Weekly Medical Review," Dr. Augustus C. Bernays, of St. Louis, says:

"But little is known of the influence and uses of the human bile. We thoroughly understand its chemistry, we know approximately the quantity of the secretion. As good as nothing is known of the use and function of the gall-bladder. We do not know whether it is filled and emptied periodically, or whether the flow is a constant one. I have vainly searched in literature for a statement of the amount of pressure normally present in the bladder or the ducts. In a case where I performed laparotomy on the supposition of cholelithiasis I found the gall-bladder a flabby sac, containing no calculi, and I could squeeze the bile out of the bladder with great ease by compressing the thin normal sac. There was certainly no amount of pressure in this flabby sac. It is certain that the glands in the walls of the bladder secrete mucus. Lawson Tait believes this mucus contains some kind of ferment. The fibrous layer of the gall-bladder contains some muscular tissue. I have found it present in all bladders, but it is very thin and weak. Since the operation of cholecystotomy with the establishment of an abdominal direct biliary fistula has been performed on the human subject, numerous observations and experiments have been made in order to determine the use of the bile to the organism. In a number of cases where these fistulæ persisted for months (seven months in one case), the stools were almost milk-white and the entire amount of the bile dribbled out of the fistula, not the slightest symptoms of disease or disturbed digestion or alimentation could be observed. The administration of calomel, iron, salts, podophyllin, aloes, or rhubarb does not seem to have the slightest effect upon the quantity or chemical constituents of the secretion. No effects have been noticed either after the administration of quinine, morphine, or cocaine. In some cases the patients have gained in weight and health while losing all their bile through a fistula. Tait says there is not the slightest evidence of flatulence and decomposition which are said in the text-books to accompany biliary fistula. After a careful perusal of all the accessible literature on this subject I have come to the conclusion that the bile is almost, if not entirely, as much of an excretion as the urine. Even the much-praised emulsifying power of the bile is probably only an accidental quality, certainly not a necessary one. The trypsin of the pancreas, according to Kuehne, is entirely sufficient to emulsify all the fats that come into the intestines."

THERAPEUTICAL NOTES.

Tartar Emetic in the Treatment of Consumption.—Bucquoy ("Gaz. des hôp."; "Ctrlbl. f. klin. Med.") has been led by a number of successes to recommend this drug anew. At first he gives from a grain and a half to two grains and a quarter in the course of the day, restricting the drink, in order to prevent vomiting. The daily amount is then reduced to three quarters of a grain, and its use is continued, with the result of diminishing the fever, increasing the appetite, overcoming constipation, allaying the cough, and reducing the expectoration. The only contra-indication consists in diarrhœa and intestinal ulceration.

Cotton Root in the Treatment of Uterine Hæmorrhage.—Massini ("Korrespondenzbl. f. Schweiz. Aerzte;" "Ctrlbl. f. klin. Med.") thinks that this drug is to be regarded not only as an efficient substitute for ergot, but as having some advantages over that remedy. Although less prompt in its action, it is more enduring; hence, while it has been used successfully to increase the pains of labor and in uterine atony in the placental stage of labor, its most appropriate field is in gynæcological practice. In two cases of metrorrhagia at the menopause the author observed brilliant results from the use of the fluid extract, two or three teaspoonfuls daily.

Pichi, a Chilian Remedy for Cystitis.—Pichi is the name given in Chili to the *Fabiana imbricata*, a plant indigenous to that country, where it is in great repute in the treatment of urinary diseases, even those due to renal and vesical calculi. Dr. A. Rodiguez ("Diario Médico-farmaceutico"; "Med. Times and Gaz.") thinks it especially valuable in catarrh of the bladder from lithiasis, and in certain tropical affections of the liver. In Rio de Janeiro it has been found useful in several cases of jaundice, dropsy, and dyspepsia from deficient biliary secretion. It has been found to contain a highly aromatic essential oil, a resin, and a fluorescent substance resembling esculin, paviin, and fraxin, which crystallizes in needles.

Iodide of Mercury and Sodium.—Dr. L. Vacher ("Gaz. hebdom. de méd. et de chir.") recommends this double salt for hypodermic use in the treatment of syphilis, according to the following formula:

Biniodide of mercury, Iodide of sodium,	each	1 part;
Distilled water		10 parts.

Dissolve with the aid of heat, and add 190 or 90 parts of distilled water, accordingly as a one-half-per-cent. or a one-per-cent. solution is desired. The maximum dose of the latter is fifteen drops, but smaller ones should be used at first. If need be, the injections may be repeated several times in the course of a day.

Sphacelinic Acid in the Treatment of Rosacea.—At the Fifty-eighth Congress of German Naturalists and Physicians, Dr. Unna ("Dtsch. Med.-Ztg.") reported excellent results in the treatment of uncomplicated cases of rosacea with ointments containing from five to ten per cent. of an extract of ergot that was rich in sphacelinic acid (either that known to the trade as Gehe & Co.'s "extractum secalis cornuti cornutino-sphacelinicum" or an extract prepared by Mielck, of Hamburg).

INDEX TO VOLUME XLII.