SERIAL Historical Collection COPY 1

Columbia University
in the City of New York

College of Physicians and Surgeons

Library

AUG 11 1944 DU

Digitized by the Internet Archive
in 2014

https://archive.org/details/newyorkmedicaljo1186unse

PROPERTY OF THE
WOMANS' MEDICAL COLLEGE
OF THE
NEW YORK INFIRMARY.

NOT TO BE TAKEN
OUT OF THIS ROOM.

25-9 55

THE

# NEW YORK

# MEDICAL JOURNAL.

---

VOLUME I.

---

NEW YORK:

MILLER & MATHEWS, No. 757 BROADWAY.

1865.

JOHN MEDOLE, PRINTER,
4 *Thames Street, N. Y.*

# INDEX TO VOL. I.

# NEW YORK
# MEDICAL JOURNAL,

A MONTHLY RECORD OF MEDICINE AND THE COLLATERAL SCIENCES.

APRIL, 1865.


---

## ORIGINAL COMMUNICATIONS.

### *A Radical Operation for Procidentia Uteri.*


By THOS. ADDIS EMMET, M.D., Surgeon to the State Woman's Hospital.



[Read before the New York Obstetrical Society, December 20, 1864.]


My predecessor, Dr. J. MARION SIMS, after a number of operations in the hospital for the relief of this condition, finally abandoned the different methods recommended for partial occlusion of the vagina.

Where the canal was narrowed by uniting the edges of an ellipse (formed by removing the mucous membrane from the base of the bladder,) a failure generally resulted, except when the vagina was short, as in advanced life.

It was demonstrated, by bringing together in the axis of the vagina two parallel bands, extending from near the outlet to the neck of the uterus, that a great advance had been obtained.

But the relief was only a temporary one. The surface turned in, and gradually insinuated itself sufficiently between the neck of the bladder and the septum thus formed, to reproduce finally the original difficulty.

This was effected, either by crowding the septum backward, or by gradual absorption of the recently united surfaces.

This fact led Dr. Sims, in February, 1858, to commence the scarification near the neck of the bladder, with two denuded surfaces, from a common point, in the form of a triangle, diverging to each side of the cervix uteri. These surfaces were brought together with interrupted silver sutures in the median line. By so doing, the neck was crowded towards the cul de sac, and a fold of the vagina formed in front of the cervix, which effectually prevented any prolapse of the uterus.

Previous to the time of Dr. Sims' removal to Europe, in 1862, we both had operated frequently without the necessity for any modification occurring.

In September, 1862, after three months of great suffering, one of the first patients operated on by Dr. Sims in this manner, presented herself at the hospital for relief. She stated that, during four years, she had been entirely relieved by the operation, when suddenly (while in the act of lifting) she was seized with a persistent tenesmus, greatly aggravated in the upright position.

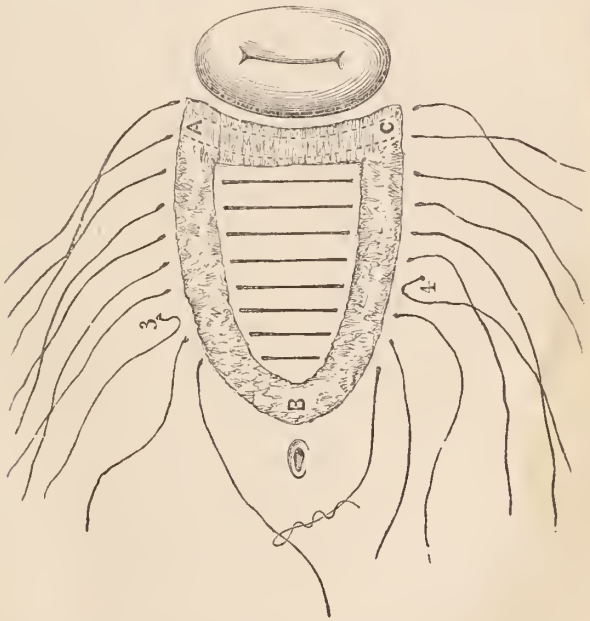
On examination, the line of union was found perfect, with no prolapse of the vaginal wall. But the neck of the uterus had slipped behind the septum into the pouch, thus throwing the fundus into the hollow of the sacrum, and fixing the organ in this position. With great difficulty the neck was disengaged. On returning the uterus to its normal position immediate relief was obtained, and she was discharged without further treatment.

On reflection, it became evident that the occurrence of this accident would be in ratio to the extent of the previous procidentia. The more complete the procidentia from relaxation of the vaginal walls, the greater the pouch resulting from the amount of tissue folded in.

From mal-position, the whole organ (but more especially the cervix) is always greatly hypertrophied. After a restoration to its normal size, the neck being no longer grasped by the fold, the latter would naturally in time override the cervix, and force it into the pouch. Nor could this result be guarded against, although the line of union be extended at the time of operating, so as to crowd the cervix uteri fully into the cul de sac of the vagina.

Impressed with these views, I succeeded in obtaining an examination of two cases, operated on by me some eighteen months before. In both the neck was found entirely behind the septum, but producing no inconvenience, beyond a backache, following any undue exertion. Both had experienced entire relief for a long time, but feared that they were gradually relapsing into their old condition.

In September, 1862, Mrs. C., aged 30, the mother of four children, was admitted to the hospital with complete procidentia of ten years' standing. She had been frequently irregular, and, during the first examination, the attending physician having passed the sound, a miscarriage took place soon after at the third month of pregnancy. On the 10th of October following I proceeded to operate, by removing the mucous membrane from the base of the bladder, in two broad bands, extending from the point B, a little behind the urethra, to A and C, on each side of the cervix, as recommended by Dr. Sims.




The scarified surfaces were then connected from A to C, just in front of the cervix uteri, for the purpose of closing the

pouch; thus forming, when brought together, a firm, unyielding support, and rendering it impossible for the neck to slip behind the septum.

The two sutures nearest the cervix uteri were passed as a running stitch, so as to include as nearly as possible the entire scarified surface of the transverse section. The others, from above downwards, were made to skip over the undenuded triangle, and only to embrace the opposite scarified surfaces. The last one, however, at the neck of the bladder, passed from side to side, including the whole tissue, as at the cervix uteri. Thirteen interrupted silver sutures were used; they were removed on the thirteenth day, and the case discharged cured November 2.

Ten months afterwards she was delivered of a very large child, and had a natural labor. Several months after her delivery I made an examination, and found the organ in a healthy condition, with no trace of the operation remaining in the vagina. By passing a sound into the bladder, and the finger approximated by the vagina, it was demonstrated that the base of the bladder had regained its natural thickness.

On inquiry, I learn that, up to the present time, she is in perfect health, and has continued to follow her occupation as a washerwoman, with no recurrence of the procidentia.

Mrs. P., aged 63, the mother of eleven children, was admitted December 31, 1862, with complete procidentia of twenty years' standing. She was operated on the next day, as in the previous case, using eighteen sutures. She proved very unruly, refused to take any opium, and constantly made the most violent efforts in straining, with the idea that a movement of the bowels was imminent. The sutures were removed on the fourteenth day, a perfect union had taken place, and she was discharged cured February 14, 1862.

Eighteen months after the operation she visited the Institution for examination. It was found that all traces of the operation had disappeared, with the exception of a small fold remaining in front of the cervix uteri. Up to the present time there has been no return of the procidentia.

May 6, 1863, Mrs. H. (the case already mentioned as having been previously operated on by Dr. Sims,) again presented her-

self for relief. It was now impossible to disengage the neck, as the septum had become stretched sufficiently to admit behind it a large portion of the uterus.

May 11, the case having been prepared for the operation, the septum was divided (about two inches in the median line,) from above downwards, sufficiently to extricate the neck. A surface was then denuded in front of the cervix, (from A to C, as shown in the diagram,) connecting the divided edges of the septum. The uterus was then replaced in position, and the surfaces brought together by fourteen sutures. They were removed on the eighteenth day, and the case discharged cured, June 14.

A year afterwards she reported herself well, with a promise to return on any recurrence of the difficulty.

Mrs. C., aged 27, was admitted June 22, 1863. The procidentia was of five years' standing, and complete. Three months after the birth of her only child, the uterus escaped from the vagina, and had never been returned. June 29, the operation was performed, using sixteen sutures. They were removed on the eleventh day, and the case discharged cured, July 20, 1863.

Mrs. W., aged 64, a nurse by occupation, was admitted Nov. 24, 1863. The procidentia was complete, and for many years had been unreduced. It came on immediately after the birth of her only child, at that time about 25 years of age. Thirteen sutures were used; they were removed on the ninth day, and the case discharged cured, December 18.

This patient, in excellent health, reported herself for examination December 15, 1864. As in the other cases, no trace remained of the operation, with the exception of a slight ridge or fold in front of the cervix, and this even could only be detected by means of the finger.

Mrs. O., aged 27, the mother of two children, the eldest being six years of age, was admitted January 5, 1864. A few hours after delivery, she got up for the purpose of washing her clothing. She soon felt the descent of the uterus, but the procidentia did not become complete for six months afterwards. In 1862, she again conceived, and states positively that the procidentia remained unreduced from the first oc-

currence, until the latter months of pregnancy, and recurred immediately after delivery. On admission, the sound passed nearly four inches to the fundus, and the neck was immensely hypertrophied. January 16, I operated, using seventeen sutures. They were removed on the twelfth day, and the case discharged cured, February 14, 1864, with the promise to report herself if any recurrence took place.

Mrs. S., aged 64, admitted January 25, 1864. She was the mother of eight children, the youngest being twenty years of age. On the eighth day after delivery, she got up, and shortly afterwards began to suffer from a partial prolapse, but it was several years before the uterus escaped entirely from the vagina. For five years previous to admission, it had been unreduced, and during that time the necessity always existed for a partial reduction, before the bladder could be evacuated. January 25, the operation was performed, using fourteen sutures. During the night, she got up and walked about the ward for several hours, and continued, in spite of all remonstrance, to follow her own inclination. On the twelfth day, it was discovered that four sutures (near the neck of the bladder) had torn out, and through the gap a portion of the relaxed base of the bladder protruded. The sutures were all removed at the time, and every hope of success abandoned. Before her discharge, it was found on examination that the entire line of union had gradually parted, with the exception of the cross scarification, in front of the cervix uteri. The fold thus formed, (as in a sling) had retained the organ perfectly in place, although below, a cystocele existed. The result was attributed to the fact of her being of a spare habit, with a vagina short, in consequence of her age. I have been informed within a few weeks, that there has been no return of the displacement, and, although partially in her dotage, she continues still to lead an active life.

Future experience must demonstrate how far the formation of this fold can alone be relied on under other circumstances; yet it is evident that in many cases this will prove all that is necessary to retain the uterus in situ. When atrophy of the organ has taken place, and the vagina shortened consequent

upon a change of life, it is believed, after this fold is formed, that no great amount of the vaginal wall can prolapse.

Mrs. D., aged 42, the mother of eight children, was admitted February 8, 1864. On the third day after the birth of her first child (fourteen years previous to admission), she got up, and the uterus came down to the outlet of the vagina at once. Complete procidentia gradually resulted, and continued unreduced, except during pregnancy. A change of life had already taken place some two years previous to admission. The operation was performed February 10, using sixteen sutures; they were removed on the tenth day. The four lower ones were found to have cut out. The surface, however, gradually healed by granulation, and the case was discharged cured, March 1, 1864.

Mrs. P., aged 39, the mother of two children, was admitted April 5, 1864. Four years previous to admission, (while pregnant with her last child,) the uterus remained very low down in the vagina. At the eighth month it partially protruded, and remained in this position until a few hours before delivery. She confined herself to her bed for six weeks afterwards, but immediately on getting up the procidentia became complete. Operated June 12, using seventeen sutures. They were removed on the tenth day, and the case discharged cured July 4.

Mrs. S., aged 41, the mother of two children, (the youngest twelve years of age,) was admitted May 12, 1864. The procidentia had been complete for nine years, but she was able to reduce it herself, and was comfortable by retaining the uterus within the vagina by means of a bandage. The operation was performed May 24, using sixteen sutures, and the case discharged cured June 20 following.

Since October, 1862, I have operated by this method in public and private practice on seventeen cases successfully, and with every reason to believe that there has not been a single recurrence of the difficulty. I have avoided giving the history of any but of those residing in the city or immediate neighborhood, where a frequent examination has been possible, and their exact condition known at the present time. In other cases failure has resulted; but in every instance it was in consequence either of great tension, from including too much

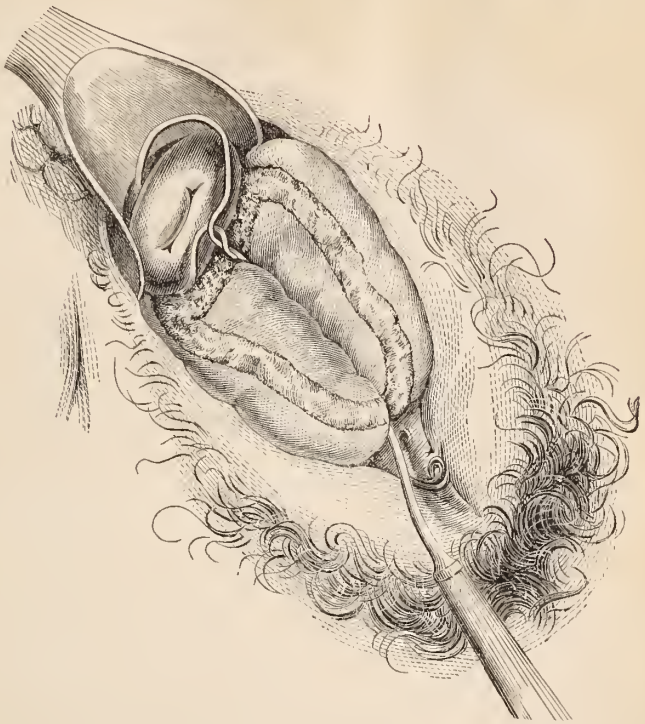
tissue at the time of operating, when the result was often anticipated, or to a want of necessary care on the part of the patient afterwards.

Previous to the operation, if much excoriation exists, it is necessary to reduce the procidentia, and keep the patient in bed for a few days. One or two applications of a weak solution of the nitrate of silver will usually heal any excoriated surface; and large vaginal injections of warm water, night and morning, will be sufficient in a short time to remove the dry and scaly condition of the long exposed surface. If more than this is necessary, after each injection a portion of damp cotton should be used, thoroughly saturated in glycerine, and carefully spread out so as to come in contact with the entire canal, the whole being kept in situ by a bandage. This will, by the watery discharge induced, greatly lessen the congested condition of the blood vessels, and so corrugate the vaginal walls, for the time being, as to afford quite a support to the uterus.

The patient having had the bowels thoroughly moved the night before, should be placed for the operation on the left side, in Sims' position for the operation of Vesico Vaginal Fistula, or uterine examination, and his speculum used.

It is often exceedingly difficult to keep the proper line for scarification, in consequence of the mobility of the parts. The process, however, is greatly facilitated by an assistant, firmly depressing the prolapsed base with a sound, directly in the median line—a resort often made use of by Dr. Sims. But, even when the assistant is accustomed to the operation, the sound will frequently slip to either side of the cervix uteri. This being generally hidden from view, and having no other guide, the scarification will be found deflected. To obviate this, I often bend the end of a flexible plated copper sound, in a circle sufficiently large to slip over the neck as a collar, and again properly curved on itself, so as to keep up the base at the same time. I am now having an instrument made for the purpose of disconnecting the collar from the shaft. After the two sutures nearest the neck have been introduced, the passage of the others would be greatly facilitated by preserving the relative position of the parts until all have been passed.

It can then be disjointed and withdrawn, as a staff, without



difficulty, and the sutures secured. On referring to the plate, it will be observed that the usual pressure exerted by the instrument has been lessened for the purpose of showing its application; by so doing the parts have rolled out, and the scarified surfaces have become proportionately separated. To appreciate the condition represented, it must be borne in mind by those who are not familiar with the position, that the patient is represented as lying on the left side.

It is evident that the sulcus produced by this instrument must be very nearly in the median line, and the cervix held in position at the end of the vagina. Along the edge of the sulcus formed, a broad strip of the mucous membrane should be denuded, extending (as we have shown) from the neck of the bladder to just beyond the cervix on each side. The instrument is then removed, and the uterus drawn down with a

tenaculum, for the purpose of making the transverse or connecting line of scarification in front of the neck.

For removing the mucous membrane, I have been in the habit of using various curved scissors. As the hemorrhage is sometimes excessive, the surface can be thus removed more rapidly than with the knife.

The sutures in the tranverse section should be passed with great care, and as nearly continuous as possible. The surface is too long a one to be embraced by a single needle, so that at each stitch the point must be inserted again near the exit of the preceding one. Otherwise, instead of smooth surfaces being approximated, they will be brought together as by a purse string.

I have had a needle made for use in this operation, as well as for vesico vaginal fistula, short, round, and slightly curved near the point, of different lengths, which experience has demonstrated to be preferable to all others. In this form a punctured wound is made, and with no hemorrhage, as often follows the flat needle, with a cutting edge.

It is well, immediately after the silk loops of the first sutures have been passed, to attach the silver wire and draw them through. From the length of the operation, the silk, from being so long saturated with blood, becomes weakened, so that if the passage be delayed until all have been introduced, it will often break, from the resistance in drawing it through so continuous a line. The remaining ligatures should then be passed in rotation (at an average of four or five to the inch,) each skipping over the undenuded triangular space, until the apex at the neck of the bladder has been reached.

It is worthy of note, that the want of a uniform success in the application of silver sutures, may be attributed to the use of too small a number, the insufficient amount of tissue included by them, and to strangulation. Each suture should be passed as to the points of entrance and exit, as nearly parallel as possible to the previous one. But the same care is not so necessary in relation to the relative distance from the edge of the scarification, provided the sutures are afterwards properly secured. Reference is here made more particularly to this operation; for it is exceedingly difficult always to bring the

point of the needle out, exactly at the same distance from the edge as that of entrance on the other side. Consequently, the amount of unscarified tissue approximated with the denuded surface must be in proportion to the difference, and either no union takes place or to an extent insufficient to be permanent. Before twisting, this may be obviated by bending a shoulder on the suture at the same point as would correspond with that of entrance from the edge, on the opposite scarified surface. This will be more readily understood by reference to the diagram. It will be observed that the sutures (3 on one side and 4 on the other) have been bent in this manner, and what the obvious result would be, if twisted together, without this expedient.

In some cases, from fifteen to twenty sutures are required, with double the number of ends projecting from the vagina; they become tangled together and prove a source of great embarrassment to the operator, long before the requisite number have been passed. Dr. Sims' usual method was to make a number of incisions into the side of a piece of soft wood, and, in rotation, from one end to the other, each pair of sutures were embedded in a separate slit. He sometimes also used a small comb for the same purpose. The facility thus given by some such expedient can alone be appreciated by the operator, as the order is preserved, and each suture remains undisturbed, and until required in turn to twist.

I prefer, however, to pass each wire through a loop made at the other end, as shown in the diagram, by the suture nearest to the neck of the bladder. It is then gently drawn through, until the looped extremity is about the necessary length to twist, and the single end is then passed behind the upper side of the speculum, to the assistant holding it. By passing the sutures from above downwards, each is thus gotten entirely out of the way. It is true that the same order is not exactly preserved. But, by beginning to twist the sutures in turn, from below upwards, each, when needed, can be readily separated from the others by a little traction on the wire, just above its loop.

They should be twisted just sufficiently to approximate the edges, and never in the line by which they have been passed,

or strangulation of the parts cannot be always avoided. Having been grasped by the forceps and drawn firmly over Sims' Fulcrum, they should be bent at nearly a right angle over it, and twisted only up to this point.

They are then to be cut off at about half an inch in length, and bent over flat, alternating to the right and left. This order is of some practical importance, as the sutures frequently become imbedded, and, if not all removed, may become, months afterwards, a source of inconvenience.

After the patient has been placed in bed, the bladder should be emptied. The after treatment is confined to giving opium in sufficient quantity to constipate the bowels, and to regulating the diet with the same view. The urine should be drawn off regularly, and, after the second or third day, the vagina carefully syringed, night and morning, with tepid water.

The sutures are generally removed from the tenth to the fourteenth day, and may be allowed even to remain longer, if a large surface has been turned in. The patient should be confined to the bed for about three weeks after the operation, and the bowels constipated, if possible, for the same length of time. After a dose of castor oil (before a movement of the bowels takes place), it is advisable to throw into the rectum a few ounces of sweet oil or flaxseed mucilage. When it has been deemed judicious to remove the sutures at an earlier day, the same necessity for constipating the bowels no longer exists.

The term " narrowing the vagina," in connection with this operation, is objectionable, as only the surplus tissue is included by the sutures. The vagina is in fact only restored by the operation to its natural size. For if, by accident, the scarification is extended beyond a given point, the tension is so great that the sutures invariably cut out. The only change made from a normal condition, is the formation of a fold in front of the cervix uteri. This, however, gradually disappears, and, as we have shown, (even soon after the operation), offers no impediment to the progress of labor. The parts turned in, being relieved of all tension, retract and become blended

together, so that the natural thickness of the base of the bladder is gradually regained.

By the same principle, cystocele and rectocele, (in fact often but the first stages in procidentia) can be even more readily relieved. The form of scarification, however, is somewhat modified. For rectocele, the form is an ellipse, extending from a point within the fourchette, as far upward as necessary. For cystocele, the scarification is more that of an oval, and should be extended from the neck of the bladder to the cervix uteri.

In presenting this method to the profession, (a natural sequence to the previous labors of others,) it is not advocated that all cases of procidentia should be subjected to this rather formidable operation; for it is a well known fact, that many cases of recent origin recover perfectly by rest in the recumbent position, astringent injections, and other suitable means. But it should be resorted to beyond this point; when the uterus has become hypertrophied, and before it has remained outside of the vagina for years, unreduced; before the vagina has lost entirely its contractile power, through the usual systematic course of stretching by pessaries, each from necessity being larger than the previous one in use. After the condition has become hopeless, all efforts for relief have been abandoned, and the patient has become more or less incapacitated for the performance of her daily duties—in such cases, (so long an opprobrium to the profession,) it is believed that at length a definite result has been gained for this otherwise intractable condition.

---

*On the Reduction of Arsenic from the Sulphide of Arsenic.* By J. C. Draper, M.D., Professor of Analytical Chemistry in the University of New York, and of Natural History in the Free Academy.

There are a number of methods known to chemists, by means of which metallic arsenic can be reduced from its compounds. Of these the process of Reinsch has great advantages over the others on account of its simplicity, but as it can only

be applied to solutions, it has not as yet been employed for the examination of the sulphide of arsenic.

Owing to the fact that ammonia will attack metallic copper, and also possesses the power of dissolving sulphide of arsenic, it can be employed as the solvent, through the intervention of which Reinsch's test can be adopted to the reduction of arsenic from its sulphide.

The method to be followed is very simple and easy of application. The sulphide of arsenic, or the mixture containing it, is to be placed in any suitable vessel, covered with aqua ammonia, and set aside in a warm place and allowed to digest for a few hours. The sulphide dissolves, and the clear liquid is to be separated from the insoluble portions by filtration. Strips of clean bright copper are then placed in the liquid, and the vessel and its contents gently heated. The copper gradually becomes coated with a covering similar to that deposited in the usual application of Reinsch's test.

When the deposit ceases to form, the copper strips may be washed in a stream of water, and dried by pressing them gently between folds of blotting paper. Two or three should then be placed in a narrow test tube and slowly heated in a spirit or gas flame. Before a red heat is reached, the black coating on the strips sublimes, and being oxidized by the air in the tube, recondenses as arsenious acid, forming the characteristic ring of diamond like-crystals.

In following the above or any other process for detecting arsenic in medico-legal examinations, the greatest care must be taken to ascertain the purity of all the chemicals and apparatus employed. This is most readily accomplished by conducting an analysis in dumb show as it were. That is, going through with all the operations in the vessels to be used and employing the necessary chemicals, but leaving out the materials to be examined. If we fail to discover any traces of arsenic, the operation is repeated, the substances to be examined being introduced, when if arsenic is found we may feel certain that the substance under examination contained it.

I cannot close this paper without drawing attention to a fact which is not generally known among physicians. It is the pre-

sence of arsenic in considerable quantities in some varieties of flour, and in many vegetables employed as food.

During the past ten years a class of manures, known as the superphosphate, have come into very general use among farmers in Europe and in this country. These superphosphates are prepared by the action of sulphuric acid on common phosphate of lime—sulphate of lime and superphosphate of lime being formed.

The sulphuric acid employed is made to a great extent from various classes of pyrites, which often contain arsenic in large quantities, so that arsenic usually exists in the commercial sulphuric acid, and consequently in the superphosphates.

Plants grown in soil manured by such arsenical superphosphates also contain arsenic, as has been shown by analyses, and the man who subsists on such plants, grain, or vegetables, is of course introducing day by day small quantities of arsenic into his system, and we must be prepared to find it in the tissues of such an individual.

From the above it is evident that the discovery of arsenic in the muscular, osseous and such tissues cannot prove a murder, and the only case in which the discovery of arsenic can without a doubt prove a murder, independently of other evidence, is when it is found in the stomach, intestines, and perhaps in the viscera immediately connected with the digestive apparatus, and does not naturally pre-exist in the flour and other articles of diet before they have been prepared as food.

---

*Sulphuric Ether versus Chloroform.* By F. D. Lente, M. D., Cold Spring, N. Y.

Is it justifiable to use a remedy which has undeniably killed its hundreds, when we have an equally efficient one, with ordinary care, perfectly safe?

This is a question which should force itself upon the attention of every medical man who has occasion to use anesthetics in surgery; it is a question of vital interest to his science and to his patients; it is a question which, I presume, any man would unhesitatingly answer in the negative; and yet a majority, per-

haps, of surgeons are still risking the lives of their patients with chloroform, when they have, in sulphuric ether, an agent which has been *proved* to be equally efficacious, and which is admitted to be almost, if not altogether, perfectly safe. The question as to its safety, and the statistics bearing on the point, may be found fully discussed in an article furnished by me to the April (1861) number of the *American Journal of the Medical Sciences*, and in the Report of the Committee of the "Boston Society for Medical Improvement," published soon after, and need not be again canvassed now. As regards the proofs of its efficacy, it is only necessary to point to the hospitals in this country, but especially in Italy, where no other anesthetic is used, and where immunity from pain is as perfect as elsewhere. But especially would I beg attention again to the statistics of the Mill Creek Military Hospital, Fortress Monroe, published by me in the June 28 number of the *American Medical Times* for 1862. There, the quantity administered was reckoned by drachms, not by ounces, and the time one to two minutes. These results were witnessed, with considerable astonishment, by many military surgeons, and by some of the ablest civil surgeons and physicians in the country, some of them by the late Surgeon-General of the Army. Therefore their authenticity cannot be questioned. I have subsequently, also, in the same Journal, published, from my private practice, equally successful and not selected cases, duly authenticated by well known medical men. Therefore, this fact I regard as settled—that a patient may be brought under the influence of sulphuric ether as quickly as he can safely by chloroform, and with a quantity costing less, and weighing but little more than the requisite amount of the latter: the objection, then, sometimes raised by army surgeons, of increased trouble of transportation, is not tenable.

If any one doubts this fact, after referring to the statistics above alluded to, *I will agree to go to any hospital where a large number of operations are being performed, and demonstrate it to the satisfaction of the opponents of ether*. To be the humble means of preventing some of the sacrifice of life which is almost daily occurring, from the use of chloroform in surgery, would warrant a much greater sacrifice of time and trouble than this.

The recently published report of the Royal Medical and Chirurgical Society of London, adverse to the employment of sulphuric ether, and the recent occurrence of so many additional cases of death from *chloroform poisoning*, have forcibly recalled my attention to this subject, and, at the risk of a charge of egotism, induced me to make the offer which I here repeat; in other words, that is, to guarantee to get a number of patients, in any hospital, under full anæsthesia with sulphuric-ether in as short a time as can safely be done with chloroform, and with a quantity not exceeding an average of two ounces and a half, the average time two minutes and a half. The average time and quantity would probably be less in the ordinary run of hospital cases, (not more than half as much in cases of considerable debility, and after hemorrhage or insufficient nourishment, as in many cases in military surgery.)

I close this article by quoting the "remarks" appended to a fatal case of chloroform poisoning, published in the last number of the *American Journal of Medical Science*, and by referring to another case of recent occurrence, not yet published in a medical journal that I am aware of. "*Remarks.*—This case presents several points of interest. The drug was administered by a medical officer, five others being present, and it is unnecessary to say that due care was observed to guard against accident. Only a few weeks before, the anæsthetic had been given to the same individual in a much larger quantity, a fact which, in connection with the absence of visceral lesions, proves that there was nothing to contra-indicate the employment of the agent." These "remarks" are but a repetition of what we remark in every similar case, namely, that due care has been used, and that no human skill can enable us to foresee or prevent the dangers of chloroform; can further comment be necessary? A former patient of mine, a young and gallant Colonel of one of our regiments, died recently in a neighboring village, of chloroform, administered, I believe, for the performance of some trifling operation.

*On a Case of Apoplexy of the Spinal Gray Substance attended with Convulsions, with Pathological Examinations and Remarks.* By M. GONZALEZ ECHEVERRIA, M.D.

In the study of Pathology two sciences are necessarily involved, and they refer respectively to the living and dead organism: the one of these sciences is Physiology, the other Morbid Anatomy. The one investigates the phenomena of life, and its object is to establish their laws; the other controls or makes the law good by disclosing the relationship between disease and the anatomical elements; for we cannot understand disease without comprehending the alterations or changes in the physical or chemical relations of the organic elements. It frequently occurs, however, that physiological experiments and pathological investigations are incompatible in their results; that the direct observation of the one renders invalid the theories of the other. The discordance is, among other instances, fully illustrated in the unsettled opinion as regards the way in which sensitive and motory impressions are conveyed through the different parts of the spinal cord. Assuredly, the reasons of this discordance need not be insisted upon here. Experimental physiology has unquestionably determined great revolutions in modern medicine; but the fact is, that though practical in its scope, it is liable to become quite speculative from the vastness of the issues in the application of experiments to disease, and very frequently, too, from not availing itself of the important assistance which Hystology brings to the investigation both of normal and morbid phenomena, and, perhaps, still more to the proper performance of the very physiological experiments themselves.

The following case may serve to throw some light on the functions of the gray substance of the spinal cord, and on the symptoms accompanying its alterations or injuries. The examination of the cord I was compelled to make whilst the organ was in a fresh condition, in order to preserve it for presentation to the New York Pathological Society, where it was shown by Dr. L. A. Sayre, in April, 1864. I regret very much that, after the presentation, putrid softening should have prevented a more satisfactory microscopical examination of the

structural changes in different sections of the cord, submitted to previous maceration in chromic acid.

P. R., aged 18, of slender but well developed form, enjoyed uninterruptedly good health to January, 1863, when he was attacked with rheumatism extending to all the joints. His parents were both living: the father had chorea when young, and recovered completely from it. The boy was seized with slight imperceptible twitchings, about the 10th of April, 1864, one week before the day I visited him in consultation with Dr. Sayre. Previous to that date, he had only complained, to use his own language, of "*pain in the neck, from too much hanging of the clothes on that part.*" At this time, Dr. Sayre ascertained that there were pain and spasmodic contractions of the upper limbs, produced upon pressure on the back of the neck. There was no fever, no headache, nor any other manifest symptom. The convulsive movements, gradually increasing, became so violent that he took to his bed, and remained there for three days prior to our visiting him in consultation. He retained his intellect perfectly clear, and had no fever during this period, nor did he complain of pain in his head. When we saw him, he was lying in bed, restrained by straps tied to the limbs, which were thrown into constant violent convulsions. The movements were quite involuntary and instantaneous, rapidly succeeding each other, and of similar character to the convulsions of chorea. He could execute every movement of the limbs; indeed, he could move them suddenly, but if he attempted to perform the movement slowly, the power of co-ordination failing, the convulsions occurred. Pinching and pricking were felt in the skin of the trunk and extremities, and he also complained of pain in the back and in the limbs under the straps, the skin being in those parts already bruised by the rough jerking. There was no enlargement or inflammation of the joints, and he did not feel the limbs cold, or numb. He could, with great difficulty, answer the questions during our long examination, evidently showing that the speech was impeded from incapacity of co-ordination in the movements of the muscles of the tongue. There was no trismus. The tongue could be protruded without difficulty, and was moist and clear. Deglutition was impossible from pharyngismus at every at-

tempt to pass anything into the œsophagus. Noise did not seem to exert any influence on the production of the convulsions. The eyes appeared normal, with very slight injection of the conjunctivæ, and no remarkable change in the size, shape, or color of the pupil. Nor did the patient give any sign of photophobia. The countenance was rather pale, with an expression of distress, and the surface of the body was dry and cool, perspiration being only perceptible on the palm of the hands. Respiration was very labored, and restlessness of the patient prevented our ascertaining the rhythm of the pulse, which was nearly made out 21 in about eight minutes, and found very little resisting. The abdomen was contracted and tympanitic, gas escaping from the bowels during the paroxysms; constipation had existed for four days. There was no retention of urine, which was voided shortly before our arrival. The urine was acid, clear and free from albumen or sugar. Crystals of basic phosphates were observed on microscopical examination. There was no erection of the penis, nor its abnormal development produced by the habit of masturbation. The patient had had no food, nor any rest for nearly seventy hours. He had been cupped on the back of the neck.

Under the above circumstances, it was determined to resort to anæsthesia to arrest the convulsions, and when controlled, to sustain the patient by strong beef-tea, stimulants and coffee, and to act on the bowels by a turpentine and castor oil injection. The inhalation of chloroform, applied by Dr. G. Doyle, immediately repressed the convulsions, but they recurred, as soon as the anæsthetic was suspended, with the former intensity. The anæsthesia was begun at 7 o'clock, P. M., and repeated at every threatening of a paroxysm. At 2 o'clock, A. M. the chloroform was withdrawn, it being observed that the pulse was extremely weak and fluttering. During the continuation of the anæsthetic, nourishment and stimulants were given to the patient, as also the turpentine injection. At last, when chloroform had to be discontinued, in consequence of the state of the pulse, the convulsions recurred, abating, however, spontaneously, and being followed by a short period of rest, until 6 o'clock, A. M., when death took place quietly; the patient being throughout in a clear state of mind, and having had a copious passage of

a dark matter shortly before expiring. It was noticed that each succeeding period of rest was longer than the preceding, until death ensued.

Post-mortem examination was made forty hours after death, weather being very cold. Drs. Sayre, Doyle and Winston were present. The subject was lying on the back, and was not emaciated. The *rigor mortis* had already disappeared. The skin on the iliac fossæ had the bluish discoloration of the early stage of putrefaction, over the joints of the limbs, and on the back of the body it was bruised—the epidermis being completely destroyed on the sacral region. Cadaveric congestion was but little marked on the back. The pupils were largely dilated. It was only allowed to examine the cervical portion of the spinal cord, which was laid bare from the occipital bone to the commencement of the dorsal region. On opening the canal the vertebræ exhibited their normal appearance, without any congestion in their osseous tissue, nor morbid growth protruding on the cavity of the canal. The theca vertebralis was firmly adherent to the canal and intensely congested, adhesions being firmer on the upper than on the lower part of the cervical region. The spinal arachnoides was not thickened nor opaque, and adhered to the cord. The spinal fluid was of a red color and not considerably increased. The size of the cord seemed to be normal in the cervical portion, removed from the lower extremity of the calamus scriptorius to the beginning of the dorsal region. The white was found firmer than the gray substance. The inferior surface of section in the removed portion of the cord showed that the extravasation of blood had been limited in that part to the posterior cornua, and to both tractus intermedio-laterales, the anterior cornua appearing scarcely affected. There was a very slight congestion of the white substance, which seemed in nearly a healthy state. At the upper surface of the section, the gray substance was not so much injured, and exhibited a few spots of extravasation, occupying likewise the posterior portions, while the white substance was apparently in a normal condition. On dividing the cord through the posterior median line, apoplectic effusions were found along the gray substance, most of them located nearer to the posterior

than to the anterior cornua, and a few extending upon the whole width of the gray substance. The capillary vessels were to the naked eye increased around these extravasations, of a bright, scarlet, non-coagulated blood. The congestion of the white substance was only marked in some spots near the posterior median fissure. The finger passed through the foramen magnum could detect firm adhesions between the cerebellum and the membranes, and between these and the occipital bone.

On microscopical examination of the white substance, the nerve-fibres, both in the anterior and posterior columns, were found with the cylinder axis in a state of granular disintegration, surrounded by a fine granular amorphous matter, and filaments of connective tissue. The capillary vessels had undergone a granular alteration only in the vicinity of the gray substance, which, indeed, was the part extensively diseased. In this substance, most of the capillaries appeared distended or torn, with their coats granular throughout. The varicose condition of the minute vessels was very plain, when magnified to 100 diam. The gray substance was composed of a connective tissue, filled with very fine granular amorphous matter, containing very few fatty globules, and in some places mixed with crystals of hæmatosine: rarely, there were also spherical nuclei, bearing a resemblance to the *myelocites* described by Ch. Robin, in the gray substance of the nervous centres. None of these were found with the white substance, and most of them were in a state of disintegration. In the specimens here referred to, and which were taken from the substance of the posterior cornua, there were, besides a few broken nerve-fibres, two cells, one of them corresponding by its characters to the ganglionic or sympathetic cells, described by Jacubowitsch, and surrounded by a sheath containing several small nuclei. Both cells were very granular, without any nuclei, and dark from infiltration of pigment granules and of the coloring matter of the blood. Large multipolar cells with similar aspect were found in preparations of the anterior cornua. The conical epithelium of the central canal had undergone considerable disintegration, in most of the places where the central part of the gray substance had not been encroached upon by

the effusion of blood. The alteration in the nerve-fibres and cells in the ganglia of the posterior roots was alike, though in a much less degree, to that of the same elements in the spinal cord. Their capillary vessels were very abundant and enlarged. The vascularity of the membranes was considerable, the vessels being in several places surrounded by lymph infiltrated into the connective tissue. No inflammatory corpuscle was observed in any of the different preparations.

I will not dwell at any length on the share which hereditary and rheumatic influences might have had on the etiology of the case already reported. Neither will I discuss the question whether it should be looked upon as an instance of true chorea. However this may be, it is quite certain, that the apyretic character of the disease, the absence of delirium, hyperæsthesia and paralysis, with the several other symptoms, reject the idea of considering it as a case of spinal meningitis; although, on examination of the cord, a few signs of the early stage of meningitis were detected, but without the usual increased quantity of cerebro-spinal fluid, or the congestion and inflammation, or softening, of the tissue of the cord itself.

Incomplete as it is, the pathological examination, compared with the symptoms exhibited by the case, presents unquestionable value as regards the functions of the two substances of the spinal cord. One fact strikes at once, *i. e.:* the unimportant derangement of the eye with such an extensive injury of the cilio-spinal region. It is true that the lesion was almost limited to the gray substance of the cord, and I do not wish to pronounce upon any interpretation of the phenomenon, which should seem to reveal that the vaso-motory nerve-fibres must ascend in very small number through the gray substance of the cervical portion of the cord. The case furthermore proves, that irritation of the gray substance of the cord does not always produce hyperæsthesia, nor does alteration in this part of the cord and anæsthesia, or paralysis of movement, always accompany each other, as advanced by Dr. Brown-Séquard,* It again contradicts the opinion of the same skillful physiologist, who, in accordance with the above views, states that the

* "Lectures on the Central Nervous System," pp. 124, and following.

transmission of sensitive impressions chiefly takes place through the central gray matter.* The evidence afforded by this case grows stronger, since it agrees with a similar observation recently made by Lockhart Clarke. This great anatomist, with the ability for which he is so conspicuous, examined the spinal cord in a case of paralysis, attended by Dr. Reynolds, and found the gray matter of the cord almost wholly destroyed on the lower part of the cervical region, without the slightest diminution of sensibility in the trunk or lower extremities, and with painful hyperæsthesia in the muscles of the left arm, and none in the right arm, *although equal portions of the central gray substance were destroyed on the right and left sides.* There was, in addition, incomplete paralysis of motion, limited to the left arm, and due to a large indurated mass, surrounded by softening of the substance in the middle of the right cerebral hemisphere, and to softening also of the fornix, corpus callosum, and of the thalamus opticus in the right side.†

It might be supposed that anæsthesia in this, like as in other similar cases, was unnoticed, because the remaining nerve-fibres of the gray substance compensated for the loss of sensibility. Such an opinion, put forward by Dr. Brown-Séquard to explain the rarity of anæsthesia in cases of deep alterations of the cord, requires the previous demonstration of a sphere of action in the nervous force, capable, like that of electricity, of extending itself over a large surface. Indeed, some physiologists admit the fact as probable in the very extremities of the nerve-fibres, when, free from its oily content, the fibre is reduced to the cylinder axis; but were the hypothesis true, such a nervous atmosphere could never be extensive or intense enough to conceal the existence of some local anæsthesia, for reasons too obvious when we consider the arrangements of the nervous elements. It is true, the experiments of Van Deen and M. Schiff, show that even microscopical fragments of the spinal gray substance are capable of transmitting sensitive impressions, yet, it has been proved by observations, recorded by Cruveilhier, Lockhart Clarke,

* Loc. cit., pp. 23 and 130.

† Brit. and Foreign Med. Chir. Review, July, 1864, pp. 200 and following.

and Schiff himself, that under such circumstances the sensation is dull and its perception very slow. And Brown-Séquard, himself, lays it down as a conclusion, that: "anæsthesia in cases of disease of the spinal cord, is a symptom indicating that the gray matter is altered. This conclusion seems to hold good, also, with respect to the loss of each of the various kinds of sensibility." Before coming to this conclusion, he states, "that the nerve-fibres employed in the transmission of each of the sensitive impressions of *touch*, *tickling*, *pain*, *heat* and *cold*, and the peculiar sensation which accompanies muscular contraction, are as distinct one from the other as they are from the nerve-fibres employed in the transmission of the orders of the will to the muscles."* Assuredly, these assertions are not altogether compatible with the preceding theory, by which Brown-Séquard attempts to explain why sensibility is so rarely lost in cases of deep alterations of the spinal cord.

On the other hand, the case wholly confirms the results arrived at by Van der Kolk, who holds that "the gray matter in the spinal cord serves solely for motion, the posterior rather for reflex action and the co-ordination of movements, while sensation is transmitted upwards exclusively through the posterior and lateral medullary columns."†

It is no less important to remark the labored respiration, in connexion with the injury sustained by the tractus intermedio-lateralis in the lower part of the cervical region; tractus which, as demonstrated by Lockhart Clarke, is passed through by the roots of the spinal accessory nerve.

There was, again, a striking similarity between the alteration undergone by the cord, and that resulting from poisoning with strychnine, when, as observed by Van der Kolk and other physiologists, a great congestion and extravasation occur in the gray substance of the cord, with violent convulsions, and neither loss of consciousness nor pain, whilst the medullary or white substance of the cord undergoes very little or no change. Such perfect similarity of cadaveric signs might possibly have awakened the suspicion of this being an instance of poisoning

* Loc. cit, pp. 125 and 130.

† On the Minute Structure of the Spinal Cord and Medulla Oblongata." New Sydenham Society, London, 1859, pp. 77.

from strychnine. However, the gradual development of the disease, its comparatively long duration, the absence of opisthotonos, acoustic hyperæsthesia, trismus, protrusion of the eyeballs, and of the profuse perspiration attending poisoning from strychnine, as well as of the rigor mortis, so long persisting in such cases, could not have given ground to that opinion.

Last, though not the least important point. To what extent did the administration of chloroform favor the congestion and extravasation discovered in the cord? It would, perhaps, be difficult to answer this question, but, it was evident that instead of deriving any permanent relief from the anæsthetic, the spinal cord continued as capable as before its administration of inducing violent convulsive movements, until the exhaustion of its reflex faculty; a fact again disclosed by the liability of epileptics to a renewed attack, when submitted to the influence of chloroform or ether, and decidedly warns against the danger of the indiscriminate use of anæsthetics in the treatment of epileptic diseases.

---

*Case of Myeloid Tumor of the Vertex, coexistent with an Intracranial Tumor.* By F. N. Otis, M.D., &c., *with Notes of the Post-mortem Examination and Histological Appearances presented by the Morbid Growths.* By J. W. S. Gouley, M.D., Demonstrator of Anatomy, University of New York.

Miss E., aged 26, was of healthy parentage, and, though of delicate organization, had enjoyed good health up to February, 1861, when she received a fall on the ice—striking violently upon her elbow. She was not conscious of having received any other injury at the time. At 3, A. M., of the day following she awoke with an *intense* pain in "the top of her head," of a throbbing lancinating character, which continued throughout the day. By night she obtained relief. No further effect from the fall was experienced until about two weeks subsequent, when she discovered a small, firm, circumscribed swelling on her crown, at the point where, succeeding the fall, her pain had been most severe. This swelling, which was painless, increas-

ed gradually until, after a year, it had attained the size of half a lemon. Soon after the appearance of the tumor Miss —— began to suffer with severe pain, confined chiefly to the vertex, of the same character as that experienced immediately succeeding the fall. This pain would continue almost without cessation for two or three weeks, after which for a like period she would be quite free from it.

She had also occasional attacks of numbness preceded by great drowsiness, and a cold creeping sensation succeeded by total loss of the power of motion, sometimes confined to a single extremity and at others involving the entire body. These attacks usually came on at night or after rest in a recumbent position, and generally, though not invariably, were precursors of severe headache. They were always followed by great nervous prostration. At first rare, they increased in frequency as the tumor enlarged, so that by February, 1863, she was seldom free from them more than ten or twelve days, and the tumor had doubled in size within the year. She now began to be much annoyed by tingling, crawling sensations in her face and through the head, after any unusual exertion in writing, reading and singing, but rode daily on horseback with apparent benefit. As time passed, she had frequent dizzy turns, with nausea and sudden flashes, like electric shocks, passing over the entire body, lasting only for an instant, but leaving her much prostrated. The headache, which was always of the *most agonizing* description, came to be referred chiefly to the tumor, though often associated with pain through the temples and other parts of the head. The muscles of the neck sometimes became rigid, and the vision as well as the sense of taste and smell often became very imperfect and continued so for weeks. Sometimes the power of speech would be lost, but she always retained perfect consciousness. These attacks rarely lasted more than an hour or two.

During the last year of her life the tumor increased rapidly in size. By October, 1864, it measured 7 inches in diameter at the base, and 4 inches in height; of conical shape, sensitive to the touch, especially at the base; obscurely moveable, communicating a semi-resilient sensation to the fingers on

palpation. Her general health was good; she slept well, and when free from pain was lively and cheerful.

Oct. 23d, 1864, she was attacked with a peritoneal inflammation, from the effect of which she succumbed on the ninth day thereafter. Exhibiting at no time during the disease any symptoms particularly referable to the head trouble.

The autopsy was made in the presence of Drs. Willard Parker, W. H. Van Buren, F. N. Otis, E. D. Hudson and J. L. Campbell. The body was well nourished, cadaveric rigidity well marked, abdomen very tympanitic; on laying it open, a quantity of very fetid gas escaped. The intestines were glued together by recently effused fibrin, and about a pint of pus was seen in the pelvic cavity; after sponging out this pus, two fœcal concretions, $\frac{1}{4}$ of an inch in diameter and $\frac{3}{4}$ of an inch in length were noticed in the right iliac fossa and in the cavity of the pelvis. The appendix vermiformis was perforated in three places; one perforation half way between its two extremities, the others below that point. A third concretion was seen protruding through the upper perforation; this, on microscopical examination, was found to consist of debris of animal and vegetable matter, starch granules and fat.

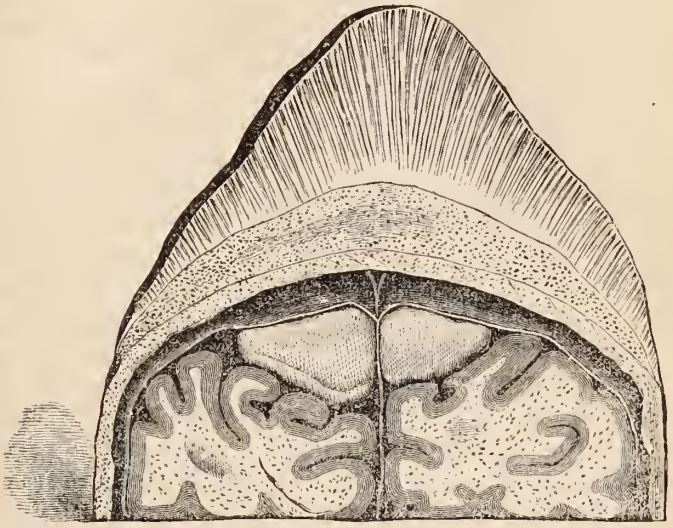
The other abdominal viscera and thoracic viscera were normal.

An incision was made across the vertex from ear to ear and the skin dissected from the tumor, at the apex of which it was found to be firmly adherent; the calvarium was then sawn in a line one inch above the orbital margin around to the occipital protuberance: the hemispheres of the cerebrum were then sliced and the whole raised at the same time.

On removing the two hemispheres, which were adherent above, a tumor $1\frac{1}{4}$ inches in thickness and 3 inches in diameter, of a dull lemon yellow color, a little softer than the cerebral substance, and separated into two lateral halves by the falx cerebri, was seen springing from the central surface of the dura mater. This intra-cranial tumor had insinuated itself in the sulci between the convolutions, and the dura mater could be traced between it and the bones.

The extra-cranial tumor consisted of two portions, the superficial, $1\frac{1}{4}$ inches thick in the centre, was yellowish white, firm and elastic, and presented a fibrous appearance.

The deeper portion consisted of the calvarium, $\frac{7}{8}$ of an inch thick in the centre, and infiltrated with materials similar to those which went to form the growths above described.



The accompanying wood cut, representing a vertical section of the parts from ear to ear, shows the relations of the intra and extra-cranial growths, and also the hypertrophied and infiltrated calvarium. The histological elements of the growths were as follows:

Scrapings of the extra cranial tumor seen under a No. 5 objective and No. 1 eyepiece Nachet, were found to be made up of cells varying in sizes from the 400th to the 1000th of an inch, generally irregular in outline, some having one large nucleus, few with distinct nucleoli; many had from two to twelve small nuclei. The fusiform cells preponderated in the extra-cranial tumor, as also did the fibrous stroma, whilst there was a preponderance of the nucleated cells in the intra-cranial tumor, and very few fusiform cells with hardly any stroma.

The fusiform cells were disposed to curl, and many enveloped the nucleated cells; this was observed in both tumors.

A similar case is very accurately described in Paget's Surgical Pathology, London edition, 1853, page 221, vol. 2d.

Five or six years ago, Dr. T. G. Thomas, of this city, gave

me a specimen of an intra-cranial tumor, spherical in shape and about two inches in diameter, growing by a small peduncle from the smooth surface of the dura mater and compressing the right anterior cerebral lobe.

There was no history attached to the case, as it was found in a subject who died suddenly. The histological elements were the same as those above described.

I saw Miss E, in consultation with Dr. E. D. Hudson, in the summer of 1863, and expressed the opinion that the tumor was a fibroma growing from the pericranium, and that surgical interference was contra-indicated. This opinion was subsequently confirmed by Drs. Valentine Mott, W. H. Van Buren and Willard Parker. The patient informed me that she had consulted a surgeon in a neighboring city, who had explored the tumor with needles, and had advised its removal.

The separate locality of the two tumors, united only by the normal vascular connections existing between the dura mater and cranial bones, is a point of interest in this case. Judging from the symptoms of cerebral disturbance, the intra-cranial growth pressing upon the hemispheres was coëxistent with, if not antecedent to, the external tumor; and both probably owed their origin to the same traumatic cause. Whilst the microscopical examinations of the two tumors demonstrates the identity of their pathological character, it also furnishes an illustration of a law not yet so fully recognized but that every additional fact connected with it is worthy of especial note, viz: the tendency of new growths to assimilate themselves in structure to the organs in the vicinity of which they are developed. Thus, the intra-cranial tumor growing from the dura mater inward upon the cerebral convolutions, presents a soft brain-like consistence—literally encephaloid, and a preponderance in its structure of microscopic cells over the connective tissue element; whilst the infiltrated tissue of the cranial bones, and that portion of the morbid growth outside of these, is harder in consistence and distinctly more fibrous than cellular in its structure.

In the *Transactions of the Medical Society of the State of New York* for 1859, a case is reported by the late Dr. C. E. Isaacs, which presents many analagous features to the one now detail-

ed. The patient, an hostler, was operated upon at his own repeated solicitations, by the distinguished surgeon mentioned, for what was supposed to be merely a fibroid tumor, growing from the upper surface of the parietal and occipital bones. The operation was performed successfully, and the whole mass removed. The base was found to be of the appearance and density of ivory, but it is stated that the external portion resembled the firmer varieties of encephaloid, and consisted entirely of nuclei of cells and of granular matter. The patient died almost unaccountably the next day; and upon *post mortem* examination, a tumor was discovered immediately under the position of the one removed, growing from the internal surface of the dura mater, and divided into two unequal portions by the falx cerebri. This growth was also ascertained to be undoubtedly encephaloid in its character. The facts connected with three instances of apparent fibroid tumors involving the cranium, are thus perceived to be such as militate against surgical interference, for it is seen to be uniformly the case that the malignant disease of the external surface of the skull is attended with the formation of a similar growth within the cranium.

---

PIROGOFF.—*Outlines of General Military Surgery.*—From Reminiscences of the Crimean and Caucasian Wars and of Hospital Practice.—Leipsic 1864, Vol. 1.

[We present the following *resumé* of Pirogoff's recently published work on Military Surgery, knowing the interest his experience will possess for our readers in the Army and Navy. A review of the complete work will appear hereafter.]

While serving as Military Surgeon in Caucasus, and especially in Sebastopol, Pirogoff was surrounded by circumstances of so extraordinary a nature that they will scarcely ever recur, at least in civilized Europe. The French and English reports give us merely an outside view, while Pirogoff's work introduces us into the very midst of that remarkable period. A residence of seven months in Sebastopol during the siege, and an equal length of time on the peninsula, after the surren-

der of the southern side of the city, eminently qualified him for the task. Here, on account of his prominent position and his long and wide-spread reputation for scientific investigation, he acquired an experience which only lacks in completeness, if it lacks in anything, because the material presented was too massive and unwieldy to be either properly appreciated or made fully available. The enormous number of wounded, the frequent want of assistants, the ceaseless ebb and flow of masses of sick and wounded, the constant changes in the surgical staff, want of order in hospital transports, the remoteness from one another of the hospitals, scattered as they were over the seat of war, which extended in some directions from 100 to 120 miles, all conspired to render it impossible to follow up cases, or to institute accurate investigations. Statistical evidence, likewise special and detailed investigations, such as we find in the works of Stromeyer and Demme, are almost entirely wanting.

The work has, notwithstanding, a rare and lasting value, not only as an inexhaustable source of outlines and principles of military surgery, but especially on account of the mature and enlightened judgment of the author, and of the clear discerning spirit that characterizes it. Besides the acknowledgment of his former erroneous opinions, and the exposition of the development of his more enlarged experience, there is found a proper estimation of the works of foreign authors. Among these Stromeyer, Demme, and occasionally Neudorfer, are quoted. A few of the chapters contain references to the author's experiments on lower animals, some of them made a long time since. The practical utility of the work would no doubt have been considerably greater had the author, in the arrangement adopted, disposed of the abundant material in a somewhat more concise, rigid style. We refer, for instance, to the scattered sections upon injuries of the head and chest, and phenomena dependant upon them.

*Hospital Transports.*—The most radical means against the development of contagious and miasmatic affections is to avoid, as much as possible, the use of hospitals in the treatment of wounded, particularly during active service. Small isolated wards arranged for few beds only, are to be preferred to the large wards

of hospitals. In the segregation of infected patients in military hospitals, as well as in military practice generally, the following points demand special attention: 1st. *Ventilation* must be carried out in a very energetic and consistent manner. In the warmer season of the year hospital-tents should be used, and in the winter, apartments are to be heated by means of fireplaces; more perfect ventilation may be secured by occasionally opening windows. 2d. *A perfect separation of attendants, instruments, sponges, lint, and appliances of all kinds must be rigidly enforced.* 3d. *The cleansing of bandages, compresses, etc., should not be left entirely to hospital servants.* 4th. *Surgeons serving in the isolated divisions of the hospital* should be very scrupulous as to the cleanliness of fingers, etc. 5th. *Infected patients*, and those *suspected*, should always be taken away from others, and their bedding removed (Mattresses filled with hay, straw, moss, etc., are preferable to those filled with hair, bed-clothes should be most carefully washed.) 6th. Patients in the isolated divisions of the hospital should not be transported to other divisions, immediately after improvement in their local and general conditions. 7th. The arrangement of latrines demands a most careful consideration. Great importance is attached to the necessity of the surgeon becoming acquainted with the *constitution* of his hospital. The most important part in the management of patients during active warfare, does not consist in medical and surgical treatment, but in the efficient administration of affairs both on the battle-field and in hospitals. The rules laid down by Pirogoff on this subject deserve the most serious consideration. "*The military surgeon is morally bound not to be indifferent to any administrative abuses, since their consequences may be infinitely more detrimental to the welfare of the patients, than strictly professional errors. Neither deference for established rules, nor fear, nor narrow-minded egotism should restrain the military surgeon from asserting the truth, and boldly exposing evil, where the weal of thousands may be concerned.*" The mortality, both absolute and relative, of injuries are not only not diminished by the residence of patients in large hospitals during active hostilities, but are actually increased to an almost infinite degree. It may be confidently asserted that more than half of those

wounded and operated upon in time of war, die, not in direct consequence of wounds and operations, but owing directly to nosocomial diseases. Large hospitals should, if possible, be dispensed with altogether in times of actual warfare, and the selection, distribution and isolation of the wounded promptly attended to. No real benefit for the wounded is generally to be found in hasty recourse to energetic interference on the battle-field, though where danger to life is imminent, prompt measures equal to the emergency are, of course, indispensable. The majority of primary amputations in Sebastopol were performed after a lapse of from twelve to twenty-four hours. In fractures, plaster of Paris dressings afford the best preparation for safe and comfortable transportation.

II. *Traumatic Shock.*—1st. This is presumed to exist where there is *pain, spasmodic action*, or *paralysis* from injury. 2d. In *concussion* of *the brain.* 3d. In the general *benumbing* (torpor) of wounded.

1st. Wounded do not generally feel the wounding as such, but rather a sensation resembling somewhat a shock of electricity—though gun-shot wounds with crushing of the bone are exceedingly painful. The mental state has a great influence upon the result of wounds and operations. In this kind of shock the intensity of the pain and other subjective phenomena afford no positive indication of the extent of solution of continuity; but rather of the amount of a general disturbance, the real character of which may remain wholly unknown to us. We must distinguish between a general and a local traumatic shock. Violent, persistent pain may induce of itself a dangerous nervous exhaustion, tetanic convulsions, and even death. Real traumatic pain is not to be regarded as of slight moment; the treatment required in it, as well as in idiopathic pain, is alluded to.

*Traumatic spasms* and *paralysis* are far less frequent than traumatic pain. Paralysis from local shock can, in all probability, occur without affection of the central organs, and without the slightest apparent change in the nerves.

2d. The occurrence of pure cerebral concussion, *i. e.* without structural change in the skull, the brain or its membranes, is a matter of doubt. Wounds may be accompanied

with a very considerable degree of pressure of the cerebral structures, without notable concussion; though they seldom produce any amount of cerebral commotion, without symptoms of compression. Concussion may be supposed to have existed in those cases in which the improvement and recovery of the patient has been *rapid*. Fullness of the pulse in diseases of the brain is very deceptive; a clear distinction of commotion from compression, from symptoms alone, cannot be arrived at in practice. An important remedy in these mixed symptoms of concussion and compression, is the use of a large transient blister on the scalp. The symptomatology of concussion of the spinal chord is still more uncertain. Its primary treatment consists in iced and arnica lotions, and wet cups; later, in the use of transient blisters, left without dressing, animal and mud baths, Teplitz waters, electricity, etc.

3d. *General traumatic torpor* or *benumbing* is met with most frequently during sieges, after wounds from large projectiles; also after large and severe surgical operations without the use of anæsthetics. The question as to the propriety and time of operating upon patients in this state, can only be determined by a careful consideration of each individual case. Amputations performed during, or after a state of general torpor, show commonly a rapid falling off of the vital forces, slight reaction, rigors, soft and flabby appearance of the wound, and rapidly occurring mephitic gangrene of the stump.

III. *Consequences of traumatic shock.*—Among the consequences of severe local shock, associated with solution of continuity, may be mentioned *traumatic extravasation of blood*, *tension*, *local stupor or insensibility*, and *compression*.

From this chapter, containing much interesting matter, the few following points are extracted. When the diagnosis of fractures of the necks of bones (femur and os brachii) is rendered difficult by articular tension, and by extravasation, the author recommends the use of chloroform, when the nature of the injury may be recognized by the abnormal mobility at the seat of fracture, crepitus, etc. Forcible rotary movements of the broken extremity during anæsthesia, are not thought to be productive of the slightest injury. The immediate application of plaster

of Paris dressing is one of the most efficient means in the treatment of traumatic tension. Primary traumatic tension, whether deep or superficial, does not, as a rule, call for the division of the stretched tissues. Exceptions to this line of practice are furnished by deep seated tension in the cervical regions, threatening suffocation, traumatic extravasation of urine and fæces, as well as primary, rapidly occurring, and highly painful traumatic periostial tension of superficial bones.

The most remarkable feature of *local stupor*, is its rapid and often unlooked for appearance, at once involving the whole limb; death may occur in such cases by the supervention of gangrene. The author recognizes two forms of the so-called "mephitic gangrene." The chief cause of the mortality after amputations for wounds, is to be found in the previous local shock. There is really no treatment for this local insensibility when it once occurs, though prophylaxis is all important. Before proceeding to the energetic employment of antiphlogistics in the treatment of wounds, the military surgeon should always take into view the following circumstances. 1st. *The condition of a hospital at the time, as regards the type of the prevailing diseases*, or in other words, *the constitution of the hospital.* When it is badly arranged, not well appointed, or when overcrowded, etc., the use of cold applications should be entirely given up, or at all events employed with great moderation. 2d. *Race.* Natives of high latitudes, blonde subjects, and those of lax fibre do not generally bear cold applications as well as those of southern latitudes, brunettes, and spare subjects. Those disposed to rheumatism do not tolerate well the use of ice. 3d. *Climate, season*, and *meteorological conditions.* 4th. *Prevalent epidemics* and *miasmatic diseases.* 5th. *The kind, locality, and nature of the traumatic shock.* In general it may be laid down as a rule, that local depletion and cold applications, in military practice, are suitable in injuries of the head and abdomen, without exception, and frequently in those of the neck and chest, also in certain cases of the upper extremities; while in injuries of the lower they should never be made use of, or at least only in exceptional cases. 6th. *The appearance of wounded surfaces, complications, and the different stages of the healing process.* Thus the employment of cold applications may be

serviceable during the period of granulation, with healthy suppuration, in consecutive hemorrhage of parenchymatous structures, etc. 7th. *The feeling of the patient.*—Pirogoff in military practice, almost always prefers the use of wet cups to that of leeches. The use of moist warmth in injuries, requires most careful consideration of all the facts in each individual case.

IV. *Traumatic compression.*—The author here distinguishes three classes of phenomena; primary, secondary and tertiary, or those of reaction.

*Cerebral compression and laceration.* Pirogoff advances on this subject some very novel views; he assumes for the cerebral mass a general expansion, as well as compression. The brain and its membranes are kept in a state of constant equilibrium, from the reciprocal effect of turgescence and compression. The expansion is in part due to the very active circulation of the pia mater and power of rapid exudation, and partially to the peculiarities of the intra-cranial venous circulation. The pressure on all sides is greater here than in any other organ of the body, and is effected by means of dense membranes (serous and fibrous) and the cranial wall. The vascular membrane of the brain, (pia mater,) like the cerebral substance itself, is a structure that easily and rapidly becomes turgescent. It, the pia mater, as well as the brain substance, is subjected to a constant compression from all sides by the other three enveloping structures. The cerebral mass, when it, together with the elastic skull, is subjected to a strong, but gradual compression, will bear a great deal, even more than the cranial wall itself; not however without *interstitial separation* of its molecules. On the contrary, it cannot withstand violent and sudden vibrations, however imparted to it. If its tendency to expand is temporarily suppressed, it speedily returns with increased intensity. The interstitial separations which the brain thereby suffers, augment this tendency.

It is in vain to seek for an essential distinction in the symptoms of concussion, compression, and contusion of the brain; the clinical treatment turns chiefly upon the question whether the material, visible lesion is progressive or not; accumulations of pus, for example, increase, render the parts tense, and can

only be arrested in their extension by prompt evacuation. The diagnosis of compression is the more difficult, since we know nothing definite of the functions of the various parts of the brain, the degree of their resiliency, and the part played by the blood-vessels in this disturbance. Anything that suspends consciousness may produce the phenomena of compression, whether it be toxæmia or extravasated blood, congestion or anemia, pus, a foreign body, depressed bone, and even laceration of the brain. Pirogoff divides the more serious injuries of the head, in military practice, into four series.—The indications for *trephining* are tolerably limited, and the operation is almost regarded as tentative. If the presence of pus is detected, trephining becomes imperative. The only indication for the prophylactic performance of the operation is the visible presence of a foreign body within the skull, the patient being fully conscious.—Out of ten cases of trephining only three were successful.

*Traumatic encephalitis* has never been met with by the author; he therefore entirely denies its existence, and assumes in its stead only a congestion of the brain, which sooner or later attends every serious injury of the head. He also regards a diagnosis of cerebral abscess impossible.

In reference to the *general treatment of injuries of the head*, the following principles may be laid down: 1st. As a rule, frequent local depletion is preferable to general. 2d. In using general depletion, the fact should never be lost sight of, that volume and hardness of the pulse in cerebral affection or injuries are very unreliable. 3d. In military hospitals the use of general blood-letting in secondary cerebral symptoms should be reduced to its minimum, if not altogether avoided. 4th. On the contrary, there is no objection to the use of cold applications, (ice-water,) in combating primary as well as secondary symptoms. 5th. When an uninterrupted use of them is unpleasant to the patient, or where anemia and falling off of the vital forces contra-indicate them, the repeated affusion of the head with cold water may be of service. 6th. Absolute rest of body and mind, country air, nutritious but easily digested food, do more to protect a patient with freely suppurating wounds of the head from secondary troubles, than direct anti-

phlogistic treatment. 7th. All stimulating food and drink, violent exercise, exposure to cold, over-loading of the stomach, are to be carefully avoided. 8th. Flying blisters over the entire head, without sustained suppuration of the blistered surface, are among the indispensable means to be used against meningeal œdema and exudation, either actual or threatened, (in secondary symptoms,) and for relief of long persisting unconsciousness (in primary symptoms.) 9th. Blisters thus applied may be associated with moderate local bleeding, as well as the use of cold applications (over the blister.) 10th. Saline cathartics, such as "Bitterwasser," with small doses of antimony, may be continued uninterruptedly with very good results for weeks, in connection with a nutritious diet, in persons predisposed to constipation; while drastic, powerfully evacuating, and especially metallic cathartics and emetics should be avoided as much as possible. 11th. In secondary symptoms, when they appear with chills, or with anæmia and decline of vital forces, nothing answers so well as quinine. 12th. In peculiar masked forms of disease, occurring sporadically, when they resemble meningitis or a purulent exudation on the membranes, large doses of quinine are to be trusted. 13th. In chronic delirium, after injuries of the head, attended by violent headache and sleeplessness, as well as in masked delirium tremens, appearing with the same symptoms, opium may be confidently used as the sole remedy.

*Compression* from *air*, *blood* and *pus*.—Under this head all possible varieties and conditions of penetrating wounds of the chest are discussed at length. The use of the probe in establishing the diagnosis of this class of injuries is entirely condemned, and the use of the finger approved, if only in cases where it may serve as a guide in removing a foreign body accessible to the touch, or where its presence in the vicinity of the wound may be reasonably suspected. The sources of hemorrhage in penetrating gun-shot wounds of the chest cannot be discriminated; all signs generally received as distinctive are found not to hold good in military practice. The author has met with only two cases of bleeding from the internal mammary artery, and in these ligation was not attempted; one case recovered, the other died of pyæmia. He has never tied

the intercostal artery, and even doubts the danger of hemorrhage from it, if the wound is near the middle or in the sternal half of its course. Compression of the lung from accumulation of blood in the pleural cavity, has the marked peculiarity which distinguishes it from the same effect produced by air, viz., that it endangers life most in its early stage. It is really wonderful how many persons shot through the lungs, now and then rapidly recover, after a fearful loss of blood, attended with great compression of the lungs, and in after life enjoy excellent health. If the wound does not prove fatal from loss of blood and compression of the lungs, the extravasated blood may become absorbed, it may be broken down by suppuration, or it may ultimately become organized. Complications such as the presence of foreign bodies and fracture of the ribs, exercise more or less influence on these changes. The author has never seen nor found recorded a case of gun-shot wound of the chest, in which the ball became encysted. The phenomena of compression of the lungs from presence of pus, or, in other words, the symptoms of empyema are necessarily of a secondary character. All depends, in the first place, upon the diagnosis of the presence, the situation and the character of the pus, and upon the practically important question whether the purulent accumulation is susceptible of absorption, or whether it should be evacuated.

In regard to the treatment of simple penetrating wounds of the chest, Pirogoff says there should be no probing, no sutures, no attempt to hermetically close the wound, which is an impossibility. The simple application of a broad bandage to the chest, and suitable position of the body, which, in fact, is the one the patient instinctively assumes, is all that can be done in compression of the lung from air in gun-shot wounds. Blood-letting and cold applications are only to be used in exceptional cases.

In penetrating gun-shot wounds of the chest, complicated with hæmothorax, experience teaches us, among others, the following facts: In wounds having a course from before, obliquely backwards and inwards, the prognosis on the whole is better than was formerly supposed. It may be assumed as a rule that blood-letting in hæmothorax is much more clearly indicated

and indispensable than in simple pneumothorax. In the earlier stages of the case, syncope, in consequence of loss of blood, takes the place of blood-letting. If, after the pulse again comes up, there is increased compression of the lungs and hæmoptysis, bleeding often becomes necessary, in order to place the patient again for a time in a condition approaching syncope. Applications of ice-water to the entire thorax, which were usually made by surrounding the chest with bladders filled with ice-water, combined with constant use of bits of ice, were found to be more serviceable in hæmothorax than in pneumothorax. Beside absolute rest, acidulated and mucilaginous drinks, and in hæmoptysis the administration of Secale Cornut., gr. ij.; Plumb. Acet., gr. $\frac{1}{6}$–$\frac{1}{4}$; Pulv. Dover., gr. v–vi., is recommended. Wounds were to be left without attempts either to close or enlarge them, and in the early stages to be treated only by the cold applications. Exploration of the wound by means of probes or introduction of the finger, is looked upon as a professional misdemeanor. Since the majority of wounds of the thorax result in fatal pyæmia or empyæma, patients should be sent to the country as soon as their condition will admit of transportation.

After a few words upon the treatment of purulent accumulations in other parts of the body, (abscesses from congestion, &c.,) the author proceeds to the consideration of the effects produced by the presence of solid foreign bodies. Balls may remain in soft tissues, bones, joints, &c., for variable periods, without producing alarming symptoms. While on this subject the author refers to the well-known case of Garibaldi, whom he saw about two months after his injury, and three days after Nélaton saw him, at the end of October, 1862. Without probing anew the wound, he gives a written opinion, founded upon external examination alone, to the effect that the ball still remained in the wound, and was near the inner ankle. (La palla si trova, per quanto se ne può giudicare della esplorazione esterna, più vicina al lato esteriore della articolazione, essendo inchiavata nell'osso.) He advised the General to be very careful in regard to manipulations and examinations of the wound, and to remain quiet until symptoms should indicate

the favorable period for the extraction of the ball, which was scarcely to be expected before the lapse of two months.

The case of Garibaldi, highly instructive in its bearings upon surgical diagnosis, leads Pirogoff to a critical examination of the *indications for manual exploration of gun-shot wounds, and especially of the bones, in search of foreign bodies.* A diagnosis for the purpose of discovering the presence of a foreign body, should be practical in its nature; that is, it should be regarded as preliminary to an operation for the removal of a foreign body, and not merely to gratify curiosity, or desire to ascertain whether it may be a ball or piece of clothing in the wound. The injuries coming under this head are divided into three categories, and in each of these he recognizes three stages. The rule that calls for an early examination of the wound and extraction of the foreign body is subject to very important exceptions. Probing and exploration of every kind of a suppurating wound of the bone, in the vicinity of a joint, for the purpose of detecting the presence of foreign bodies, is justifiable only when it is undertaken as an immediately preparatory step to extraction. Pirogoff, therefore, seeks in the first place to determine as accurately as possible, by careful observation of the symptoms, and a logical appreciation of them, the presence and degree of mobility of the ball. When all of the phenomena have rendered it highly probable that the ball has become loosened, a very careful, gradual enlargement of the track of the wound is to be effected. After the dilatation the finger is the best probe; a strong probe, with a large, smooth, well-formed head, is only to be preferred when the surgeon's fingers are either very *thick* or very *short.* The sounds produced by the striking of a probe against a ball are not too much to be relied upon. Pirogoff gives some very interesting facts upon the *later* effects of balls left in the body; also some facts concerning the change of form which the balls undergo, and the various difficulties from this cause encountered in extracting them. He dissents from the views of Stromeyer and Demme, in regard to the propriety of surgeons occupying themselves too much with the extraction of balls on the field, since these delicate and frequently tedious operations cannot, under such circumstances, generally

be undertaken with sufficient precautions and intimate knowledge of the case.

Very accurate practical instructions are given for the extraction of balls.—Where the wound extends to a great depth, in thick muscular strata and unyielding aponeurosis, as of the thigh, the author recommends sub-cutaneous division of the aponeurosis, whenever the extraction of the ball or exploration for it has involved considerable injury to the parts. For the extraction itself the ordinary dressing forceps, or those that are longer than usual, or even a pair of polypus forceps answer; and the most favorable period for this operation is either immediately after the receipt of the wound or in its secondary stage. When the ball is situated deep in the centre of the posterior process of the os calcis, a partial resection of the portion of bone containing the ball is recommended.

V.—*Solutions of Continuity.—Wounds—incised, contused,* and *penetrating*—effects of wounds of the skin, aponeurosis, muscles, tendons, nerves, the internal organs, (brain and alimentary canal,) joints, bone and cartilage.

*Gun-shot Wounds.*—At Sebastopol the Russians used round balls almost exclusively. The difference between round and conical projectiles lay in the fact that the latter were effective at much greater distances, were less liable to be deflected from a direct course if they struck point blank, and when not too much spent are more apt to shatter the bone. The same condition of things, however, might result from a round ball at close range. The severity of the wound, moreover, is increased *ceteris paribus* by the weight and size of the projectile. Very few instances occurred in Sebastopol of balls passing superficially around any part of the body, and either lodging or passing out at points opposite or near to that at which they entered, without *traversing.* The resistance which the animal tissues offer to the passage of a ball is very unequal, and the greater the inequality the greater the liability of the projectile to be deflected from its course; the more the resistance increases, and the more the rapidity of the projectile diminishes, the greater will be its deviation from a right line.

Injuries occasioned by large balls, splinters of shells, &c., were of frequent occurence during the siege.

*Gun-shot Wounds of the Skin, Tendons, Muscles, Nerves, Vessels, &c.*—Clear and invariable characteristics of the two orifices in gun-shot wounds will be sought for in vain. Gun-shot wounds, though always associated with more or less loss of substance, appear smaller than they really are; incised wounds, on the contrary, are deceptive in their apparent size, which always appears wider than the thickness of the weapon with which they are inflicted. The faciae are only perforated by the majority of projectiles, and do not usually sustain any loss of substance, such as for the most part occurs in gun-shot wounds of the muscles. The phenomena of traumatic shock in gun-shot wounds are referable, as a general rule, to the *nervous system*, and do not manifest themselves so much by pain as through a general and local depression of enervation; a condition, however, which is to be distinguished from general and local benumbing as well as from paralysis; the opposite condition of nervous irritation is more infrequent.

The causes of *local traumatic hyperesthesia* are to be looked for: 1st. In the shock. 2d. In the consequent reaction. 3d. The lodgment of a foreign body in a nerve or its vicinity. 4th. In the nervous irritation dependent on affections of organs standing in sympathetic relations. 5th. In the exaltation of the reflex sensibility of the injured part, effected through the central organs. 6th. In cicatrices.

The author seems to have met with many cases of the so-called "*punctum dolosorum*."

*Wounds of Vessels—Hemorrhages.*—In reference to this subject, cases observed in the Crimean war justify the following remarks: "Hemorrhage of more or less gravity, from recent gun-shot wounds, was of daily occurrence in patients brought to the field hospitals, or while being transported a short distance from the batteries; but none that required ligation of large arterial trunks, and secondary hemorrhage was rare in those cases where severe comminuted fracture indicated primary amputation. No instance of consecutive aneurism was met with." Pirogoff accounts for the relatively infrequent hemorrhage from gun-shot injuries of the large trunks, by the following reasons. The weakness of the heart's action in consequence of the traumatic stupor; a general benumbing

involving the entire system, and a charge in the direction of the circulation—besides a sort of torsion of the coats of the vessels. The rare occurrence of aneurismal trouble may arise from the fact that the opening in the arterial coats generally closes at the same time or earlier than the track of the wound. After stabs, on the other hand, two varieties of aneurism may occur; one pulsating, the other non-pulsating; at least twenty-five cases of the two kinds were observed. In the diagnosis of the second variety the following are important features: decrease of tension when compression of the artery is made on the proximal side of the sac, and a deep, frequently intermittent thrill, sometimes attended with audible sound, at others not.

The wound of the artery and the point at which the hemorrhage appears, do not always coincide. The absence or presence of pulsation in the peripheral end of the artery, demonstrate nothing positive in reference to the integrity of the vessel. Much weight should be attached to the absence of pulsation, as a diagnostic sign, only after wounds from small projectiles, and particularly where the artery can be felt as a firm cord.

*The distinction between arterial, venous and parenchymatous hemorrhage, intermittent hemorrhage, determination of the source of hemorrhage.*—The secondary hemorrhages, so frequent in pyæmia, are due to the morbid condition of the blood. Wounds of venous trunks are not fatal alone from loss of blood, they may give rise to pyæmia, and on this account are even more serious than wounds of arteries.

Better results may be anticipated from the use of the ligature the earlier it is resorted to, and the less temporizing there may have been by employing tampons, ice, bandages, and other such unreliable means, and the smaller the amount of blood lost. Pirogoff advises that all cases of recent arterial hemorrhage, when first seen in military practice, should be divided into three categories: 1st. Those cases in which primary amputation is called for, where there are wounds of both the principal arterial and venous trunks, and comminuted fracture with injury of the chief arterial trunk. 2d. Wounds where the source of hemorrhage can be diagnosticated with tolerable certainty, and the injured vessel more or less superficial; in

which cases the wounds should be carefully enlarged, and both ends of the vessel secured. 3d. Where the hemorrhage is profuse, its exact source unknown, the track of the wound deep, under which circumstances prompt ligation of the arterial trunk, on the Hunterian plan, as the probable source of the hemorrhage, is to be practiced. The early application of ligatures may prevent dangerous consecutive hemorrhages during transportation. Tying the external iliac artery Pirogoff has found to give better results than tying the common femoral. Ligation of arteries in suppurating and sloughing wounds can scarcely be recommended as a rule to inexperienced surgeons, though, when skillfully performed, this operation may, in exceptional cases, produce very satisfactory results. In secondary hemorrhage from traumatic aneurismal sacs the distal operation is unconditionally to be preferred. Pirogoff endeavors to vindicate this practice, which is opposed to the views of Stromeyer and Demme, by a report of eleven cases that came under his observation.

The tourniquet Pirogoff used only in exceptional cases in military practice; torsion was trusted to now and then in bleeding from small vessels. Accupressure he never used, and on the whole does not appear to think favorably of it.

*Wounds of Cavities—Wounds of the Cranial Walls.*—Sutures were never used in any description of wound of the scalp, and attempts of accurate coaptation of the edges of such wounds are condemned. Applications of ice-water to scalp wounds, unless associated with concussion, were not employed, though cold lotions, with infusion of arnica and lead-water, were not omitted in contused wounds, with considerable surrounding extravasation. Bloody tumors of the scalp, even when large and fluctuating, were not opened, except in cases where blood, accumulated under the pericranium, caused great pain and tension, and threatening to run into erysipelas of the head. In gun-shot wounds of the head a careful exploration with the finger usually suffices to determine whether the bone is rough and uneven or bared to any great extent in the course of the wound, and whether the latter contains any spicula or foreign substances. The rule always obtains that every, even seemingly unimportant, gun-shot wound in the cranial bones, un-

complicated with cerebral symptoms, whose precise nature and extent cannot well be made out, requires peculiar circumspection in its management.

*Wounds of the Cranial Bones.—Wounds of the skull* owe their chief danger to injury of the dura mater, which Pirogoff regards as an internal periosteum. In the development of secondary head symptoms, the fracture of the skull, the real injury of the bone *per se*, plays a very subordinate part: the chief sources of trouble are the vessels of the diploëic structure, by means of which the pericranium, bones, and dura mater communicate. They are extensively lacerated and become filled with thrombi. The secondary traumatic ostitis of Stromeyer arises for the most part in the dura mater. The crushing of the brain and not the fracture of the skull proves fatal in gun-shot wounds, and, therefore, we must learn to diagnosticate the first, and not the fracture of the vitreous table. The therapeutics will not, therefore, be determined by the lesion of the bone itself, but by the attendant cerebral and meningeal affection. If no such symptoms exist, the treatment must be only local and preventive. The object of the first is to soften the thrombi in the diplœ and the meningeal veins, and thus obviate congestion of the intra cranial structures; that of the second, to ward off all irritation and tension of the detached and contused pericranium and meninges. General and local antiphlogistic measures are therefore indicated in fractures of the skull, and all other injuries of the head, though they should be resorted to in a very guarded manner in military hospitals. Venesection to the extent of from 5 to 7 oz. practiced early, local depletion, cold applications, rigid diet, but no calomel. The best way to prevent suppuration of the thrombi and consequent pyæmia is the timely removal of the wounded from crowded hospitals to the country air. *Trephining* is only indicated where there is positive knowledge of a limited purulent accumulation under the injured portion of the skull.

*Injuries of the bones of the Face.*—The most vulnerable part of this region is the orbital cavity; the antrum less so, and the nasal cavities least of all. Injuries of the mouth and pharynx may become dangerous from the suppuration, and swallowing with the saliva the purulent and offensive secretions from

the wounds, (pyaemia.) Wounds of the cavities of the bones of the face demand particular attention. Balls penetrating and lodging in the orbit should be sought for and removed early. In gun-shot wounds of both jaws, primary resection is not to be thought of; the principal anxiety is to stanch the bleeding, which is to be done by cold applications and use of ice, to avert œdema of the glottis, and to nourish the patient; in the majority of cases they are unable to swallow or even wash the mouth. Hernia cerebri was of rare occurrence, which agrees with Demme's obervations.

*Wounds of the Spinal Column.*—Under this head some curious cases are mentioned, but nothing new advanced.

[Resumé of Volume II. to be continued in the May Number.]

---

# PROCEEDINGS OF SOCIETIES.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, Jan.* 11, 1865.

Dr. A. Jacobi, President, in the Chair.

### EXSECTION OF THE TIBIA.—DR. CONANT.

Dr. Conant presented a portion of the tibia removed from a boy seven years of age, shortly after the receipt of a compound fracture of the leg, the result of a railroad injury on the 21st of July last. Dr. C. saw the patient about three hours after the accident occurred, and found the limb very much crushed. The portion of bone which was removed, and which was three and one-eighth inches in length, was lying loose in the laceration, while the fibula, which was also fractured, was bowed strongly outwards, one fragment being thrust through the integument. Notwithstanding the fact that fully one-third of the tibia at its middle was removed, the boy made a good recovery, and the periosteum which was left grew new bone to the extent that there was but one-half an inch of shortening. The treatment employed was, in the first place, sand-bags to steady the limb; then a fracture-box, followed after a time with a moderate degree of extension, by means of the weight and pulley. The specimen was interesting in reference

to the illustration which it afforded of the regenerating power of the periosteum.

PHALANGEAL PERIOSTITIS.—DR. CONANT.

Dr. Conant also presented two or three small specimens which illustrated the results of protracted inflammation of the periosteum of the last phalanges of the fingers. These were all removed from patients of the Demilt Dispensary, who, having had "felons," refused to have them lanced; thus allowing the inflammation to progress until the bones separated themselves from the pereosteum.

LARYNGEAL TUMOR.—DR. SANDS.

[A full Report of this Case will appear in the May Number of this Journal.]

ANEURISM OF THE ARTERIA INNOMINATA.—DR. LEWIS SMITH.

Dr. Lewis Smith presented the heart and the large vessels attached, which were taken from a female patient, aged 50 years. She was of fair habits, of Irish descent, had never been married, and her health was good up to one year before her death, when she began to be troubled with a cough, and, upon making any exertion, with shortuess of breath. She seemed to be sufferiug from a mild form of chronic brouchitis, and continued in that state for a period of six months. It was not difficult to ascertain the nature of her disease, for on applying the ear to the chest a loud aneurismal murmur could be detected; there was, however, no thrill or tumor to be discovered. About this time, iu addition to her difficulty of breathing, she began to be troubled with dysphagia. The urgent symptoms, however, were relieved by counter-irritation, and she had no new developments iu her case until about a mouth before her death, when she expectorated about half a teacupful of blood. From this time she raised occasionally a small quantity of blood, but not enough to excite any particular alarm. Her death took place suddenly at night, and she was found bleeding from the mouth upon her bed and floor.

On making the examination the next day, the heart was found slightly enlarged; the valves were in their natural state. The ascending aorta was very much enlarged, and also the arteria innominata. There was an abundant atheromatous deposit in the ascending portion of the aorta. The arteria innominata contained a large quantity of coagulated blood, and pressed upon the trachea and œsophagus. On opening the trachea two orifices were discovered, communicating with the arteria innominata. These were situated one above the other, the

smallest being below, was only large enough to admit a knitting needle. The smaller opening was the one which probably gave exit to the first bleeding, while the larger opening was the immediate cause of death from hemorrhage.

### DISEASE OF THE COLON—DR. SMITH.

Dr. Smith also presented a portion of the colon taken from a boy who died at the age of 3 years. The father of this child, who was a musician in the army, returned about the first of October, in the last stages of chronic dysentery. The family being poor, the child was kept in the same room with his father. He seemed to be very much affected by the odor of the evacuations, so much so that he would at times actually vomit. The father finally died, after he had been home two weeks. Before his death the little boy began to be troubled in a very similar way. He passed some blood at first, but the bloody dejections soon gave place to diarrhœic stools, and the disease of the father seemed to be actually reproduced in the person of the child. The symptoms were in every way similar to those of his parent, and he finally sank and died after three months' illness. Towards the last the evacuations were extremely offensive, and consisted for the most part of undigested food.

On making a post mortem examination, the stomach and small intestines were found healthy. The colon, however, was very much thickened and inflamed, and at some points was extensively ulcerated. The liver was the seat of fatty degeneration. The lungs were healthy. Strange to say, the mesenteric glands were not enlarged. Dr. Smith considered the specimen interesting in reference to the etiology of the disease.

### OVARIAN TUMOR.—DR. E. R. PEASLEE.

Dr. Peaslee presented a specimen which had been removed from a patient upon whom he had performed ovariotomy, and whose history he related a few meetings since, only 24 hours after the operation had been performed. The patient, soon after reporting the case, showed great irritability of the stomach, so much so, indeed, as to compel the introduction of food per rectum. This was kept up for 17 days, at the end of which time she died. The specimen was interesting in two particulars. 1. With reference to the healing of the external wound, and, 2ndly, with reference to the condition of the pedicle. The wound was closed by the use of six needles and seven silver sutures. The whole wound united by first intention, as usual. At the end of seven days erysipelas occurred at the lower end of the wound, a secretion

took place, and the tract of the wound reopened completely through the abdominal walls, except where bands of strong tissue still remained. When an attempt was made to remove the needles, at the end of the fifth day, they were found to be still firmly imbedded, owing to the existence of a slough around them. The sutures had also sloughed through. At the time of the operation, Dr. Peaslee had taken the usual care to join the edges of the peritoneum together, and at the time the wound reopened he had the satisfaction of seeing that the cut in the peritoneum had completely closed up.

At the autopsy, peritonitis, which had been suspected shortly before death, was found. There was adhesion to the left of the umbilical region, and also in the neighborhood of the pedicle. This, however, had nothing directly to do with the fatal result. There was some exudation also in the pelvis. The uterus showed several fibrous tumors connected with it; one on the anterior surface of the extremitis, one to the left of the Fallopian tube, and one near the right extremity of the organ.

The ovarian disease was a development from the left side. The pedicle was about four inches in width, and a double ligature was passed through its middle, and tied on either side. In examining the pedicle, which was very short, it was found that there was no sloughing; there was a very slight amount of exudation, just enough to cover over the pedicle behind. The ligature had nearly slipped off from the left half of the stump. Dr. Peaslee wished to call particular attention to the fact that there was no sloughing of the pedicle, and stated in that connection that he had always maintained that the occurrence of such a state of things was only in exceptional cases. He further remarked, that the ligature that was cut off and returned into the abdomen was very apt to become encysted.

The kidneys were extremely congested, the left more than the right. He had no doubt that the case would have been a successful one, except for the existence of the great irritability of the stomach, which compelled the resort to nourishment per rectum.

CAN THE GARDEN SLUG PASS THE ALIMENTARY CANAL ALIVE ?—DR. DALTON.

Dr. Dalton related the results of some experiments which he had recently performed upon dogs, with reference to settling the point as to whether the ordinary garden slug could remain alive for any length of time in the stomach or intestinal canal. Quite recently he had exhibited two full grown slugs which were said to have been passed from the rectum of a child, and he had found that some three years

ago he had presented a slug, which was said to have been passed in a like manner per rectum. In this latter instance the person was a porter, who, after taking an injection, discovered one of these slugs in his clothes. Dr. D. thought it curious that these slugs, being cold-blooded animals, and breathing ones withal, could exist within the intestinal canal sufficiently long to be discharged per rectum alive. He accordingly resolved to test the possibility of such a thing by the following experiments:—A slug was introduced alone into the stomach of a dog, and the animal was killed twenty-four hours afterwards. No trace of the slug could be discovered, either in the stomach or any portion of the alimentary canal. Four slugs were then introduced into the stomach of a second dog, and the animal killed at the end of an hour, but there was no trace of either of the slugs remaining. A third dog was killed fifteen minutes after a slug was introduced, when it was found that the slug was dead, and had already commenced to be softened. That seemed, then, to settle the question that they could not survive in the stomach.

In order to prove that they could nor remain long alive in gastric juice, four slugs were placed in this liquid, at the temperature of 100 deg. F. In 9½ minutes they were all dead; and at the end of 5 hours their bodies were disintegrated. In order to see if the slug could bear the temperature of the human body, one was placed in water at the temperature of 100 deg., when it was found that it lived but 30 minutes. To ascertain to what extent they could bear the privation of air, one was put in water at a temperature of 70 deg F. At the end of half an hour it became perfectly "sluggish;" it continued to grow more and more insensible, so that at the end of five hours it could not move, and at the end of 24 hours it was dead.

He remarked, in conclusion, that the question should he considered settled, as far it was possible to do such a thing under the circumstances, that it was impossible for the slug to remain long alive in the human stomach. It had often been positively asserted that lizards were swallowed and vomited a long time afterwards. As bearing, too, upon this question, he performed an experiment, also, upon a dog. He introduced a lizard into the stomach of one of these animals, and found it dead in fifteen minutes afterwards.

## NEW YORK MEDICAL AND SURGICAL SOCIETY.

*Meeting of January* 28, 1865.

[Extracted from the Minutes, by Foster Swift, M.D., *Secretary.*]

### COMPLETE SALIVARY FISTULA OF THE DUCT OF STENO CURED BY OPERATION.

Dr. W. H. Van Buren related the case of a general officer of the army, who had been wounded near Chattanooga, Tennessee, by a minnie ball which passed through both cheeks, carrying away most of the teeth in the upper jaw, opening the right antrum, and leaving, when the wound was healed, a complete fistula in the right cheek, through which all the saliva from the parotid of that side escaped, there being entire obliteration of the extremity of the duct of steno, which should have opened into the cavity of the mouth. The fistulous orifice was situated in the centre of a large cicatrix, about an inch behind the anterior border of the masseter muscle. It was capillary in size, and when not discharging saliva could hardly be distinguished without the aid of a lens. On the inside of the mouth no orifice could be discovered on minute and repeated inspection, and its dryness was confirmed by the patient, who asserted confidently that no saliva flowed into his mouth on that side. From the fistulous orifice, on the contrary, the flow of saliva was profuse, and of constant recurrence when the stand was excited, rendering the patient's condition extremely unpleasant. An operation for his relief had already been attempted without success. The amount of cicatricial tissue in the cheek, and the shortness of the remaining portion of the duct of steno, were recognized as the principal obstacles to the success of an operation. Dr. Van Buren planned and executed the following operation in May last, which, after some delay, has resulted in an entire cure.

The orifice of the fistula was circumscribed by two curved incisions, in the direction of the fibres of the buccinator muscle, isolating a portion of the skin of the cheek of an ellipitical shape, and leaving a wound an inch and a quarter in length. The isolated portion of integument, with the fistulous orifice in its centre, was dissected up from its connections, except with the duct, and this was traced up and isolated as far as the substance of the gland. The knife was then carried through the cicatricial tissue, fat, and fibres of the buccinator, just in front of the anterior border of the masseter muscle, until the mucous membrane of the mouth alone intervened between the bottom of the wound and the buccal cavity. The elliptical portion of skin was now trimmed down to a circular disc about one-third of an inch in

diameter, with the fistulous orifice in its centre, and through this disc of skin two silver wires were carried by needles, parallel with its surface, one on either side of the orifice of the fistula. The two ends of this double wire were then, by means of large-eyed needles, carried from the bottom of the wound, through the mucous membrane of the mouth into its cavity, the two points of perforation being about half an inch distant from each other; and, by careful traction, the disc of skin containing the fistulous orifice was brought as nearly as possible into contact with the outer surface of the mucous membrane of the mouth, at the bottom of the deep wound at the anterior edge of the masseter. The extremities of the double wire were then twisted tightly together until their loop, including the half inch of mucous membrane, and the disc of skin from the cheek, was so small as to keep these parts as closely approximated as possible, without too much tension either of duct or mucous membrane. These twisted ends of the double wire were left about three inches long, and brought out at the corner of the mouth, where they caused but trifling inconvenience, and came away spontaneously in the fifth week after the operation. The edges of the elliptical wound of the cheek were then brought together by means of ten sutures of fine silver wire, applied by Dr. Emmet, to whose skill at this stage of the operation Dr. Van Buren mainly attributes its ultimate success. Collodion was applied over the sutures, and the patient fed upon beef-tea. Very considerable inflammation occurred during the ten days succeeding the operation, in which the parotid gland was involved, and several abscesses followed each other for more than six weeks, through which saliva escaped for a day or two at a time, but the silver seton in the mouth kept a channel open in that direction, and the wound in the cheek finally healed firmly and soundly. Some of the anterior fibres of the masseter muscle were divided in order to diminish the tension of the duct, which was barely an inch in length. The inflammation of the parotid gland, Dr. V. B. attributed to an experiment he instituted, on the authority of Prof. Claude Bernard, of the College of France, who asserts, as the result of his physiological experiments, that the injection of any fatty substance *(corps graisseux)* into the duct of the parotid will arrest its secretion and produce atrophy of the gland. He injected the fistula with melted lard by means of an Anel's syringe, carefully and thoroughly, as the first step of the operation related to above, but the result was negative. The gland is still secreting freely as ever, at the end of nine months, as was demonstrated by examination of the patient to-day, when the orifice of the new duct was distinctly seen discharging saliva into the

mouth, the external cicatrix having softened down and being entirely concealed by the whisker.

INTESTINAL OBSTRUCTIONS RESULTING FROM CHRONIC DYSENTERY SUCCESSFULLY RELIEVED BY AMUSSAT'S OPERATION FOR ARTIFICIAL ANUS.

Dr. Sands reported a case of chronic intestinal obstruction, in which he had recently performed Amussat's operation for the formation of an artificial anus.

On the 26th of December, 1864, while visiting the surgical wards of the New York Hospital, his attention was called by Dr. Draper, the attending physician, to an emaciated, sallow looking young man, who was suspected to be suffering from stricture of the rectum. The patient was 18 years of age, and had been in the hospital for nearly six weeks, having been admitted with chronic dysentery, which he had contracted some nine months ago, while serving in the army. Up to that time his health had always been good, and he acknowledged no hereditary tendency, either to tubercular or cancerous disease. Shortly after his admission into the hospital the diarrhœa gave place to constipation, and on digital examination, the rectum was found to be impacted with fæces. A dose of castor oil produced a free movement of the bowels, after which the patient improved rapidly, so that he was able to leave his bed and go about. On the 6th of December, constipation again returned, accompanied by pain and tympanitic distension of the abdomen, to remove which castor oil was again administered, but without the desired effect. A few days after, a circumscribed swelling appeared in the left iliac fossa, caused apparently by fæcal accumulation in the sigmoid flexion of the colon. Another cathartic was given, and followed by an enema, but without any decided benefit, the pain and swelling still continuing. From this date until the time when Dr. Sands first saw the patient, no material change in the symptoms had taken place; the paroxysms of pain, however, had become more frequent and severe, and the constipation had assumed a more obstinate character, no good stool having been had for nearly two weeks, notwithstanding the repeated use of cathartics and enemas, which caused only nausea, vomiting, and increase of pain. On exploring the rectum, Dr. Sands found it to be very capacious and empty on its lower part, but narrowed opposite to the promontory of the sacrum, by what he had first supposed was a deformity of the bony pelvis, but which his colleague, Dr. Buck, afterwards pointed out to be a fibrous thickening and induration of the anterior wall of the rectum, at the level of the pubic symphisis. An

attempt was then made to pass a rectal bougie, but it could not be made to enter farther than four inches from the anus, when its point appeared to be arrested by the sacral promontory. On the 30th of December, the patient still remaining unrelieved, a narrow elastic bougie was procured, having a diameter of about one-third of an inch, and having previously inserted the left forefinger into the rectum, the instrument was successfully guided beyond the sacral promontory, until it reached a point just eight inches from the anus, when it was again arrested, and could not be farther advanced by any amount of force which it was thought prudent to employ. At the time of this visit, it was remarked that the patient's strength and appetite were failing, and that the abdomen was growing more and more tense and painful.

On the 3d of January, 1865, with the assistance of Drs. Buck and Peters, Dr. Sands had the patient placed under the influence of ether, and made an attempt to introduce the hand into the rectum, as a means of more accurate and satisfactory examination. The attempt failed, however, owing to the small size of the pelvis and the close approximation of the ischiatic tuberosities. During the examination a small quantity of dark-colored semi-fluid fæces was found at the upper part of the rectum. The experiment with the bougie was again tried, and with the same result, the instrument being arrested at a point eight inches from the anus. The elastic tube of a stomach pump was then substituted for the bougie; and after having introduced it as far as the seat of obstruction, Dr. Sands endeavored to inject warm water into the intestine beyond, but failed to do so, the water escaping at the anus as fast as it was injected.

It now became evident to those who saw him, that the patient was laboring under organic intestinal stricture, situated at the lower part of the sigmoid flexure, caused, in all probability, by the contraction following dysenteric ulceration. That the stricture was situated at the point named seemed likely, not only from the evidence afforded by rectal exploration, but also from the fact that, at an earlier period, before the abdominal swelling had become extreme, a well-defined tumor could be felt in the left iliac fossa, which subsided after the bowels had been moved by a cathartic. It was also evident that the patient was pretty rapidly losing ground, and that he could not live for many days, if allowed to remain unrelieved. The question of surgical operation was accordingly submitted to the patient, who readily consented to its performance, expressing himself willing to undergo anything that would be likely to relieve his suffering. On the 9th of January,

with the assistance of Dr. Peters, Dr. Sands opened the descending colon, behind the peritoneum, according to the method recommended by Amussat. Owing to the extreme emaciation which existed, the operation was rendered exceedingly easy, and presented no feature worthy of special note, except that the quadratus lumborum muscle was unusually broad and prominent. The intestine having been exposed, and secured by a stout suture above and below, a crucial incision was made through its coats, and the operation completed by closing the superficial wound, and by fastening the mucous membrane to the integuments by a few points of interrupted suture. At first, on cutting into the intestine nothing escaped but fetid gas, and the coats of the bowel collapsed, giving the impression that the operation had failed of its purpose; presently, however, a quantity of greenish fæcal matter made its appearance at the bottom of the wound, and on introducing the forefinger, the colon was found to be enormously distended with soft, semifluid fæces. An injection of warm water was administered, in order to promote the flow of fæcal matter; the effect of this, however, was not very marked; after a short time it was thought best to leave the gut to discharge spontaneously.

The patient rallied well after the operation, and about a quart of semi-solid fæces escaped during the first 24 hours. At the end of this time the patient was threatened with collapse, the surface being cold, and the pulse feeble and rapid. The application of warmth to the extremities, and the free exhibition of stimulants brought about a healthy reaction, and since that time no unpleasant symptoms had occurred. The wound granulated well, the pain and abdominal swelling disappeared, the appetite returned, and at the time of the report, Feb. 1st, the patient was well enough to get out of bed, and to walk about the hospital ward. Meanwhile several small fæcal evacuations had taken place by the natural outlet, and the hope was entertained that, at a subsequent period, something might be done to dilate the stricture, and to restore the normal calibre of the intestine.

### FISSURE OF THE RECTUM SUCCESSFULLY TREATED BY FORCIBLE DISTENSION OF THE SPHINCTER ANI.

Dr. Otis said he wished to call the attention of the Society to the good results following the forcible distension of the sphincter ani, in a case of fissure of the rectum recently under his care—a lady who had suffered for a year and a half from acute pain following each attempt of defecation, and lasting from 8 to 10 hours. On examination he had discovered a fissure an inch in length, just with-

in the anus. After putting the patient under the influence of chloroform, and inserting both thumbs into the rectum, he forcibly distended the anus. From that time to the present, over four weeks, the patient had been entirely free from pain, and considered herself cured.

DIABETES INSIPIDUS COMPLICATING SYPHILIS.

Dr. Bumstead related the case of a patient who had come under his observation, four years ago, with syphilitic disease of the testicle and fissure of the tongue—which he had treated with the iodide of potassium. Last summer the patient began to be annoyed by passing a large amount of urine; and when Dr. B. saw him, in October last, he was passing 7 (seven) quarts of water daily, of a specific gravity of 1015, containing neither sugar, albumen, nor casts, the reaction being slightly alkaline; he was put on the use of tinct. ferri uent. About three weeks ago Dr. Bumstead saw the patient again. At that time he was not making quite so much water, the quantity varying from 3 to 7 quarts, the specific gravity 1009, slightly albuminous, but containing no casts. The patient is a man of temperate habits. Trousseau looks upon these cases as allied to diabetes mellitus, and says he has had the best effects from the use of the extract of valerian (fluid) ℥ss., three times a day. This patient, however, experienced no relief from this treatment.

---

## REVIEWS AND BIBLIOGRAPHICAL NOTICES.

*Medical Diagnosis, with special reference to Practical Medicine. A Guide to the Knowledge and Discrimination of Diseases.* By J. M. Da Costa, M.D., Lecturer on Clinical Medicine to the Philadelphia Hospital, etc., etc., illustrated with engravings on wood. Philadelphia: J. B. Lippincott & Co., 1864, 8vo., pp. 690.

A work on medical diagnosis, with special reference to practical medicine, serving as a guide to the knowledge and discrimination of diseases, is a great *desideratum*. The first great object of the study and practice of medicine is diagnosis. This precedes the other great object, viz., therapeutics, for the treatment of diseases must follow and depend upon their discrimination. The chief difficulties in medical study and practice relate to diagnosis; if the nature and seat of a

disease be known, approved therapeutical measures are, in most cases, easily applied. These general statements are truisms, sufficiently inculcated by teachers and writers, and appreciated by all intelligent practitioners; yet a large proportion of young physicians enter upon their professional career without having bestowed adequate attention to the principles and practice of diagnosis. One reason for this is the unnatural separation of clinical and didactic teaching; another reason is, the lack of treatises devoted specially to diagnosis.

In preparing a work on medical diagnosis, a difficult task at the outset was to adopt a certain medium with respect to its dimensions. A small meagre work would be only useful as a means of refreshing the memory; aside from this, it would do harm by contributing to a superficial knowledge of the subject. On the other hand, students and practitioners would be reluctant to buy and study a very large work devoted to this subject. As regards the size of the volume, we think the author has shown ability and judgment. It is not too large, nor so small as to be objectionable on this score. Moreover, an examination of the work shows that its size could not be reduced without a corresponding loss of valuable matter. The topics are treated of clearly and concisely. Space is not sacrificed by diffuseness or irrelevancies. The work is eminently practical. If we were to suggest any improvement in future editions, it would be to give a somewhat greater extension to the consideration of certain topics; and the author is wise in making the size of the present volume such that it will bear a certain amount of increase.

The arrangement of topics is in conformity with the nosological plan, which, in the existing state of our knowledge, is undoubtedly the most convenient, viz., grouping diseases occurring to the anatomical systems prominently affected. Taking at first the diseases which are distinguished as local, he treats of those affecting the different components of the nervous system, of the upper air-passages and chest, of the mouth, pharynx, œsophagus, of the abdomen, and of the urinary system, in the order of this enumeration. Dropsy is considered under a distinct head. A chapter is devoted to diseases of the blood; and the last one-sixth of the volume is occupied with rheumatism and gout, fevers, diseases of the skin, poisons, and parasites.

The directness and conciseness of the work would preclude an analytical review of it, were this desirable. The work is not one, the substance of which the reviewer can give to his readers, and thereby save them the trouble of reading it for themselves. The reviewer, in this instance, cannot play the part of a *casse-noisette*, giving the ker-

nel without the shell; the reader must crack the nut for himself, a task sufficiently easy, and the contents will repay the trouble.

In recommending Dr. Da Costa's book most cordially to medical students and practitioners, we do not claim for it perfection. A critical examination would, doubtless, discover certain defects and errors. The author will discover these more readily than the reviewer. If a captious critic were to take exceptions to the work on this score, let him undertake to write a volume of over six hundred pages, amidst the cares, fatigues, and irregular duties of medical life, and then challenge a fellow critic, as captious as himself, to detect faults of omission or commission.

The work contains twenty-six illustrations, all original, and excellent as regards their execution and the points which they illustrate.

The appearance of the volume is creditable to the publishers. We congratulate the author on the production of a book which meets an obvious want in medical literature, and one which will satisfy the profession, his friends, and, we trust, himself. A. F.

*Man and his Relations. Illustrating the Influence of the Mind on the Body, &c.* By S. B. Brittan, M.D. New York: W. A. Townsend. pp. 578.

We notice this volume under great difficulties. We hold it to be the duty of a reviewer to read the books upon which he makes his comments. We make it a rule to do this, but we have found it impossible in this instance to live fully up to our system. And yet we have conscientiously endeavored to peruse Dr. Brittan's work from the title page to the poetical quotation which so satisfactorily concludes the five hundred and seventy-eighth and last page. We have read a good deal of it, and we think we have obtained a very definite idea of Dr. Brittan and his book. But as to reading through all the platitudes, the absurdities, and the obscurities which distinguish the treatise on Man and his Relations, we find the task altogether beyond our patience, and very trying to the temper with which nature has endowed us.

Of one thing, however, we are convinced. If one-half of the powers which Dr. Brittan claims for himself are possessed by him, he deserves to be ranked, as at least a very little lower than the angels, and perhaps, in many respects, as superior to these celestial beings. He is a creature to be held in awe by all mortals who are forced to be content with those natural mental powers with which the majority of mankind

are gifted. Fortunately for that portion of humanity with which Dr. Brittan has come in contact, he appears to be a well-disposed personage and not desirous of making an improper use of his supernatural endowments. Fancy, for instance, how valuable such a faculty as that described in the following quotation would be to a dowager with two or three marriageable daughters on her hands:

I once attended a social party given by Mrs. Kirkpatrick, at her residence in Albany. In the company was a lady (Mrs Mills) whom I had been led to infer might be highly susceptible of electro-nervous impressions, though I had not confirmed my opinion by a single experiment. Taking a seat by a gentleman who was known to be extremely skeptical, I observed that it might be possible to demonstrate the existence of a mental power he was disposed to deny; that, although I had never conversed with Mrs. M. on the subject, nor made the slightest effort to subject her to psychological impressions, I had little hesitation in saying that the voluntary function of mind and body might be controlled—without physical contact—by the unaided power of volition.

This gentleman having expressed a desire to witness the experiment, it was agreed that I should cause the lady to leave her place at the opposite side of the room, and occupy a vacant chair by his side. In less than one minute she had obeyed the silent action of my will, and seated herself in the unoccupied chair.

And how useful would be the power as manifested in the following instance. How easily and kindly Mr. Squeers could have made his delectable feasts acceptable to the inmates of Dotheboy's Hall had he been gifted as is Dr. Brittan.

The tea-table was the scene of an interesting experiment. Mrs. Mills was in the act of removing from the board—having finished her repast—when several dishes were handed to her, all of which she refused. Mrs. Kirkpatrick urged Mrs. M. to accept another dish of tea, which the latter positively declined. Without uttering a word, I succeeded in changing her inclination, and, obedient to my volition, she immediately drew her chair again to the table, and called for a dish of tea. On my passing the several dishes she had just refused, Mrs. Mills freely partook of each as if it were for the first time.

Whether or not Mrs. Mills was visited by *incubi* and *succubi* after her double repast, or whether the demons were prevented paying their respects to her by the further exercise of Dr. Brittan's powers, we are not informed. We think that, in common justice, he was bound to see that Mrs. Mills' nocturnal quietude was not disturbed through the extraordinary test to which he had subjected her digestive functions.

Not, however, content with making Mrs. Mills take a seat by the

side of a gentleman, and causing her to ingest a double quantity of food at the vespertinal meal, Dr. Brittan prevents her from repairing to her domicil. Doubtless apprehensive of the probable consequences of her prandial indulgence, or fearful of some further exercise of Dr. Brittan's power, Mrs. Mills proposed to take an early leave of the assembled psychologists. But it was not to be. "My friend who had given the entertainment, apprehensive that others might follow the example, and thus the company be broken up, desired me to restrain her. Mrs. Mills instantly obeyed the executive action of the mind, observing that the attractions the occasion presented were so numerous, and withal so powerful, that she could not break away. In this manner her desire to go home was neutralized, and Mrs. M. remained until the company separated."

And by the exercise of powers like those of which Dr. Brittan informs us he is the fortunate possessor, the lucrative, though somewhat dangerous professions of the *chevalier d'industrie*, the petty thief, and the burglar might be altogether renounced, and the more respectable, more profitable, and far less hazardous science of mental telegraphy acquired in their stead. There is no law, that we know of, against mental telegraphing, and it could consequently be practiced with impunity; but really, if less honest professors of the art than Dr. Brittan should acquire such a degree of proficiency in its mysteries as is described in the following extract, the public safety would require some definite legislation on the subject.

Several years ago, while spending an afternoon with several ladies and gentlemen—mostly strangers to the writer—some illustrations of mental telegraphing were called for by the company. Among the persons present two or three were more or less influenced. But Miss A., a lady of intelligence and refinement, with whom the writer had had no previous acquaintance, was discovered to yield with great readiness and astonishing precision to the action of the will. Though at the time perfectly awake, and until then unconscious of possessing any such susceptibility, this lady bestowed several rings and other valuables on different members of the party, following in every instance, and in a most unerring manner, the writer's volition.

One more extract, and we have done. It relates to a very dangerous exercise of Dr. Brittan's peculiar power, but will be of interest to our readers, as it indicates, though somewhat obscurely, a short and easy method of curing a painful disease, besides affording a striking example of the truth of the maxim of another distinguished American, "that some things can be done as well as others."

The wife of the Rev. C. H. Gardner proved to be an excellent tele-

graphic instrument. I had personally subjected the lady to a single experiment, resulting in the cure of a distressing asthma, from which she had suffered intensely and for a long time. I had not spoken with this person for three months, when one day her arrival, in company with her husband, was unexpectedly announced. After a brief interview, which did not occupy more than five minutes, I withdrew and retired to my study to complete the task I had left unfinished, leaving Mr. and Mrs. G. with my family, and several other persons. Not the slightest allusion had been made to any further experiments, and certainly none were then premeditated.

Several hours elapsed—I know not how long—when the silence of my apartment was broken by sounds of mirth proceeding from the company below. They were engaged in some amusement which excited a spirited conversation and immoderate laughter. The voice of Mrs. Gardner was distinctly heard. At that moment the idea of taking her from the company occurred to me. But the occasion seemed to be in all respects unfavorable. She had no intimation that any such effort would be made; she was in a remote part of the house, and we were separated by a long flight of stairs and two partitions. Moreover, surrounded by others, and excited by outward circumstances, the mind is not in the most suitable state to be successfully approached and strongly influenced through the subtile, invisible media employed by the mind. Nevertheless, I resolved to make the experiment. Closing my eyes to shut out all external objects, I fixed my mind on Mrs. G. with a determination to bring her to the library. Doubtless the mental effort in that instance would have been quite sufficient, had it been applied through the muscles, to overcome the physical resistance of an object equal to the weight of the lady's person. I was, however, not a little astonished in witnessing the result of this experiment. In about two minutes the door opened and Mrs. Gardner entered with her eyes closed, when the following conversation ensued:

"You appeared to be very happy with the friends below," I observed inquiringly.

"I was."

"Why, then, did you leave the company?"

"I don't know."

"Why, or for what purpose, did you come here?"

"I thought you wanted me, and I could not help obeying the summons."

And now we must end this notice. We have quoted enough from Dr. Brittan's book to give our readers some idea of its character. Such looseness in logical reasoning, and such ignorance of the first principles of mental science as it contains, we have rarely met with. We do not know who Dr. Brittan is. We never heard of him till this book was announced, and we certainly have no desire to hear of or from him again. We give him credit for being an honest, but at the same time most credulous enthusiast, and, as such, more capable

of doing harm than if he were a downright knave. We are also willing to accord to him the possession of a certain amount of ability, which, had it been directed by a well balanced mind, might have brought forth results creditable to himself and useful to mankind. As it is, his efforts have led to the production of a work which cannot fail, should it be extensively read, of doing a vast amount of harm. His book is essentially a bad one. It is calculated to lead weak minds from the contemplation of those sober truths with which all nature abounds, and from the study of which every intellect is exalted, to the consideration of speculative theories built upon vacancy and error. It is conducive to that undue exercise of the imaginative faculties of the mind which is so prevalent in this country, and which has already given us an unworthy pre-eminence among the nations of the earth. If there is any truth in Dr. Brittan's theories, nothing is easier than for him to prove them to the satisfaction of scientific minds, and not merely to convince weak and hysterical females or superstitious and feeble-minded men. There is too great a willingness to accept as facts the assertions of persons who, like Dr. Brittan, seem incapable of forming a logical sequence. A healthy skepticism is much more conducive to the spread of true science, and it is accordingly far better for the mind to reject all theories not based upon facts, than to be open to the reception of such unsubstantial and false reasonings as are met with throughout Dr. Brittan's book, and which can only result in enfeebling those intellectual powers which it should be our constant effort to make more and more worthy of their Creator. W. A. H.

*Gunshot Injuries and other Wounds of Nerves.* By S. Weir Mitchell, M D., George R. Morehouse, M.D., and W. W. Keen, M.D. Philadelphia: J. B. Lippincott & Co. 12mo., pp. 164.

This little book is one of those contributions to practical medicine which are being evolved out of the peculiar circumstances in which the country is now placed. Though of small compass, it is a most valuable addition to the literature of a department of medical science which has received little attention, even from those whose opportunities have best fitted them to enlarge our knowledge on the subjects on which it treats.

In May, 1863, as we are told in the preface, Dr. William A. Hammond, then the chief of the Army Medical Corps, established, in a military hospital in Philadelphia, special wards for the treatment of the injuries and diseases of the nervous system. Amid many practi-

cal difficulties the plan was successfully carried out, mainly through the interest taken in the matter by the authors of the present volume. A great deal of suffering was relieved, and a vast amount of material collected towards the elucidation of different points in the physiology and pathology of the nervous system.

The cases upon which the authors have based their essay, amount in number to one hundred and twenty—a larger number of injuries of nerves than has ever before come under the study of any observer. From a careful and thorough examination of their work, it is very apparent that these cases have received infinitely more attention than they could have obtained had they been treated by physicians obliged to divide their energies among patients suffering from various classes of injuries and diseases, and that results have been arrived at creditable to the authors, beneficial to the sufferers, and advantageous to the country, which could not have been expected under a less exclusive system of medical attendance.

In all our hospitals, both civil and military, there are to be found patients afflicted with diseases or injuries of the nervous system, who linger on in hopelessness, but who could, many of them, be vastly benefited or entirely cured, were they placed under the charge of physicians who, from having given special attention to such cases, would be able to bring into operation the various resources which recent advances in physiology and therapeutics have placed at command. No one can rise from the perusal of the work under notice without being strongly impressed with the correctness of the views above enunciated, and feeling that the military patients who entered the wards devoted to the reception of cases of nervous injuries and diseases, had cause for congratulation that they were not huddled with the mass of other sufferers. The diseases in question require so much care and patience, so thorough an acquaintance with the most advanced state of physiology, and so much time from the medical attendant, that it is scarcely to be expected that hospital physicians and surgeons, who must be proficient in so many other departments of medical science, and who are always overworked, can do for those so unfortunate as to be afflicted with lesions of the nervous system all that their condition requires.

In the space allotted to our notice of the labors of Drs. Mitchell, Morehouse and Keen, it is impossible to do them full justice. There is not a chapter of their little book which is not replete with interest and instruction; but those upon Wounds of Nerve Trunks and Lesions of Sensation, appear to us as especially worthy of study. The

chapters on Treatment, also, contain many valuable hints. Never before in this country has so extensive and intelligent a use of electricity been made in medical practice, and it is to be hoped that the authors will give to the profession the more ample details which their great experience must have placed at their disposal.

In the preface we are told that:

The authors of this essay desire to thank Dr. Hammond for the steady interest with which he regarded their inquiries, and to acknowledge the watchful care with which he fostered the interests of scientific medicine, while organizing and perfecting that vast system of hospitals for which the country owes a debt of gratitude to a genius, alike enterprising, intelligent, and laborious.

Certainly, if in his forced retirement from the public service, Dr. Hammond requires any other consolation than that of an approving conscience, he undoubtedly has it in the pleasure he must derive from the knowledge that his labors are appreciated by those most capable of putting a proper estimate upon them.

---

# PROGRESS OF THE MEDICAL SCIENCES.

## I.—ANATOMY AND PHYSIOLOGY.

1. *The Larynx of the Negro.* By George D. Gibb, M.D., &c. (Read before the meeting of the British Association for the Advancement of Science, September, 1864.)

The author's paper was upon the special difference between the larnyx of the Negro and the white man. After describing the larnyx of the latter, he remarked that the essential point of difference between the two consisted in the invariable presence of the cartilages of Wrisberg, the oblique or shelving position of the true vocal cords, and the pendent position of the ventricles of Morgagni. Any one familiar, said the author, with the dissection or examination of the larnyx in ourselves, cannot but perceive that these peculiarities are not observable, unless we will admit the occasional presence of the first in certain wind-pipes. Now, we may be told by some anatomists, that they have commonly seen these Wrisbergian bodies, and that they are not rare, but that sort of evidence counts for very little. These small bodies (the cartilages of Wrisberg) are either very minute and rudimentary, or wholly wanting in the white race, whilst they are large and well developed and always present in the black or colored races. It may be mentioned, also, that I have dissected them in monkeys, in whom, even the smallest species, they are relatively large in comparison to

the size of their bodies; and, with the object of attracting attention to them in the quadrumana, I exhibited specimens before the Pathological Society of London, in March, 1861, three and a-half years ago. Those who argue that the black race are inferior to the white, and approach the quadrumana in some of their features, would naturally lay hold of what I have stated to prove the truth of this theory, especially as regards the Wrisbergian cartilages and the position of the ventricles. But I take the opportunity of declaring at once, that whatever views may be entertained by anthropologists respecting the position in the scale of being occupied by black and white, they are discarded from this communication.

Dr. Crisp remarked on this paper, that even if Dr. Gibb was right, and these cartilages pointed out existed, it was no proof of the degradation of the Negro. Extraordinary statements had been made on this subject. It might be that these particular cartilages were given to the Negro just the same as a black skin was given him, and thus did not imply the least degradation.

Mr. Carter Blake called attention to the statement of the late Professor Eschricht, who found the cricothyroid muscles very large in the Negro, a portion of their fibres ascending to the internal surface of the thyroid cartilage. M. Pruner-Bey had suggested that this might be a trace of the internal cricothyroid muscles of the *hylobates*. Perhaps Dr. Gibb would offer some opinion on this hypothesis?

In reply to questions from the Rev. Dr. Macauley and Dr. Heaton, Dr. Gibb said that he had examined the larnyxes of 100 white men and 58 blacks, and he had in every case found sufficient distinction to warrant him in introducing the subject to the notice of the Association.—*Anthropological Review, November*, 1864, *p.* 322.

We commend this subject to the attention of American anatomists and anthropologists. In no other country in the world are there so many facilities for settling the point raised by Dr. Gibb as in our own, and we trust the matter will not be allowed to remain long in dispute.

2. *Valves in the Abdominal Veins.* By Edwards Crisp, M.D. (Read before the British Association for the Advancement of Science.)

All physiologists, Dr. Crisp said, up to the time of his discovery of valves in the splenic vein of the giraffe, in 1852, had denied the existence of these valves. Kolliker, in his article on the Spleen, in Todd's *Cyclopædia*, says that the abdominal veins contain no valves; and Dr. Carpenter had made the same assertion. The physiological import of these valves in the abdominal veins of many animals was most important; and it was strange, considering their abundance, that they had not before been discovered. Dr. Crisp had not only in 1852 described these valves, but in his book on the use of the spleen, and in other places, he had pointed out a valvular arrangement in the abdominal veins of man and the lower animals. A diagram was shown of one of the mesenteric veins of the reindeer, which contained forty-two pairs of valves; of the left renal vein of the nylghau, which contained ten valves, two single and four pairs; of the renal vein of the Sondial ox *(Bos sondiacus,)* from Pegu, the only specimen brought to Europe, in the renal vein of which there were two pairs of valves. Unlike our ox, this animal had a non-lobated kidney. A drawing of the stomach and spleen of the horse was exhibited. Dr. Crisp had found valves in the

abdominal veins in various carnivora, marsupialia, pachydermata, and ruminautia; which he enumerated.—*British Medical Journal, October* 8, 1864, *p.* 426.

Dr. Crisp appears to be ignorant of the fact that Dr. J. H. Brinton, of Philadelphia, in an article in the *American Journal of the Medical Sciences*, for July, 1856, pointed out the existeuce of a valve at the termination of the right spermatic vein in the vena cara of the human subject. To this peculiarity Dr. Brinton attributes, and with much reason, the more frequent occurrence of varicocele on the right side than ou the left.

Dr. Crisp has likewise omitted to mention the fact that Dr. Robert McDonnell, Professor of Physiology at Dublin, in an original memoir, entitled, *Recherches sur les Valvules des Veines Rénales et Hepatiques et sur le Circulation Hépatico-Rénale*, published in Brown-Sequard's *Journal de la Physiologie, etc.*, for April, 1859, p. 300, calls especial attention to the existence of these valves, and gives four very excelleut drawings of them. Dr. McDonnell states that the renal vein, at its junction with the vena cava ascendens, is sometimes in man, and very frequently, if not always, in the horse and the sheep, furnished with a valve. He found that the hepatic veins of many other animals were similarly provided, aud makes some very excellent physiological observations in regard to them. Dr. McDonnell's discoveries were originally published, in part, in the *Glasgow Medical Journal*, for 1854, p. 285, and were brought before the British Association, at its meeting in 1857.

3. *Report on the Physiological Action of the Nitrite of Amyl.* By B. W. Richardson, M. D. (Read before the British Association for the Advancement of Science.)

The author described nitrite of amyl as an amber-colored fluid, smelling and tasting like essence of pears; and gave a classification of numerous experiments which he had performed with it. It arrested oxidation, and prevented the process of decomposition in animal and vegetable substances. The following was Dr. Richardson's summary of the effects of nitrite of amyl. 1. It is absorbed by the body, however introduced, whether by the skin, the stomach, the lungs, or by inoculation. 2. After its absorption, its effects are immediately seen on the heart and circulation. There is, in the first place, violent action of the heart, with dilatation of the capillaries, followed by diminished, but not extinguished, power of the heart and contraction of the extreme vessels. As an excitant of vascular action, the nitrite of amyl may be considered the most powerful agent yet discovered by the physiologist. 3. In animals whose bodies admit of its removal spontaneously, and whose circulatory and respiratory systems are simple, such as frogs, the nitrite suspends animation; and when the animals are placed under favorable circumstances for the process of recovery, they may recover. There is no other known substance that suspends animation in frogs for so long a period of time. In warm blooded animals, which are clothed in a skin less permeable, and in whose bodies the

circulatory and respiratory systems are more complicated, the nitrite cannot actually stop the movements of respiration and circulation without destroying life. But even in these animals it can reduce respiration and circulation so extremely, that a condition precisely analogous to what is known as a trance or catalepsy in the human subject, can be induced by it, and be sustained for many hours. 4. The nitrite of amyl is not an anæsthetic; by it consciousness is never destroyed, unless death is produced. 5. The effect of the nitrite on the organism is directed to the motive force, which it first wildly excites and then subdues. 6. The *modus operandi* of the nitrite appears to be by arresting the process of oxidation in the tissues. 7. Physically, the nitrite holds a place between the volatile bodies, such as chloroform or ether, and the solid bodies, such as opium and woorali; hence its effects are less evanescent than those arising from the volatile substances, and less destructive than those produced by the solid substances. In this lies the secret of the peculiar action of the nitrite. He described the pathological or diseased conditions produced by it; its effects as compared with other compounds of amyl, and numerous other substances; and the reason why it should so powerfully influence the circulation. He then put the question, whether with the facts now known we ought to deny the possibility of placing the body in such a condition that it may for some hours, or even days, assume the appearance of death? In catalepsy, or trance, we see such an appearance of death in a disease; and we have heard of the famous experiment of the Fakirs of India, in which they seem to hold life for a time in abeyance. Dr. Richardson thought that in catalepsy there was found in the body a substance which acted like the nitrite of amyl. He thought, also, it was possible that the Fakirs possessed a substance derived from the vegetable world that had the property of producing the same effects in a marked degree. In conclusion, the author discussed the question of the value of the nitrite of amyl as a remedy in the treatment of disease. He had not had time, practically to try this point; but he suggested that the substance would probably be found of service in cases of sudden failure of the heart. He also believed it would prove serviceable in the treatment of tetanus; that it would, by its paralysing action on the voluntary muscles, check the tetanic spasms, and, by enabling the patient to live through the acute attack, would give time for the system to become relieved of the primary malady. As there was no known remedy for tetanus, Dr. Richardson urged the trial of the nitrite of amyl strongly. The whole of the amyl series required to be investigated phsiologically; the inquiry promised to be attended with the most important results.—*British Medical Journal, October* 15, 1864, *p.* 451.

4. *The Hour of Death in Acute and Chronic Disease.* By Alfred Haviland, Esq. (Read before the British Association for the Advancement of Science.)

The author had collected over 5,000 cases of death, with the hour of death, and other circumstances recorded, which he had tabulated and exhibited on a large chart. By this chart, he showed that in 1,000 cases of death in children under five years of age, the periods of the greatest mortality took place during the hours between 1 and 8 A.M.; and that, in the succeeding hours between 9 and 12 P.M., the rate of mortality was at its minimum. He then compared these statistics with 2,891 deaths from all causes; and the chart showed how remark-

ably the wave lines of death compared with those above. Deaths from consumption, although they showed a general resemblance in the wave line, yet between the hours of 4 to 8 A.M., showed a depression, when compared with the first four hours' period. He contended that the tables on the chart proved the extraordinary mortality in the early hours in the morning when the powers of life were at their lowest ebb. He urged the necessity of feeding and stimulating the patients at their weakest hour, so as to tide them over a critical period, and, even if death be inevitable, to support the patient, that he might at least have a few hours more of life snatched from eternity to admit of his being able to carry out some neglected duty, pardon some enemy, and see some beloved friend. He finally urged upon his professional brethren the high importance of teaching friends and nurses how to attend to those under their charge.—*British Medical Journal, October* 15, 1864, *p.* 451.

5. *Physiological Study of Opium and its Principal Alkaloids.* By M. Claude Bernard. (Read before the French Academy of Sciences, August 20, 1864.)

The following is an abstract of M. Bernard's interesting memoir:

The alkaloids of opium possess three principal properties: a soporific action, an excitant of convulsive action, and a toxical action.

Arranged according to their narcotic property, narceine occupies the first place; morphine, the second; codeine, the third. Narcotine, papavareine and thebaine have no narcotic action.

In giving rise to convulsive movements, the previous order is reversed; for thebaine, papavareine, and narcotine come before codeine, morphine and narceine. This last alkaloid, which is possessed of the greatest degree of narcotic power, is lowest as an excitant.

In toxical power, thebaine, codeine and papavareine are superior to narceine, morphine and narcotine.

In physiology more than in any other science it is easier to make bad experiments than good ones. To this course must be attributed the many contradictory results which have been obtained. In the researches made by M. Bernard, relative to opium, it was necessary that animals possessed of a high degree of sensibility should be selected for experiment. Accordingly, he made his observations on young sparrows, which abound in Paris during the spring. They were as nearly alike as possible in size, age, &c., and were, in addition, very sensitive to the narcotic, toxic and convulsive action of the alkaloids used. Pravaz's syringe was used to inject the agents under the skin.—*Revue de Thérapeutique Medico-Chirurgicale*, No. 19, *p.* 528.

6. *The Physiological Effects of Tobacco.* By B. W. Richardson, M.D., &c. (Read before the British Association for the Advancement of Science.)

Without being a devotee to tobacco, Dr. Richardson had for many years often smoked. He did not come before the section biassed in any degree; but simply as a man of science, who had tried to comprehend the facts of the whole question. He referred to the following subjects. 1. The composition of the products of combustion of tobacco, chemically and physically. 2. The physiological action of the various compounds thus derived. 3. The effects of ordinary and ex-

cessive smoking on the organs of the body. He gave the following summary of the conclusions at which he had arrived. 1. The effects that result from smoking are due to different agents imbibed by the smoker, viz.: carbonic acid, ammonia, nicotine, a volatile empyreumatic substance, and a bitter extract. The more common effects are traceable to the carbonic acid and ammonia; the rarer and more severe to the nicotine, the empyreumatic substance and the extract. 2. The effects produced are very transitory, the poisons finding a ready exit from the body. 3. All the evils of smoking are functional in character, and no confirmed smoker can ever be said, so long as he indulges in the habit, to be well; it does not follow, however, that he is becoming the subject of organic and fatal disease because he smokes. 4. Smoking produces disturbances: (*a*) in the *blood*, causing undue fluidity, and change in the red corpuscles; (*b*) on the *stomach*, giving rise to debility, nausea, and, in extreme cases, sickness; (*c*) on the *heart*, producing debility of that organ, and irregular action; (*d*) on the *organs of sense*, causing, in the extreme degree, dilatation of the pupils of the eye, confusion of vision, bright lines, luminous or cobweb specks, and long retention of images on the retina: with other and analogous symptoms affecting the ear, viz.: inability clearly to define sounds, and the annoyance of a sharp ringing sound, like a whistle or a bell; (*e*) on the *brain*, suspending the waste of that organ, and oppressing it if it be duly nourished, but soothing it if it be exhausted; (*f*) on the nervous filaments and sympathetic or organic *nerves*, leading to deficient power in them, and to over-secretion in those surfaces over which the nerves exert a controlling force; (*g*) on the *mucous membrane* of the mouth, causing enlargement and soreness of the tonsils, (smoker's sore-throat,) redness, dryness, and occasional peeling off of the membrane, and either unnatural firmness or contraction, and sponginess of the gums; (*h*) on the *bronchial surface of the lungs*, when that is already irritable, sustaining the irritation, and increasing the cough. 5. The statements to the effect that tobacco smoke causes specific diseases, such as insanity, epilepsy, St. Vitus's-dance, apoplexy, organic diseases of the heart, cancer and consumption, and chronic bronchitis, have been made without any sufficient evidence or reference to facts, and can never accomplish the object which those who offer them have in view. 6. As the human body is maintained alive and in full vigor by its capacity, within certain well defined limits, to absorb and apply oxygen; as the process of oxydation is most active and most required in those periods of life when the structures of the body are attaining their full development; and, as tobacco smoke possesses the power of arresting such oxydation, the habit of smoking is most deleterious to the young, causing in them impairment of growth, premature manhood, and physical degradation.—*British Medical Journal*, *October* 8, 1864, *p.* 425.

Although there is much in Dr. Richardson's paper worthy of consideration, many of his conclusions are altogether too loose to admit of general application, and at most are only true of the excessive use of tobacco. Millions of smokers live to a green old age, without any peculiar disturbance of either their mental or physical faculties. Dr. Richardson entirely overlooks the action of tobacco as a soother of the mind, and as predisposing to study and reflection. Almost all great men of modern times—philosophers, statesmen, and generals—have been smokers. With these facts in view, and others which will readily

occur to those who have studied the subject, and which are well known to all intelligent and reflective smokers, the anti-tobacconists will make but little headway in their crusades against an article which cannot even be lessened in consumption by high tariffs and excessive taxes.

7. *Physiological Effects of Digitalis.*

Dr. M. Galan presented to the Academy of Medicine in Havana, Cuba, a Memoir "on the Physiological Effects of Digitalis." From repeated experiments conducted by M. Martin-Magron, of Paris, Dr. Galan concludes that—

1st. Digitalis accelerates the pulse only transiently, and previous to the constant lessening which it produces on its action. 2d. This effect does not take place if the heart beats normally slow. 3d Digitalis, like digitaline, as observed by Vulpian, causes a change in the shape of the heart. 4th. It diminishes the treating, both in organic and nervous affections of the heart. 5th. Hypertrophy is, of all affections of the heart, the most obstinate to the action of digitalis. 6th. This substance diminishes the calibre of the blood-vessels. 7th. It excites, instead of depressing, the cerebral functions. 8th. It very seldom determines convulsions attended with spinal paralysis. 9th. Digitaline may rationally be employed in several diseases: convulsions, epilepsy, spermatorrhœa, and specially in tetanus, in preference to woovara, which otherwise acts on the nerves, and excites the spinal cord, as proved by C. Bernard.—*Annals de la Real Academia de Ciencias Médicas, Fisicas y Naturales de la Habana. Dec.* 15, 1854.

## II.—HYGIENE.

8. *A Few Words concerning Bantingism.* By C. B. Radcliffe, M.D. (Read before the British Medical Association.)

As every one knows, Mr. Banting was a stout man who became reduced to more seemly dimensions by the adoption of a particular code of diet. As every one also knows, "Bantingism," or the struggle to become thin by following Mr. Banting's example, is at present the fashion in many quarters. Is, then, this fashion to be encouraged, or is it to be discouraged? Dr. Radcliffe is of opinion that it ought to be discouraged, and the present "few words" are intended to show in brief why it ought to be.

Mr. Banting's rule is to take abundance of lean meat, claret, sherry, Madeira, and tea, and to abstain as much as possible from bread, butter, milk, sugar, beer, and potatoes—articles containing starch and saccharine matter—to abstain as much as possible from the articles upon which Mr. Banting had lived almost exclusively in the days when he was a victim to obesity. The diet in Bantingism, indeed, is essentially the same as that prescribed in training for the ring or for the boat race. The chief peculiarity in each case is to allow a large amount of lean meat, and if there be any difference, it is that the Bantingist deals more liberally with himself in this respect than the athlete. What Mr. Banting allows himself is rather more than is eaten by the average-size man in training. It may be expected, therefore, that the known results of the process of training may throw

some light upon some of the consequences of Bantingism. It may be expected that Bantingism cannot be carried beyond a certain point with advantage. In training this is certainly the case, for after a certain time, longer or shorter as the case may be, after within four months at the longest, the person in training rapidly gets "out of condition." Nor is it otherwise with Bantingism; at any rate, Dr. Radcliffe, says that he has met with several persons who, after trying Bantingism for a while with no disadvantage, have thus got "out of condition" in an unmistakable manner, some of them becoming very gouty, and all of them experiencing a decided failure in strength and spirits.

Dr. Radcliffe is disposed to look upon this loss of "condition" in these two cases of training and Bantingism as depending partly upon excess of nitrogenized food, and partly upon deficiency of fatty matter. The nitrogen of the food escapes in the main by the kidney, as urea or uric acid, and if the kidney be not up to its work, the system is apt to become gouty from the accumulation of these products in the blood. Hence it is not difficult to see how excess of nitrogenized food may, sooner or later, lead to ill-health, and that, especially, in the case in which a proper amount of exercise is neglected. Nor is it difficult to see how deficiency of fatty matter may tend to bring about the same result, if, as Dr. Radcliffe supposes, a certain quantity of fatty matter be necessary to the proper nourishment of nerve-tissue. It is not difficult to see that nerve-tissue, which contains a large quantity of fat, may be starved if the food do not contain a sufficient quantity of fat, and that this starving of the tissue may involve a corresponding want of nervous energy. At any rate, Dr. Radcliffe is disposed to look upon the diet in training and in Bantingism as calculated to nourish the muscles rather than the nerves, and he believes that this may be one reason why prize-fighters, like Heenan, have often been so seriously wanting in the power of sustained action, and why the followers of Mr. Banting have after a while begun to flag in the spirit which animated them at first.

In a word, Dr. Radcliffe considers that it is not safe to ignore the old standards of food so completely as is done in Bantingism. He thinks that milk and bread are still typical articles of food. He gave reasons for believing that the farinaceous, and saccharine, and oily articles of food are, in proper proportion, not to be dispensed with without risk, inasmuch as they are the most suitable fuel for keeping up the heat of the human body at the proper point; and he gave reasons also for doubting whether saccharine and farinaceous matters in excess have the same tendency to favor the formation of fat as oily matters in excess. He is of opinion that certain persons may incline to the type of vegetable feeders rather than to the type of animal feeders, and that these persons may find the nitrogenized part of their food better in the albumen, fibrine, and caseine of vegetables than in the albumen, fibrine, and caseine of animals.—*Dublin Medical Press, September* 7, 1864.

9. At the late meeting of the *British Medical Association for the Advancement of Medical Science*, Dr. Cobbold, whose work on parasites has rendered him an authority on the subject, read two papers, of which the following are abstracts. Many of our readers will, doubtless, in this connexion, recall the interesting memoir read before the

Academy of Medicine, a few weeks since, by Professor J. C. Dalton, M.D., upon the *Trichina Spiralis*.

*Meat as a Source of Entozoa.*—By T. S. Cobbold, M.D., F.R.S. Referring first to beef and veal, he described the various species of tapeworm to be found in cattle. He also referred to the difficulty of detecting these parasites, even by a skilled veterinary surgeon; but added that all danger of injury to mankind, from their presence, was avoided by cooking the meat at a high temperature—say 212 Fahrenheit. Most of the tapeworms inhabiting sheep did not appear capable of living in the human body; still it was a wise precaution never to take meat underdone. Pork was the most injurious; and there was now no question that the measle inhabiting the pig was communicated in the pork eaten. If the poor would only abandon their semi-civilized habits of eating raw or half-cooked meat, the evil would soon cease altogether. A great variety of entozoa was to be found in game, but they were, for the most part, of innocuous classes. In fish they were more abundant than in either birds or mammals; but there was reason to believe that fish might be eaten either cooked or raw without danger to the consumer.

*Vegetables, Fruits, and Water, as a Source of Entozoa.*—By T. S. Cobbold, M.D., F.R.S. There was no doubt that entozoa were introduced with vegetable food. Small molluscs harbored parasites in prodigious quantities, and they were the source of one or more of the parasites that occasionally invaded the human form. These entozoa might be taken in water drinking, but they were much more likely to be taken from water-cress, or other vegetables of the kind. It was necessary with all vegetables that the greatest cleanliness should be observed in preparing them for the table, and care should be taken to avoid swallowing these small molluscs, which were very likely to escape observation. A large species of the tapeworm, discovered in Egypt, would, he was afraid, be brought to this country at some time from our colonies; and if ever it got place amongst us, it would be difficult of extermination. Eggs and living specimens had been found in this country, both in men and monkeys, but only to a very small extent. He was the first to discover it in the monkey. There was no evidence to show that any species of entozoa was derivable from fruit. A great many evils in children were charged to eating unripe food, but, as far as entozoa were concerned, that fear was entirely groundless; and if they should be so introduced, the chances were that the larvæ would be taken from the surface of the fruit. With regard to celery, cabbages, and all the ordinary market-garden vegetables, he might say that all decomposing animal and vegetable matter sustained entozoa, and the more filthy the water or liquid manure employed to secure the fertility of the garden, the more likely was a supply of entozoa to be taken with the vegetable grown upon the land. The most careful washing was, therefore, required. Parasitic larvæ might be found in water that was to all appearance perfectly pure; but speaking generally, it might be inferred that fresh spring water was perfectly innocuous. The same thing could not be said of water stored in large tanks in hot climates. The presence or absence of the larvæ of human entozoa in water was dependent upon the place whence the supply came, and upon the condition of the water. The pork measle might be readily communicated to human beings in this way; and there was another species taken from water, the habit of which was to ensconce itself in the brain, causing death. There was one kind in-

habiting dogs which was often communicated to the human being. One-sixth of all persons who died in Iceland perished from a little creature so small that in its larval state it could scarcely be seen. No one need drink water impregnated with these entozoa. The danger would be got rid of if the water was always carefully boiled, filtered, or distilled; but a filter to be effectual ought not to pass anything larger than one one-thousandth of an inch. Sand and charcoal filters were of very little use. Paper filters should be employed. All entozoa not preserved for scientific experiments should be destroyed by fire. Beer, porter, etc., he believed perfectly harmless. Even though impure waters should have been employed, the boiling of the wort would be alone sufficient to destroy any number of parasites. As to unfermented drinks, such as ginger-beer, cider, and the like, there could not be perfect certainty. All must depend upon the source and the supply of water. In regard to wines, the same remarks were applicable. Alcohol added to water was sufficient to destroy the parasitical eggs; but he questioned whether the amount of spirit in our home-made wines was sufficient for the purpose.—*British Medical Journal, October* 15, 1864.

10. *Revived Corks.*

M. Stanilas Martin calls attention to the employment of refuse corks as dangerous to public health. It is the custom of the Paris scavengers to collect those which are brought down by the sewers, and sell them to persons who make it their business to revive them. If they are misformed, they are recut; while, if containing holes, these are filled up with mastic, and then smeared with a powder to give them a proper color. Such corks used only to be employed by the ink and blacking makers, but their low price (5s. 6d. per 1,000) has of late induced retailers of bottled drinks to purchase them. M. Martin asks if there be not ground for alarm lest some of these corks may have been formerly used to stop bottles containing poisonous substances? for although a good cork is not permeable, a bad one, full of holes, may readily become the receptacle of particles of verdigris, carbonate of lead, arsenic, or an infinity of other poisonous substances, which may be more or less soluble in water, wine, beer, cider, vinegar, milk, or oil. It is to be hoped, also, that these revived corks have never given rise to juridical errors, causing the innocent to be declared guilty.—*Medical Times and Gazette, October* 15, 1864.

11. *Benzine and Trichiniasis.*

Professor Mosler, of Giessen, has convinced himself, from experiments on man and animals, that "benzine is of all remedies the best anthelmintic, and that it may be taken by man in large doses; that, taken in proper doses, it destroys the trichinæ in the intestines, and thereby prevents the spread of their embryos; that it is, therefore, the only rational remedy which can be employed in trichina disease in man."

Professor Mosler had an opportunity of observing the effects of the benzine in an epidemic of the disease at Quedlinburg. On his return from Quedlinburg, he experimented on five young pigs, to determine the curative action of the benzine in trichiniasis. He first kept the pigs for a time, to prove they were in perfect health; and, on April

17th, fed them with the trichinised flesh of rabbits, giving each of them a similar weight of it. Of these animals, three (3, 4, and 5) were treated with the benzine, and two (1 and 2) without benzine. No. 1 was left without any remedies. No. 2 was treated with large doses of Glauber's salts. No. 3 was treated with benzine, in conjunction with purgatives, from the eighth day after taking the trichinæ. No. 4 was treated with similar doses of benzine, without purgatives, from the eighth day; and No. 5 with benzine only, from the fourteenth day after taking the trichinæ. No. 5, however, died from the effects of benzine, which was carelessly administered on the very first occasion, and entered the lungs. On the 30th of April, No. 1 showed signs of the disease; he became thin, and weak on his legs; his eye became dull; he showed signs of suffering, and had fever. No such signs of disease were observed in Nos. 3 and 4, which had taken benzine; so that it was thought possible they might not have been infected. To be sure of this, on the 7th of May, (twenty days after the trichinæ were swallowed,) Professor Mosler cut a small bit of muscle from the pectoralis major of the animals, which, on microscopic examination, was found to contain numerous trichinæ. In the muscle of No. 1, however, trichinæ were far more numerous than in Nos. 3 and 4. The diseased symptoms increased in No. 1 up to May 7th, and benzine was then given to him; so that, up to May 27th, he had taken in all four ounces. The symptoms had almost disappeared. Professor Mosler gives further full details of his carefully conducted experiments; and tells us that, through the administration of the benzine, a large portion of the trichinæ were destroyed in the intestines, and so only a limited quantity of the embryos found their way into the muscles, and not enough to produce symptoms of disease.—*British Medical Journal, October* 1, 1864.

## III.—PATHOLOGY AND PRACTICE OF MEDICINE.

12. *Loss of Speech, in conjunction with Suspension of certain other Functions of the Brain, following an Epileptiform Attack.* By James Russel.

The following cases are presented as a postscript to my paper in the *Journal* of July 23d, on Loss of Speech in connection with Hemiplegia, though they offer no analogy with the cases in that paper, excepting in the prominence among the symptoms held by speechlessness; the cause of the disease, and the attendant conditions being entirely different. They exhibit a very remarkable condition of suspended activity on the part of particular functions of the nervous centres, apparently unconnected with any organic change in the centres themselves. They also afford a very striking illustration of the independence of the different functions of the nervous centres, and of the perfect limitation which may be effected in the operation of morbid action in so complex an organ as the brain; the performance of certain functions being, for a time, entirely arrested, whilst the others remained entirely unaffected.

I alluded, in my former paper, to the limitation in the action of organic disease upon the brain, as occasionally exhibited, in a still more remarkable manner than in the abolition of motion or speech; a single class of words, as a particular language, being alone forgotten; and as connected immediately with my present subject, I may

adduce the following illustration, derived from the operation of disease not involving structural change.

A girl, aged 6 years, was seized with an epileptiform attack, which lasted severely for an hour; but the convulsive movements did not subside for two hours afterwards. She lay afterwards in a semi-conscious state, restless, and at times partially maniacal, until the evening of the following day. As she recovered from this condition, her memory was found to be generally impaired, but especially so as applied to speech; the patient presenting an excellent illustration of that form of defect of speech which depends upon impairment of the mental element concerned in that function. The motor and sensitive functions were entire, with one exception; and her intellect, in all other respects, was speedily restored; but the period of her life antecedent to her attack was, for some time, a perfect blank; though, by degrees, a few events emerged from the darkness. During the first day or two, every desire was expressed by the words, "I want." Afterwards, as she found language, her sentences became incoherent after the first words. She also misapplied terms, unfortunately, in one particular, always calling her uncle "donkey;" her forgetfulness of appropriate words was so complete that she often did not recognize them when presented to her, so that she could not be prompted. She had always been a sharp, clever child, fond of reading, and had written two letters on the day preceding her illness; but she was now found to have lost entirely the power of reading and writing, and had to begin again with the very elements. In relearning her alphabet, it was observed that there were particular letters at which she always halted, and she shook her head, even when they were pronounced to her, being apparently unable to catch the sound. She applied herself with much diligence to regaining her lost ground; but her progress was very slow, and ten months afterwards she had not recovered her former position. It is now eighteen years since these events occurred; the patient has continued in perfect mental health; but I am told by her father that even now she is apt to be a little confused if she speak too rapidly.

One circumstance remains to be noted, of much importance, as regards the statement by Dr. Jackson, which suggested my former paper, that the attack left a weakness in the right arm; so that for some time she used the left hand in preference to the right. It must also be added, that her grandfather suffered, in advanced age, from some form of cerebral disease, which destroyed his memory for words; and that her family exhibits a marked proclivity to derangement of the brain.

But there are instances of a much wider suspension of the functions of the brain than occurred in the preceding case, associated with epileptiform disease, or independent of it. Thus, Dr. Carpenter, in his *Physiology*, quotes the case of a man in whom the entire intellectual powers were placed in abeyance "almost instantly," for a period of five years, in consequence of mental distress, and were "then recovered completely, and rather suddenly." A more extraordinary case is the one detailed by Mr. Dunn, (*Lancet*, November, 1845,) and also referred to by Dr. Carpenter. It bears a close analogy to the cases I have to detail, though very superior to them in interest. Like them, the suspension of cerebral power immediately followed a fit of an epileptiform character, and the symptoms were much modified by the recurrence of the fits. The case also presents the limitation of diseased action to particular functions of the brain in a still more strik-

ing point of view; the mental faculties of the patient were suspended in their exercise; and of all the senses, sight and touch alone remained, constituting the sole medium of communication with the outer world. Recovery was effected in different periods of time in the case of the different functions; one or two words were spoken four months after the commencement of the illness, but the patient's vocabulary remained very scantily furnished for eight months longer, when speech was at once fully restored under the influence of emotion; the sense of hearing continued quite lost ten months after all the other senses had been regained. It is to be noted that intense emotion was concerned in promoting the recovery of the lost functions.

The following case will be seen to present considerable analogy with those which I have quoted, retaining, however, certain points of difference.

Samuel Price, aged 32, married; stamper. When seen on the day following that of his admission, he was lying on his back, apparently asleep; his eyelids were stuck together by dried mucus, and it was stated that they had not been opened for four days; when separated, the cornea was drawn upwards so as nearly to conceal the pupil. He had not spoken since his attack, four days before. His condition, noted on several occasions during the following forty-eight hours, presented the following remarkable characters. He evidently possessed a certain amount of consciousness; he sat up in bed and fed himself when food was placed in his hands; given a cup of milk, he raised it properly to his mouth. When addressed, he directed his eyes to the speaker, and obeyed instructions immediately and intelligently; the nurse strongly enjoined him not to wet his bed, and, as she believes, in consequence of her injunctions, he gave indications of his needs. Notwithstanding this evidence of consciousness, he appeared quite insensible to pain; it was impossible to elicit any evidence of common sensation; most severe pinching, pushing the point of a knife into his skin, the application of a spoon dipped in boiling water, pulling his whiskers, thrusting a pin behind the finger-nail, produced no sign of sensibility—not the least change in the expression of face—nothing, in short, but a few inconsiderable muscular movements in the limb which was assailed. A roll of paper rested on the cornea without inducing winking; but when a pen was introduced into the nostril, or passed down the throat, considerable movement of the head and neck and attempts at retching followed. Power of voluntary movement remained, and muscular resistance was opposed to passive movement. On the day after his admission, he got out of bed when ordered; but his walk was very unsteady. He resisted the introduction of the spatula into the mouth; and whilst we were thrusting a pen into his nose, he raised his hand, as if to thrust it away. The raised limbs, when dropped, were evidently controlled by the muscles. The pupils acted freely; the right was rather larger than the left.

He was a small made man; the expression of face very deficient in intelligence; his head was small; his forehead receding. The history which was obtained was as follows. He had been subject to fits, apparently of epilepsia mitior, since he was nine years old; eight years ago the fits became much more severe, and were attended by fully developed epileptic phenomena; he always fell on the left side. At that time, when the fits had assumed greater severity, he was left by one of the fits in the same state as on the occasion of his coming under my care; he then also lost power over his left limbs. He was in the Queen's Hospital for sixteen weeks, and when he left, could only speak

a little; he then entered the General Hospital, but it was two months before he walked without a stick; the arm recovered before the leg. From the date of this illness to the time to which the present report refers, the fits became again much slighter, and continued so until eight days before his admission into the hospital, when three fits occurred; he continued to work during the following three days, though he was rather dull, but on the fourth day he was found speechless in bed, and then was brought to the hospital.

The day of his admission was October 28th, 1861, and it was November 16th before any distinct improvement had been effected in his condition. On October 30th, he was found waiting for his tea, having indicated, by signs, the state of his appetite; after his meal had been brought, the bread was removed; he then ceased eating, but being desired to go on, he felt for his bread, picked it up, and proceeded with his meal. He signified his desire to eat by pointing to his mouth; desiring to be led to the lobby, he shook a partition by his bedside. He pointed to his throat as the seat of some supposed malady, and put my finger into his mouth, but nothing amiss could be discovered. He was told that he should have no more food until he asked for it; he held up his hands imploringly, and pointed to his throat; a day or two afterwards, an attempt was made to carry the threat into execution, but he made so great a disturbance by shaking his bed, and in other ways, that food was at last given; and on a subsequent occasion, under similar circumstances, he made some noise in his throat with great effort, pointing to that part as the seat of difficulty. All this time the special senses were active, and apprehension was quick; hearing our comment upon one pupil being larger than the other, he indicated that he had suffered a blow on the eye, by pointing first to the eye, and then to a bottle, supposed to be the instrument with which the blow had been inflicted.

His sensibility to tactile impression was again tested, by pinching till a blush of inflammation appeared, and by as strong a shock as could be procured from a battery; asked if he felt anything? indicated yes; if he were hurt? shook his head. The earliest approach towards speaking was in some guttural sounds on November 3d; and during the utterance of these sounds, his face wore an expression of great anxiety to succeed; four days afterwards, an attempt to alarm him by ordering his back to be fired, caused much apprehension, and a fair imitation of the words, "I don't want it;" but his conversation was merely a series of "tut," "tut," "tut," uttered with great gesticulation, and a very earnest expression of countenance. On November 16th, he said distinctly, "Getting better, thank you," and on the 28th talked freely, and almost intelligibly. The last notice of sensation is on November 7th, when it remained defective on the left side of the body, and to a slighter degree, on the left side of the tongue and face. His left leg was unable to support his body in walking, though he moved it freely when lying down; its girth was below that of the right. He left the hospital on December 28th, using a crutch, but some time afterwards was seen walking in the street actively and well.

His urine deposited phosphates on boiling.—*British Medical Journal, October* 8, 1864.

13. *Lead Palsy caused by the use of a Cosmetic.* By Dr. Ward Cousins.

M. M., aged 20 years, the daughter of a tradesman, consulted me last November "for great weakness in her wrists." Her illness com-

menced fifteen months before that date, with loss of appetite, constipation, and vomiting, followed by emaciation and general debility. She was then sallow and cachectic looking. Her appetite was very poor, and she complained of an unpleasant taste in her mouth, but there was no blue line on her gums. Her ankles were œdematous, and the legs covered posteriorly by many livid spots and superficial ulcerations. Her hands and arms presented all the characteristic symptoms of lead palsy—the wrists were dropped, and the power of extending the fingers almost lost, while the muscles composing the thenal and hypothenal eminences were remarkably atrophied.

From the history and symptoms I suspected that my patient had been poisoned in some unusual way by lead, and as her appearance indicated that she freely used some face-powder, I suspected that this was the channel by which the mineral had entered the system. After a little inquiry all doubt was soon removed. She told that she was in the habit of applying "pearl powder" to her skin; at the same time I learnt from a druggist in the neighborhood "that he had supplied, for many months, both my patient and her sisters with carbonate of lead, which he believed was used as a cosmetic."

The treatment consisted in the administration of the iodides of potassium and iron with small doses of strychnia and cod-liver oil, and also local remedies to restore the nutrition and power of the faulty muscles—viz: daily friction, constant exercise, and Faradisation. The wrists were also supported by the elastic apparatus recommended by Dr. Charles Taylor, of Walton Lodge, near Liverpool.

June 1, 1864.—For some weeks my patient appeared to improve considerably, but when I last saw her, a few days since, the treatment had been neglected, and the disease is now, unfortunately, worse than ever. When the arms are extended, her hands hang helplessly down by their own weight, and the muscles of the forearm are wasted and shrunken.

*Remarks.*—No doubt that the whole train of symptoms in this case was the result of poisoning by the lead, which was slowly introduced into the system through the skin. At the onset the usual intestinal disturbance was well marked, followed by emaciation, but the cause of the disease was not suspected until the characteristic paralysis became manifest. It is an interesting fact that the sisters of my patient escaped, although they used the same face powder—fortunately for them they were in better health, and less susceptible of the poison; yet there can be no doubt, if the practice had been continued for a longer time, symptoms of the disease would likewise have appeared in them. The treatment proved unsuccessful in this case, and even under the most favorable circumstances, it is my experience that very little can be done for this form of local paralysis after twelve or eighteen months, for the affected muscles become shrunken and their tissue destroyed. There are numerous instances in which lead or its preparations, by contact with the skin, have been known to produce the usual results of lead poisoning; but I believe this is the only case of paralysis on record caused solely by the use of cosmetic.—*Medical Times and Gazette, September* 10, 1864.

14. *Formiate of Ammonia and Formic Acid in Diseases of the Nervous System.*

If chemical homologies had corresponding therapeutical relations, we should not expect to find great energy in formiate of ammonia.

Of course, identity of composition does not in any way imply identity of properties, either of form or of chemical relations; but identity of type is pretty certain evidence that the difference of chemical properties is simply one of degree and not of kind. Formiate of ammonia is the homologue of acetate of ammonia, formic acid being the acid from methyl alcohol, and acetic acid from common alcohol; and the difference in composition in these two acids, as betwixt each in the series, is two equivalents of carbon and two of hydrogen. This gradual increment of carbon and hydrogen in this series is attended by a corresponding increment of properties, greater solidity, and a higher boiling point (19 centigrade.) Now, it has been suggested that, as there is, with some discrepancies, however, a gradual ascent of physical and chemical properties, so there may be a corresponding one of therapeutical power. Such schemes of thought may be useful to suggest remedies, but not to decide on them. The following observations, gathered from the practice of Dr. Ramskill at the Hospital for Epilepsy and Paralysis, show that such reasoning cannot be trusted in the instance of formiate of ammonia. Although lower in the scale, chemically it seems to have far more energetic properties than we are in the habit of ascribing to acetate of ammonia, our common saline. Probably the action of formic acid on the skin is strictly analogous to that of acetic acid. Formic acid is the acid found in ants, and also in the juice of the common nettle.

Formiate of ammonia is used chiefly for internal administration; it is especially applicable to cases of chronic paralytic disease, accompanied by general torpor.

It is contra-indicated wherever there is reason to suppose activity in or about the seat of the original lesion in the nervous centres: irritable stomach, also, whether the result of cerebral mischief or not, excludes its use. On the contrary, cases of reflex paralysis are most benefited; next, those cases where, from disuse, the muscles and nerves have become unable to convey commands of the will, or to execute movements. It is equally useful in paralysis of sensation as of motion. The dose is five grains. Given in larger doses than five grains, it produces vomiting. When it agrees, patients experience an epigastric glow, and it appears to act as a general stimulant.

Applied externally, we find in formic acid, diluted with an equal quantity of water (or less,) the best local application for paralyzed limbs. It restores circulation, and frequently produces the sensation of being stung with nettles, and occasions an erythematous eruption. As we have remarked, this acid is contained in the juice of the common stinging-nettle, and in ants. Just as burnt sponge had been used long before it was known to contain iodine, so ants have been used empirically. We do not attach much importance to the authority, but we may mention that De Leuw, the notorious quack oculist, almost always prescribed, in anæmic cases, an ointment, composed of ants of the larger kind mixed with lard, to be rubbed over the branches of the fifth and seventh nerves in the neighborhood of the eye. There is a considerable quantity of formic acid in the bodies of these insects.

In some forms of epilepsy the internal administration both of the acid and its salt of ammonia has done great good; in others, apparently harm.—*Medical Times and Gazette.*

In several cases in which we have used the above named remedies the action has been very decided. As a prompt and efficient counter-

irritant, formic acid has properties which deserve for it attentive consideration. Formiate of Ammonia accelerates the pulse, and in large doses causes ringing in the ears and a sense of fullness of the head. We have never seen vomiting produced by a less dose than ten grains. Its action in cases of functional paralysis, whether of motion or of sensation, is well marked, and in a case of hyperæsthesia both it and formic acid were employed with entire success.

15. *On the Internal Employment of Essence of Turpentine in the Headaches of Nervous Women.*

M. Teissier thus describes the kind of cases of nervous headache in which he has found the essence of turpentine to be beneficial. The affection, he says, is a common, but often very severe one, and should not be confounded with ordinary neuralgia, either periodic or irregular, of the face or cranium, or even with hemicrania. This cephalæa is characterized by a much more fixed and continuous pain in the head, and may last not only several weeks, but months and entire years, without presenting more than rare and slight intermissions. The pain is sometimes dull, sometimes shooting, and sometimes pulsative, occupying only a single point of the head or the whole of the cranium, being accompanied by nausea or even vomiting, and complicated besides with much more serious symptoms, such as vertigo and tendency to syncope, inability to think or to work, despondency, weariness of life, and, sometimes, numbness in the limbs. It is especially observed in nervous women, with exalted sensibility, of a delicate constitution, somewhat anæmic, and especially hysterical. It often co-exists with dysmenorrhœa, amenorrhœa, and also with a tendency to excessive menstruation, although it is sometimes observed in persons of good constitution whose menses are regular. M. Teissier observes that many remedies already exist which are efficacious in this complaint, such as valerian, assafœtida, the ethers, cyanide of potassium, aconite, &c.; and more particularly those which improve the blood, as chalybeate medicines, and different mineral waters. But these means sometimes fail, and then the essence of turpentine may be employed with advantage; although M. Teissier does not assert that it is infallible in its operation. It has been employed in the same kind of cases by Dr. Graves, and by Trousseau; but M. Teissier does not think it necessary to prescribe it in such large doses as those physicians have done. He recommends its use in capsules, given at meal-times, each capsule containing eight drops of the essence.—*Gazette Medical de Lyon, and Brit. and For. Med.-Chir. Rev.*

## IV.—MILITARY HYGEINE, MEDICINE, SURGERY, &c.

16. The following report, made to the Emperor by the Minister of War, shows how great has been the diminution of the mortality of the French Army, and designates the causes of the favorable result:

PARIS, October 1st, 1864.

SIRE:—I have already had the honor of informing your majesty that the medical statistics recently published indicate the progressive diminution of the mortality of the army.

I have now to complete the information, by commenting in a cursory way upon the data relating to an exactly limited period.

According to the official figures presented to the parliamentary tribune, in 1846, the annual mortality was, for the troops at home stations 19 per 1,000, and in Algiers, 64 per 1,000. In the year 1862 and 1863, there were but 10 deaths per 1,000 at home stations, and about 12 per 1,000 in Algiers. The rate of mortality has thus been reduced 48 per cent for the home stations, and 82 per cent for Algiers.

This diminution is naturally accompanied with a diminution of the number entering hospital, and of the number of days of treatment which, in 1842, amounted to one twenty-third of the effective force of the army, to one thirtieth in 1852, but which for 1862, is reduced to one thirty-ninth.

These happy results are explained, in some degree, by the fact that measures dictated by hygienic science have been carried out—such as improving the quality of bread, and the ration generally, as issued to the troops, and ameliorating the sanitary condition of the barracks. Measures agreed to by your Majesty, on my recommendation, in the interest of the non-commissioned officers and soldiers. But there is no doubt that the principal cause of the progress which has been experienced, is to be found in the composition of the army, which has been radically modified by the law relative to the conscription.

Previously to 1855, the proportion of men in a company who had served more than seven years, was only 9 per 100; at present it is 33. The coincidence of this change of proportion with the diminution of mortality necessarily attracted attention, and an examination, according to the principles of medical statistics, has demonstrated that the two have the intimate relation to each other of cause and effect. The following table leaves no doubt in regard to the correctness of this assertion:

*Annual Proportion of Deaths by Diseases according to the term of service in the Army.*

| *Time of Service.* | *Proportion per 1,000 Men.* |
|---|---|
| Less than 1 year | 11.55 |
| From 1 to 3 years | 13.28 |
| " 3 to 5 " | 9.30 |
| " 5 to 7 " | 7.40 |
| " 7 to 14 " | 5.25 |
| After 14 years the mean increases to | 7.11 |

It is thus perceived that the men whose length of service ranges from 7 to 14 years are the least subject to mortality, and that those of more than 14 years' service, although they have become veterans, give better results than the four classes of the first seven years. The law relative to the conscription having thus, as the above figures show, almost quadrupled the number of men counting more than 7 years' service, one can see how great is its influence in diminishing the mortality.

This law which has increased the efficiency of our military forces, and which has elevated the character of the soldier, has also yielded the most favorable results in regard to the sanitary condition of the army, and I am happy to have been able to submit the proofs to the consideration of your Majesty.

RANDON, *Marshal of France and Minister of War.*

*(La France Medicale, Oct. 8th, 1864.)*

17. *Scurvy.*

Dr. Fleetwood Buckle, in a communication addressed to the editor of the Medical Times and Gazette, makes the following statement:

The ship Blank, 756 tons, sailed from London for Hongkong in the spring of 1861, with a crew of seventeen hands, all told. Lime-juice was regularly served out to all alike, yet when the ship had been at sea some three months scurvy broke out, and before the end of the voyage every soul on board was more or less affected, except the second officer, a young man of 20, who had been taking small doses of Liq. potassæ for an affection of the stomach. He alone remained free. Supposing this lime-juice to have been adulterated, as described in the anonymous letter in the *Times*, of August 29, does not this case prove that the salts of potash are the true antiscorbutic agents?—*Medical Times and Gazette, September 10th*, 1864.

18. *The Hospital Convention.*

The International Congress, which has been sitting at Geneva, with a view to regulate the position of Hospitals and wounded in time of war, has terminated its labors. Ten resolutions have been adopted and signed, under reserve of ratification, by the representatives of Belgium, Baden, Denmark, Spain, France, Hesse, Italy, the Netherlands, Portugal, Prussia, Switzerland, and Wirtemburg. The resolutions differ considerably from the programme first issued; they are as follows:

"Art. 1. Ambulances and Military Hospitals are regarded as neutral, and, as such, protected and respected by the belligerents, (as long as they contain sick or wounded.) The neutrality would cease should such Hospitals have a military guard.

"Art. 2. All *employés* of the Hospital, including the almoners, carriers of the wounded, etc., will enjoy the benefits of this neutrality as long as there are wounded to be attended to.

"Art. 3. The persons designated in the above article may, even after occupation by the enemy, continue to perform their duties in the Hospital or ambulance to which they may be attached, or withdraw to join the division to which they may belong.

"Under these circumstances, when their functions shall have ceased they will be escorted to the enemy's outposts by the army in occupation.

"Art. 4. As the *matériel* of Military Hospitals comes under martial law, the persons attached to these Hospitals may not, on leaving, take away anything except what is their own personal property.

"Under the same circumstances, however, an ambulance preserves its *matériel.*

"Art. 5. Inhabitants of the country who give help to the wounded are respected and remain free. The generals of the belligerent Powers are called upon to forewarn the inhabitants of the call made upon their humanity, and of the neutrality consequent thereupon.

"Any wounded man taken into a house will be its safeguard. Any inhabitant who has taken in the wounded will not be billeted upon or submitted to war contributions.

"Art. 6. The wounded or sick are taken care of, no matter to what nation they belong.

"Those will be sent back to their homes, who, after being cured, are deemed incapable of further service.

"The others may also be sent home, but on the conditions of not resuming arms during the war.

"The escorts on this service are to be treated as neutrals.

"The Commanders-in-Chief have the power to hand over to the enemy's outposts the wounded during the combat, when circumstances permit it, and with the consent of both parties.

"Art. 7. A distinct flag and uniform is adopted for the Hospitals, ambulances and escorts. On all occasions the national flag must accompany it.

"A badge may also be allowed to denote a neutral, to be granted only by the military authorities.

"The flag and badge will bear a red cross on a white ground.

"Art. 8. The general details of these regulations will be settled by the commanding officers of the belligerent Powers, according to the instructions from their Governments."

Article 9 calls the attention of other Governments to this Convention, inviting them to join in it. Article 10 states that the ratification of the Convention is to take place at Berne within four months, and earlier if possible.

19. *Marking in the British Army.*

The following editorial remarks in the *British Medical Journal* relate to a practice which seems to have grown up in the British Army, but which we are happy to know has no existence in our own service. All right-minded medical officers will approve of the views expressed by the writer:

There is one kind of marking of the British soldier to which attention has not been called; we mean, the marking of him, when discharged from the service, by means of *remedial agents*, and for the purpose of preventing his re-admission into the army. We are satisfied the profession will agree with us, that so to mark a soldier is as great a degradation to the medical officer as performing the operation of tattooing. The tattooing is admittedly a punishment; but the kind of marking—cross-cupping—to which we now allude, is the practice applied to soldiers who are discharged from the army through no fault of their own, but through the infliction of disease. We know not to what extent this practice is carried at the present; but we do know that, in 1859, a general notice was issued by the late Director-General, calling the attention of medical officers to the fact, that many soldiers who were sent to Chatham for their discharge "did not bear marks of medical treatment;" and informing them that every soldier brought forward "for discharge on account of medical disability, must bear marks of the treatment usually adopted in practice, to show that proper medical means have been used to restore to health before he is pronounced to be unfit for service." The Director-General then goes on to call the attention of the medical officers to the point that, "in the early stages of lumbago, epilepsy, diseases of the joints, and visceral affections," the patients would be much benefitted by local depletion; and he advises, as most efficacious and economical, that the blood be extracted by cupping, instead of by leeches. We believe that it was understood, in all such cases, that the cupping should be

done crosswise, and so leave a distinctive mark on the skin of the soldier. We sincerely trust that, at the present day, no army surgeon ever performs a cupping operation for the sake of permanently marking the soldier whom he is going to invalid. The practice is manifestly one which is repugnant to modern ideas of humanity, and to the honor of our profession.

20. *The Black Troops of the British Army and Consumption.*

There are some thousands of black troops in the service of the Crown. In Ceylon, the mortality is much lower among the native than among the white troops; but in the West Indies, where also there are both black and white, it is very decidedly otherwise. In Jamaica the mortality among the black troops was 30.25 per 1,000 of mean strength; among the white troops only 12.81. Mr. O'Flaherty, the principal medical officer in that command, remarks that the black soldier to outward view is apparently strong and muscular, but when sick, he has comparatively little power of resisting or sustaining disease, and fatal cases of consumption are seldom protracted to the advanced stages commonly observed among European soldiers. It must be borne in mind that the black recruit undergoes a very trying change, on enlisting, from almost complete idleness, and a semi-savage state of existence, to a life of order, regularity, and continued exertion in learning his work during the first two years; the white corps brings no soldiers in the recruit stage. In Jamaica, also, the black troops have much heavier duty than the white, and have been provided with only two meals a day, at 8 A. M., and at noon, leaving them for nearly twenty hours without any regularly provided sustenance; but the medical officer had recommended the addition of an evening meal. The liability of the black troops to consumption is remarkable, also, in the returns for West Africa. At the Gambia, the deaths from consumption and diseases of the lungs, in the four years, 1859-62, were as many as 17.64 per 1,000 *per annum*. The mortality from all causes in the year 1862, exceeded 28 per 1,000 at Sierra Leone, the Gold Coast, and Lagos; there are no European troops there to allow of a comparison of mortality.—*British Medical Journal, October* 29, 1865.

The increased experience of our own Army Medical Officers, has led them to opinions which are in accordance with those expressed in the foregoing article. The negro has not the ability to resist morbific influences which is possessed by the European, unless it is in the single matter of malarious diseases, and even in this, there is room for doubt. The medical officers having charge of the negroes liberated by our armies on the lower Mississippi, unite in the opinion that they are not in the least exempt from the action of malarial poison, and the writer saw for himself that such is the case. Undoubtedly, however, a great deal of the sickness and mortality which prevailed among the blacks a year ago in the localities referred to, was due to the entire neglect by those in power of the recommendations of the medical authorities, relative to food, clothing, and other matters affecting their hygienic condition.

# EDITORIAL.

We assume the duty of conducting the New York Medical Journal with no sanguine anticipations of easy success, nor in ignorance of the onerous and thankless labor which such an undertaking imposes, but with the conviction that the honor and interests of the profession demand the establishment of a respectable organ in this city, and the determination to spare no labor in the attainment of that end.

The changes incident to a state of war have led to the discontinuance of some of the medical periodicals of our country, have diminished the importation of foreign books and journals, and have lessened the number of reprints of professional matter.

From the same causes there has been an immense increase in the activity of the Medical profession; hospitals have become vastly more numerous, and are crowded with inmates; medical schools have larger classes in consequence of the greater demand for surgeons for the military and naval services; young men are called earlier to assume responsible duties; and experience, in novel forms, is accumulating, and the want of current medical literature, especially for that bearing upon the topics of the day, has augmented in a similar degree.

Our professional brethren in military and naval hospitals, in the field, and on our national vessels are isolated from the centres of medical education, and cut off from their usual sources of professional reading; they also want means of communication with the profession in civil life, through which their rapidly accumulating experience may find expression.

To meet these wants, in some degree, by judicious digests of American and foreign literature and the publication of good original matter, and to serve as an organ of expression for medical men—in the public service as well as in civil life—and as a channel of communication on subjects of professional interests, is the object we propose for the New York Medical Journal.

As to the means at our command we can only say, that we are well-supported, both financially and by adequate literary ability; a well-organized Editorial Corps will ensure a regular supply of good material, and the names which constitute our list of collaborators will serve as a guarantee for the tone and character of the Journal.

In short, we purpose to use our best efforts as Journalists to uphold the honor of the profession, and to serve its interest and those of hu-

manity, and we ask for the cordial support of all good and true men in the enterprise.

---

We desire to call attention to the communication of Dr. F. D. Lente, on the comparative merits of sulphuric ether and chloroform as anæsthetic agents, believing, as we do most sincerely, that the ground he has taken is tenable, and that the correctness of his views and statements will be fully substantiated by future experience. We have reason to believe that death from chloroform has occurred in several instances in our military hospitals, and in surgical operations on the field of battle, where every precaution that skill and the most tender care could suggest has been employed to avert such a catastrophe; and we trust that the love of truth and devotion to science, which characterize our brethren in the military and naval service, will lead to the publication of all such cases. A recent correspondent of the *London Medical Times and Gazette*, writing from the Army of the Potomac, mentions two fatal cases which occurred under his own observation after battles before Richmond. The case to which Dr. Lente refers at the close of his communication was in the hands of a Surgeon of experience from this city, who used all possible care in the administration of the chloroform, and yet the result was most unfortunate. The truth is, as Dr. Lente would lead as to infer, that chloroform is a dangerous agent, and will cause death in a certain proportion of the cases in which it is employed, in spite of all the precautions which science and skill can suggest in the mode of its administration. And the question he asks—"whether its employment is justifiable," when we have an equally efficient anæsthetic in sulphuric ether, which, when administered with ordinary care, is perfectly safe—remains to be answered. The surgeons of the principal hospitals in this city have given their evidence practically in favor of ether, for it is employed as a rule in the majority of them, in all surgical operations.

From Europe the weight of professional evidence, at present, is in favor of chloroform; may it not be possible that want of familiarity with the use of ether, and a natural partiality for the European discovery, may account for this? It is well to remember that sulphuric ether is *par excellence* the American anæsthetic, and we trust that its merits will be thoroughly weighed before the question proposed by Dr. Lente is finally answered.

# NEW YORK

# MEDICAL JOURNAL,

A MONTHLY RECORD OF MEDICINE AND THE COLLATERAL SCIENCES.

MAY, 1865.


---

## ORIGINAL COMMUNICATIONS.

*On Sleep and Insomnia.* By WILLIAM A. HAMMOND, M.D., of New York.

### PART I.

### Physiology of Sleep.

Before we can arrive at a correct idea of the pathology of a disease, we must form a clear conception of the physiology of the organs and functions involved. It is impossible, therefore, to understand that part of the subject under consideration which relates to sleeplessness, till we have received well-defined and true impressions relative to the healthy performance of the function of sleep, and the condition of the brain during the state of comparative quiescence which results; and as recent investigations have thrown a great deal of light upon these subjects, it will not be unprofitable to recall some of the principal points connected with them to our recollection.

The state of general repose which accompanies sleep is of especial value to the organism in allowing the nutrition of the nervous tissue to go on at a greater rate than its destructive metamorphosis. The same effect is, of course, produced upon the other structures of the body, but this is not of so much im-

portance as regards them, for whilst we are fully awake they all obtain a not inconsiderable amount of rest. Even those actions which are most continuous, such as respiration and the pulsation of the heart, have distinct periods of suspension. Thus, after the contraction and dilatation of the auricles and ventricles of the heart, there is an interval during which the organ is at rest. This amounts to one-fourth of the time requisite to make one pulsation and begin another. During six hours of the twenty-four, the heart is, therefore, in a state of complete repose. If we divide the respiratory act into three equal parts, one will be occupied in inspiration, one in expiration, and the other by a period of rest. During eight hours of the day, therefore, the muscles of respiration and the lungs are inactive. And so with the several glands. Each has its time for rest. And of the voluntary muscles, none, even during our most untiring waking moments, are kept in continued action.

But for the brain there is no rest, except during sleep, and even this condition is, as we all know, only one of comparative quietude in many instances. So long as an individual is awake, there is not a single second of his life during which the brain is altogether inactive; and even whilst he is deprived by sleep of the power of volition, nearly every other faculty of the mind is capable of being exercised; and several of them, as the imagination and memory, for instance, are sometimes carried to a pitch of exaltation not ordinarily reached by direct and voluntary efforts. But for the fact that all parts of the brain are not in action at the same time, and that thus some slight measure of repose is afforded, it would probably be impossible for the organ to maintain itself in a state of integrity.

It is well established as regards other viscera, that during a condition of activity there is more blood in their tissues than whilst they are at rest. It is strange, therefore, that, relative to the brain, the contrary doctrine should have prevailed so long, and that even now, after the subject has been so well elucidated by exact observation, it should be the generally received opinion that during sleep the cerebral tissues are in a state approaching congestion. Thus, Dr. Marshall Hall,* whilst con-

* Observations in Medicine. Second Series, p. 27.

tending for this view, also advances the theory that there is a special set of muscles, the duty of which is, by assuming a condition of tonic contraction, so to compress certain veins as to prevent the return of the blood from the heart.

Dr. Carpenter* is of the opinion that the first cause of sleep in order of importance is the pressure exerted by distended blood vessels upon the encephalon.

Sir Henry Holland† declares that a "degree of pressure is essential to perfect and uniform sleep."

Dr. Dickson‡ regards an increased determination of blood to the cerebral mass, and its consequent congestion in the larger vessels of the brain, as necessary to the induction of sleep.

In his very excellent work on Epilepsy, Dr. Sieveking§ says:

"Whether or not there is actually an increase in the amount of blood in the brain during sleep, and whether, as has been suggested, the choroid plexuses become turgid or not, we are unable to affirm otherwise than hypothetically; the evidence is more in favor of cerebral congestion than of the opposite condition inducing sleep—evidence supplied by physiology and pathology." Dr. Sieveking does not, however, state what this evidence is.

Barthez‖ is of the opinion that during sleep there is a general plethora of the smaller blood vessels of the whole body. He does not appear to have any definite views relative to the condition of the cerebral circulation.

To come to more popular books than those from which we have quoted, we find Mr. Lewes,¶ when speaking of the causes of sleep, asserting that, "It is caused by fatigue, because one of the natural consequences of continued action is a slight congestion; and it is the *congestion* which produces sleep. Of this there are many proofs." Mr. Lewes omits to specify these proofs.

---

* Art. *Sleep*. Cyclopedia of Anatomy and Physiology, vol. 4, part 1, p. 681.

† Chapters on Mental Physiology. London, 1852, p. 105.

‡ Essays on Life, Sleep, Pain, etc. Philadelphia, 1852, pp. 63 and 64.

§ Epilepsy and Epileptiform Seizures. London, 1858, p. 123.

‖ Nouveaux Elements de la Science de l'homme. Triem edition. Paris, 1858, vol. 2, p. 7, et seq.

¶ The Physiology of Common Life. New York, 1860, vol. 2, p. 305.

Macnish* holds the view that sleep is due to a determination of blood to the head.

That a similar opinion has prevailed from very ancient times, it would be easy to show. I do not, however, propose to bring forward any further citations on this point, except the following, from a curious old black letter book now before me, in which the views expressed, though obscure, are, perhaps, as intelligible as many met with in books of our own day:

"And the holy scripture in sundrie places doth call death by the name of sleepe, which is meant in respect of the resurrection; for, as after sleepe we hope to wake, so after death we hope to rise againe. But that definition which Paulus Ægineta maketh of sleepe, in my judgment, is most perfect where he saith: Sleepe is the rest of the pores animall, proceeding of some profitable humour moistening the braine. For here is shewed by what means sleepe is caused: that is, by vapours and fumes rising from the stomache to the head, where through coldness of the braine they being congealed, doe stop the conduites and waies of the senses, and so procure sleepe, which thing may plainly be perceived hereby; for that immediately after meate we are most prone to sleepe, because then the vapours ascende most abundantly to the braine, and such things as be most vaporous do most dispose to sleepe, as wine, milke, and such like."†

The theory that sleep is due directly to pressure of blood vessels filled to repletion upon the cerebral tissues, doubtless originated in the fact that a comatose condition may be thus induced. This fact has long been known. Servetus, among other physiological truths, distinctly announces it in his *Christianismi Restitutio*, when he says:

"*Et quando ventriculi ita opplentur pituita, ut arteriæ ipsæ chloroidis ea immergantur, tunc subito generatur appoplexia.*"

Perhaps the theory which prevails at present, of sleep being

---

* Philosophy of Sleep. Second edition, 1850, p. 5.

† The Haven of Health, chiefly made for the Comfort of Students, and consequently for all those that have a care for their health, etc. By Thomas Cogan, Master of Arts and Batchelor of Physic. London, 1612, p. 232.

due to the pressure of distended blood vessels upon the choroid plexus, is derived from these words of Servetus.

That stupor may be produced by pressure upon the brain admits of no doubt. It is familiarly known to physicians, surgeons and physiologists; the two former meet with instances due to pathological causes every day, and the latter bring it on at will in their laboratories. But this form of coma and sleep are by no means identical. On the contrary, the only point of resemblance between the two consists in the fact that both are accompanied by a loss of volition. It is true, we may often arrive at a correct idea of a physiological process from determining the causes and phenomena of its pathological variations, but such a course is always liable to lead to great errors, and should be conducted with every possible precaution. In the matter under consideration it is especially of doubtful propriety, for the reason stated, that coma is not to be regarded as a modification of sleep, but as a distinct morbid condition. Sir T. C. Morgan,* in alluding to the fact that sleep has been ascribed to a congested state of the brain, for the reason that in apoplectic stupor the blood vessels of that organ are abnormally distended, objects to the theory, on the ground that it assimilates a dangerous malady to a natural and beneficial process. He states (what was true at the time he wrote) that the condition of the circulation through the brain, during sleep, is wholly unknown.

I think it will be sufficiently established, in the course of these remarks, that sleep is directly caused by the circulation of a less quantity of blood through the cerebral tissues than traverses them whilst we are awake. This is the immediate cause of healthy sleep. Its exciting cause is the necessity for repair. The condition of the brain which is favorable to sleep may also be induced by various other causes, such as heat, cold, narcotics, anæsthetics, intoxicating liquors, &c. If these agents are allowed to act excessively, or others, such as carbonic oxyde, and all those which interfere with the oxygenation of the blood, are permitted to exert their influence, stupor results.

---

* Sketches of the Philosophy of Life. London, 1819, p. 262.

The theory above enunciated, although proposed by Blumenbach several years since, and subsequently supported by facts brought forward by other observers, has not been received with favor by any considerable number of physiologists. Before, therefore, detailing my own experience, I propose to adduce a few of the most striking proofs of its correctness which I have been able to collect, together with the opinions of some of those inquirers who have recently studied the subject from this point of view.

Blumenbach* details the case of a young man, eighteen years of age, who had fallen from an eminence and fractured the frontal bone, on the right side of the coronal suture. After recovery took place a hiatus remained, covered only by the integument. Whilst the young man was awake this chasm was quite superficial, but as soon as sleep ensued it became very deep. The change was due to the fact that during sleep the brain was in a collapsed condition. From a careful observation of this case, as well as from a consideration of the phenomena attendant on the hibernation of animals, Blumenbach† arrives at the conclusion that the proximate cause of sleep consists in a diminished flow of oxygenated blood to the brain.

Dendy‡ states that there was, in 1821, at Montpelier, a woman who had lost part of her skull, and the brain and its membranes lay bare. When she was in deep sleep the brain remained motionless beneath the crest of the cranial bones; when she was dreaming, it became somewhat elevated; and when she was awake, it was protruded through the fissure in the skull.

Among the most striking proofs of the correctness of the view that sleep is due to diminished flow of blood to the head, are the experiments of Dr. Alexander Fleming,§ late Professor of Medicine, Queen's College, Cork. This observer states, that while preparing a lecture on the mode of operation of

---

* Elements of Physiology. Translated by John Elliotson, M.D., &c. 4th Edition. London, 1828, p. 191.

† Op cit, p. 282, et seq.

‡ The Philosophy of Mystery. London, 1841, p. 283.

§ British and Foreign Medico-Chirurgical Review. Am. ed. April, 1855, p. 404.

narcotic medicines, he conceived the idea of trying the effect of compressing the carotid arteries, on the functions of the brain. The first experiment was performed on himself, by a friend, with the effect of causing immediate and deep sleep. The attempt was frequently made, both on himself and others, and always with success. "A soft humming in the ears is heard; a sense of tingling steals over the body, and in a few seconds complete unconsciousness and insensibility supervene, and continue so long as the pressure is maintained."

Dr. Fleming adds, that whatever practical value may be attached to his observations, they are at least valuable as physiological facts, and as throwing light on the causes of sleep. It is remarkable that his experiments have received so little notice from physiologists.

Dr. Bedford Brown,* of North Carolina, has recorded an interesting case of extensive compound fracture of the cranium, in which the opportunity was afforded him of examining the condition of the cerebral circulation, whilst the patient was under the influence of an anæsthetic, preparatory to the operation of trephining being performed. A mixture of ether and chloroform was used. Dr. Brown says:

"Whenever the anæsthetic influence began to subside, the surface of the brain presented a florid and injected appearance. The hemorrhage increased, and the force of the pulsation became much greater. At these times, so great was the alternate heaving and bulging of the brain, that we were compelled to suspend operations until they were quieted by a repetition of the remedy. Then the pulsations would diminish, the cerebral surface recede within the opening of the skull, as if by collapse; the appearance of the organ becoming pale and shrunken, with a cessation of the bleeding. In fact, we were convinced that diminished vascularity of the brain was an invariable result of the impression of chloroform or ether. The changes above alluded to recurred sufficiently often, during the progress of the operation, in connection with the anæsthetic treatment, to satisfy us that there could be no mistake as to the cause and effect."

---

* American Journal of the Medical Sciences. October, 1860, p. 399.

It will be shown, in the course of the present memoir, that Dr. Brown's conclusions, though in the main correct, are erroneous, so far as they relate to the effect of chloroform upon the cerebral circulation; nor does it appear that he employed this agent unmixed with ether, in the case which he has recorded so well. He has, probably, based his remarks on this point upon the phenomena observed when the compound of ether and chloroform was used—the action of pure chloroform, as regards its effect upon the quantity of blood circulating through the brain, being the reverse of that which he claims for it.

But the most philosophical and most carefully digested memoir upon the proximate cause of sleep, which has yet been published, is that of Mr. Durham.* Although my own experiments in the same direction, and which will be hereafter detailed, were of prior date, I cheerfully yield all the honor which may attach to the determination of the question under consideration to this gentleman, who has not only worked it out independently, but has anticipated me several years in the publication, besides carrying his researches to a much farther point than my own extended.

With the view of ascertaining by ocular examination the vascular condition of the brain during sleep, Durham placed a dog under the influence of chloroform, and removed with a trephine a portion of bone as large as a shilling from the parietal region; the dura mater was also cut away. During the continuance of the anæsthetic influence the large veins of the surface of the pia mater were distended, and the smaller vessels were full of dark-colored blood. The longer the administration of the chloroform was continued the greater was the congestion. As the effects of this agent passed off, the animal sank into a natural sleep, and then the condition of the brain was very materially changed. Its surface became pale and sank down below the level of the bone; the veins ceased to be distended, and many which had been full of dark blood could no longer be distinguished. When the animal was roused the surface of the brain became suffused with a red

* The Physiology of Sleep. By Arthur E. Durham. Guy's Hospital Reports, 3d series, vol. 6. 1860, p. 149.

blush, and it ascended into the opening through the skull. As the mental excitement increased, the brain became more and more turgid with blood, and innumerable vessels sprang into sight. The circulation was, also, increased in rapidity. After being fed, the animal fell asleep, and the brain again became contracted and pale. In all these observations the contrast between the two conditions was exceedingly well marked.

To obviate any possible effects due to atmospheric pressure, watch glasses were applied to the opening in the skull, and securely cemented to the edges with Canada balsam. The phenomena observed did not differ from those previously noticed; and, in fact, many repetitions of the experiment gave like results.

Durham, in the next place, applied ligatures to the jugular and vertebral veins, with the effect—as was to be expected—of producing intense congestion of the brain, attended with coma. This last condition he very properly separates from sleep, which is never caused by pressure from the veins. He likens sleep to the state induced by preventing the access of blood to the brain through the carotid, but does not allude to Fleming's researches on this point.

From his observations Durham deduces the following conclusions:

"1. Pressure of distended veins upon the brain is not the cause of sleep, for during sleep the veins are not distended; and when they are, symptoms and appearances arise which differ from those which characterize sleep.

"2. During sleep the brain is in a comparatively bloodless condition, and the blood in the encephalic vessels is not only diminished in quantity, but moves with diminished rapidity.

"3. The condition of the cerebral circulation during sleep is, from physical causes, that which is most favorable to the nutrition of the brain tissue; and, on the other hand, the condition which prevails during waking is associated with mental activity, because it is that which is most favorable to oxydation of the brain substance, and to various changes in its chemical constitution.

"4. The blood which is derived from the brain during sleep is distributed to the alimentary and excretory organs.

"5. Whatever increases the activity of the cerebral circulation tends to preserve wakefulness; and whatever decreases the activity of the cerebral circulation, and, at the same time, is not inconsistent with the general health of the body, tends to induce and favor sleep. Such circumstances may act primarily through the nervous or through the vascular system. Among those which act through the nervous system, may be instanced the presence or absence of impressions upon the senses, and the presence or absence of exciting ideas. Among those which act through the vascular system, may be mentioned unnaturally or naturally increased or decreased force or frequency of the heart's action.

"6. A probable explanation of the reason why quiescence of the brain normally follows its activity, is suggested by the recognized analogical fact that the products of chemical action interfere with the continuance of the action by which they are produced."

Having thus, in as succinct a manner as possible, brought forward the principal observations relative to the immediate cause of sleep, which up to the present have been published, I come, in the next place, to detail the results of my own researches.

In 1854 a man came under my observation who had, through a frightful railroad accident, lost about eighteen square inches of his skull. There was thus a fissure of his cranium three inches wide and six inches long. The lost portion consisted of a great part of the left parietal, and part of the frontal occipital and right parietal bones. The man, who was employed as a wood chopper, was subject to severe and frequent epileptic fits, during which I often attended him. In the course of my observations, I soon became acquainted with the fact that, at the beginning of the comatose condition which succeeded the fits, there was invariably an elevation of that portion of the scalp covering the deficiency in the cranium. As the stupor passed away, and sleep from which he could easily be aroused ensued, the scalp gradually became depressed. When the man was awake, the region of scalp in question was always nearly on a level with the upper surface of the cranial bones. I also noticed on several occasions that during natural

sleep the fissure was deeper, and that in the instant of awaking the scalp covering it rose to a much higher level.

After my attention was thus drawn to this subject, I observed that in young infants the portion of scalp covering the anterior fontanelle was always depressed during sleep, and elevated during wakefulness.

During the summer of 1860 I undertook a series of experiments, with the view of ascertaining the condition of the cerebral circulation during sleep, of which the following is a brief abstract:

A medium-sized dog was trephined over the left parietal bone, close to the sagittal suture, having previously been placed under the full anæsthetic influence of ether. The opening made by the trephine was enlarged with a pair of strong bone-forceps, so as to expose the dura mater to the extent of a full square inch. This membrane was then cut away and the brain brought into view. It was sunk below the inner surface of the skull, and but few vessels were visible. Those which could be perceived, however, evidently conveyed dark blood, and the whole exposed surface of the brain was of a purple color. As the anæsthetic influence passed off, the circulation of the blood in the brain became more active. The purple hue faded away, and numerous small vessels filled with red blood became visible; at the same time the volume of the brain increased, and when the animal became fully aroused, it protruded through the opening in the skull to such an extent that, at the most prominent part, its surface was more than a quarter of an inch above the external surface of the cranium. Whilst the dog continued awake the condition and position of the brain remained unchanged. After the lapse of half an hour sleep ensued. Whilst this state was coming on I watched the brain very attentively. Its volume slowly decreased; many of its smaller blood vessels became invisible, and finally it was so much contracted that its surface, pale and apparently deprived of blood, was far below the level of the cranial wall.

Two hours subsequently the animal was again etherized, in order that the influence of the ether upon the cerebral circulation might be observed from the commencement. At the time the dog was awake, and had a few minutes previously eaten a

little meat and drank a small quantity of water. The brain protruded through the opening in the skull, and its surface was of a pink hue, with numerous red vessels ramifying over it. The ether was administered by applying to the muzzle of the animal a towel folded into the shape of a funnel, and containing a small sponge saturated with the agent.

As soon as the dog commenced to inspire the ether, the appearance of the brain underwent a change of color, and its volume became less. As the process of etherization was continued, the color of the surface darkened to a deep purple, and it ceased to protrude through the opening. Finally, when a state of complete anæsthesia was reached, it was perceived that the surface of the brain was far below the level of the cranial fissure, and that its vessels conveyed black blood alone.

Gradually the animal regained its consciousness; the vessels resumed their red color, and the brain was again elevated to its former position. In this last experiment there did not appear to be any congestion of the brain. Had this condition existed, it would have been difficult to account for the diminution in bulk, which certainly took place. There was evidently less blood in the cerebral tissue than there had been previously to the etherization; but this blood, instead of being oxygenated, was loaded with excrementitial matters, and consequently was not fitted to maintain the brain in a condition of activity.

The following morning, the dog being quite lively, I removed the sutures which had been placed in the skin, covering the hole in the cranium, with the view of ascertaining the effects of chloroform upon the brain, when introduced into the system by inhalation. Suppuration had not yet taken place, and the parts were in good condition. The opening in the skull was completely filled by the brain, and the surface of the latter was traversed by a great many small vessels carrying red blood. The chloroform was administered in the same way in which the ether had been given the previous day.

In a few seconds the change in color of the blood circulating in the vessels began to take place, but there was no sinking of the brain below the level of the chasm in the skull. On the contrary, its protrusion was greater than before the commencement of the experiment. There was thus not only unoxygena-

ted blood circulating to too great an extent through the brain, but there was very decided congestion.

The foregoing experiments were frequently repeated on other dogs, and also on rabbits, with like results. Within a short period I have in part gone over the ground again, without observing any essential point of difference in the effects produced.

I have never repeated Fleming's experiment on the human subject, except in one instance, and then sleep, or a condition resembling it, was instantaneously produced. As soon as the pressure was removed from the carotids the individual regained his consciousness. On dogs and rabbits, however, I have performed it frequently, and though, if the pressure be continued for longer than one minute, convulsions generally ensue, a state of insensibility resembling natural sleep is always the first result. Lately, I have had, through the kindness of my friend, Dr. Van Buren, of this city, the opportunity of examining a case which affords strong confirmation of the correctness of the preceding views. It was that of a lady in whom both common carotids were tied for a cirsoid aneurism, involving a great portion of the right side of the scalp. One carotid was tied by the late Dr. J. Kearney Rogers, and the other by Dr. Van Buren, seven years ago, with the effect of arresting the progress of the disease. No peculiar symptoms were observed in consequence of these operations, except the supervention of persistent drowsiness, which was especially well marked after the last operation, and which, even now, is at times quite troublesome.

In the second part of this memoir additional circumstances will be brought forward to prove that sleep may be caused by other means which lessen the amount of blood in the brain. For the present, therefore, I refrain from any formal statement of the conclusions which are fairly deducible from the foregoing observations. It will be well, however, to bear in mind the important facts, that the quantity of blood circulating through the brain during sleep is decidedly less than during wakefulness, and that sleep may be directly induced by arresting the flow of blood to the brain.

*Gun-shot Wound of Bladder.* By W. H. Van Buren, M.D., Professor of Anatomy in the University of New York.

*The bladder, distended by urine, perforated by an ounce musket ball, which traversed the pelvis; urine voided through the wound during fifteen days; recovery without injury to the function of the bladder.*

The following case of gun-shot wound occurred in the vicinity of Gramercy Park, in the city of New York, during the memorable riots of July, 1863. The subject, a well-known merchant, returning home from the business part of the city, heard musket shots in the vicinity of his residence, and went around the corner to ascertain the cause. He found himself exposed to the fire of the rioters, and, whilst in the act of protecting himself behind a tree, received the wound described below.

L. L. J., 46, married, and father of a large family, in sound health, and of good constitution, was wounded at 5 o'clock, P. M., on the 16th July. He had not emptied his bladder since leaving home, about 9 o'clock, A. M.; had attended to his business as usual down town, and dined at Delmonico's at $3\frac{1}{2}$ o'clock, P. M., drinking moderately of Bourbon Whiskey. Was conscious that his bladder was distended before receiving his wound. I saw him half an hour after he was struck; he was pallid and moderately collapsed. Stated that when struck by the ball it seemed to him as though a foot-ball had hit him in the belly. His first motion was, to put his hand to the part, when he recognized that he was deluged with water (urine;) he then sunk to the ground, and was carried to his house, about two hundred yards distant. I found a wound—which would readily admit my forefinger—in the lower part of the belly, $1\frac{1}{4}$ inches to the left of the median line, and 2 inches above the brim of the pelvis. The finger passed to its full length into the wound; could be moved freely in any direction in a cavity behind the abdominal walls, where nothing could be satisfactorily distinguished but coagulated blood. Urine still flowed from the wound, and the patient's trowsers and shirt were saturated with it. In both of these garments there were rectangular holes, with obvious loss of substance. On careful percussion above the pubes, there was no evidence of distended bladder,

or any collection of fluid, nor could anything abnormal be discovered from the rectum. Under the skin, on the back of the right buttock, about one inch above the summit of the ischiatic notch, a bullet could be distinctly felt. This was afterwards removed by a simple incision, and no exploration made by the finger from this quarter; there was no discharge of urine from this incision—which healed kindly in a week.

The course of the ball was apparently, therefore, directly across the pelvis from left to right, and from before backwards on a level with the anterior superior spines of the ilium. No other lesion was discoverable. The abdomen was soft, natural, and not tender; somewhat prominent—the patient weighing 165 pounds, and measuring 5 feet 9 inches in height. His bowels, as usual, had moved naturally in the morning. The pain was slight, but there was strong and pretty constant desire to void urine, although not a drop could be passed through the urethra; from time to time a little would escape through the abdominal wound, tinging the cloths slightly with blood.

After a careful study of the indications for treatment which the case presented, it was decided not to introduce an instrument into the bladder by the urethra, and to favor the free flow of urine from the wound, as far as possible, by position. One-fourth of a grain of sulphate of morphine was ordered to be given at once, and repeated every second hour, with good beef-tea for nourishment, and nothing else, save ice and water moderately.

At 10 o'clock, P. M., he was engaged in arranging some matters of business; had recovered from collapse almost entirely; no complaint of pain or desire to pass water; pulse 80, and of good volume; abdomen soft and hot, tender on pressure; urine flowing from the wound. Morphine continued.

From this date there was no bad symptom. The urine continued to flow from the wound freely, and without interruption. Its escape was found to be facilitated on moving the trunk or pelvis, and especially by rolling over upon the left side. The only dressing applied to the wound was a moistened rag.

The morphine acted very kindly, and it was repeated steadily, as first ordered, until the eighth day, when it was suspended to facilitate the action of a half ounce of castor oil, which

produced two copious stools, unaccompanied by pain or blood—the first motions since the day of the wound. Meanwhile there had been no pain whatever complained of, nor any on pressure of any part of the abdomen, which continued soft and supple, the colon only becoming moderately distended by gas, of which the patient was able to relieve himself *per anum*. The pulse on the third day reached 100, and showed a little hardness and tension. Nothing was done, and it gradually subsided. On the ninth day, after the action of the oil, it was 66. After this the morphine was only administered occasionally, to quiet restlessness. On the seventh day, for the first time since the evening he was wounded, the patient felt a desire to pass water, and did so twice, with slight uneasiness in the act; it was turbid in appearance, and deposited a sediment looking like pus. On examining this sediment by the microscope, however, it was found to consist mainly of vesical mucus and oil-globules, with some pus corpuscles, and a few crystals of oxalate of lime and of the triple phosphate.

On the eighth day, after passing water by the urethra, he experienced quite a severe pain in the right thigh, below the great trochanter, which lasted more than an hour, and for which he took a dose of morphine. This annoyed him so much that he preferred to empty his bladder through the wound, which he continued to do without difficulty until the fifteenth day, when I advised a new trial of the natural route. This was followed by less pain, and from this time he used the urethra entirely, at intervals of three and four hours. The wound, which up to this time had been coated by the urine salts, rapidly became clean, discharging only a trifling quantity of healthy pus. At this time, as there was no evidence of pelvic or abdominal trouble, that could be elicited by pressure, coughing, movements of the trunk and hip-joints, or action of the bowels, his diet was gradually improved.

On the twenty-second day the wound was entirely healed, and the patient's general condition in every respect satisfactory.

No shreds of clothing nor spiculæ of bone were discharged from the wound, and there has not been any abscess or evidence of local trouble. The temperature, during the first two weeks of his confinement, was never below 80°, varying from this to 92°.

I have examined and conversed with Mr. J. this day, more than eighteen months since his accident. He is in perfect health and is not aware of any defect whatever in the normal performance of his urinary function; nor has he had any symptoms of trouble in this quarter since his recovery. At present he never has occasion to pass water more than four times in the twenty-four hours, and generally three times. Before his wound his calls were even less frequent, occurring, as a rule, rarely more than twice in the twenty-four hours.

The rapid recovery of this patient from so severe a wound was due, in some degree, to his placid disposition and excellent nursing, but mainly, I suspect, to the very considerable distention of the bladder, at the moment the musket ball traversed his pelvic cavity. The peritoneum was probably carried up by the distended bladder above the track of the ball, although, considering the point of exit, this cannot be regarded as certain. The entire absence of any symptoms of urinary infiltration into the connective tissue of the pelvis, is as remarkable as the escape from peritonitis, and is most readily explained by the size and directness of the abdominal wound, which afforded prompt and free outlet for the urine. It was this feature of the case which induced me to refrain from the use of the catheter, as generally employed in wounds of the bladder; and the prompt subsidence of the desire to urinate, after the first dose of morphine, conduced also to this course—which I see no reason to regret.

The continuous presence of a catheter in the urethra and bladder of a man, already suffering from a most serious wound, is no trifling addition to the burden he has to bear, and although, in deference to all high authorities, from Chopart and the Larreys to Legouest and Hamilton, the use of the instrument is properly regarded as the rule in gun-shot wounds of the bladder, the result of this case demonstrates that the rule may be occasionally disregarded, to the advantage of the patient.*

* In his recent admirable "Treatise on Military Surgery," p. 3718, Professor Hamilton records a case of recovery from gun-shot wound of the bladder, in which the catheter was never introduced.

*On the Nature and Treatment of Gun-shot Wounds of the Intestines, with Experiments on the Cadaver.* By TEMPLE S. HOYNE, B.S., M.D.

The external wounds caused by a ball passing through the parietes of the abdomen do not differ materially from similar wounds in other parts; but the wounds in the intestine differ in size, shape, and general appearance, according to the form of ball—round or conical—its velocity, its momentum, and according to whether it has passed through bone or not.

It has been observed that a round ball, moving with its greatest velocity, makes a wound in the intestine of greater diameter than the ball itself, and the edges of this wound are more or less torn and inverted; still it preserves, in a great degree, the character of a circle. The same form of ball, nearly spent, tears the intestine to a considerable extent in all directions.

The conical ball, on the other hand, moving at its greatest velocity, makes a wound in the intestine which looks as if it had been cut with a punch, the opening not being larger than the base of the ball. It is to be understood that the ball strikes the intestine at right angles, for any deviation from such an angle materially changes the character of the wound. The conical ball, nearly spent, does not tear the intestine as much as the round ball; still it tears it in such a way that the opening is oval. Hence, by looking at the wound in the intestine, we can frequently say what kind of a ball produced it.

When a ball, either round or conical, passes through a bone before wounding the intestine, the character of such a wound is materially changed. It is generally larger, very much torn, and fragments of bone are found in the coats of the intestine. The track of the wound for the distance of two or three and often four inches is covered with fragments of bone.

Up to the present time it has been considered good treatment to keep the patient quiet, and not to explore the wound; but M. Legouest,* of Paris, has recommended a course of procedure, which has taken military surgeons by surprise.

---

* Traité de Chirurgie d'Armée, Paris, 1863, p. 530.

This author advises that, in order to ascertain whether an intestine is wounded or not, the surgeon should introduce his finger, and move it about freely until he finds the wound. And in case the intestine is ascertained to be wounded, he "should enlarge the external opening, draw out the intestine and sew it up." That this is not a safe practice the following experiments show.

EXPERIMENTS ON THE CADAVER.

| *Weapon* | *Form of Ball and Weight.* | *Distance* | *Point of Entrance.* | *Point of Exit.* | *Number, Character and Position of Wounds.* |
|---|---|---|---|---|---|
| Colt's revolver. No.— (Small.) | Round. | 3 paces. | Right hypochondriac region. | Found under skin of the back. | The ball passed in a direct line, wounding the small intestines, which were quite empty and collapsed at 4 points, each opening being double, or through both sides of the intestine. The openings were ragged, and from half to three-quarters of an inch in diameter. No fæcal matter extravasated. There was also a wound through the omentum. |
| " | " | " | Right iliac region. | Not found. | Double wound through small intestine; wound ¾ of an inch in diameter and ragged. No fæcal extravasation. |
| Whitney's revolver. | " Weight ab't 200 grs. | 2 paces. | Right hypochondriac region. | Found in the body of the 2d lumbar vertebra. | The ball first passed through the ascending colon, the opening being no larger than the diameter of the ball. Afterwards made seven openings in the small intestines somewhat larger than the diameter of the ball. Slight extravasation of fæcal matter, the intestine not being entirely empty. |
| " | " | 7 paces. | " | Found in the body of the 3d lumbar vertebra. | Passed through one fold of small intestine, the openings being from a half to three-quarters of an inch in diameter. Slight fæcal discharge. |
| Colt's revolver. No. 44. | Conical. Weight, 216 grs. | 7 paces. | Left ilium. | Right ilium. | The ball passed through the ilium, 2 inches below and back of the ant. sup. spi. proc., through four folds of intestine, making 8 wounds, and two in the omentum. Besides this, two other folds of intestine were wounded. The wounds, especially on the right side, were much larger than the diameter of the ball. The right ilium was covered with fæcal matter, the extravasation having taken place from the last fold wounded. |
| " | " | 3 paces. | Crest of Right ilium. | Found in body of 5th lumbar vertebra. | The ball struck the crest of the right ilium, passing through the omentum, one fold of intestine, the common iliac artery, and then buried itself in the body of the 5th lumbar vertebra. No fæcal discharge, the intestines being quite empty. The wounds were all circular although ragged. |
| " | " | " | Right lumbar region. | Near post. sup. spi. proc., left. | The ball passed through the omentum twice, through three folds of small intestines, and the descending colon, making 8 wounds. No fæcal discharge, the intestines containing very little matter. Wounds of uniform size. |

| *Weapon* | *Form of Ball and Weight.* | *Distance* | *Point of Entrance.* | *Point of Exit.* | *Number, Character and Position of Wounds.* |
|---|---|---|---|---|---|
| Colt's revolver, No. 44 | Conical, Weight, 216 grs. | 3 paces. | Above crest of right ilium. | Back, left of 3d lumbar vertebra. | The ball made four wounds in the intestine and one in the omentum. Also fractured the left transverse process of the 3d lumbar vertebra. |
| " | " | " | Between 9th and 10th ribs, right. | An inch below the free end of the 12th rib. | The ball passed through the gall bladder and hepatic flexure of the colon, making two wounds. Passed through the body of 2d lumbar vertebra. *Note.*—Owing to a quantity of injection in the abdominal cavity the organs were slightly displaced. Slight fæcal extravasation. |
| " | " | " | Right lumbar region. | 2 inches below the 12th rib, left. | The ball first passed through the ascending colon, making two holes, separated about $\frac{1}{4}$ of an inch from one another; next passed through two folds of small intestines, making a wound in each. Also made two holes in the mesentery. Very slight extravasation. |
| " | " | 4 paces. | Inch above ant. sup. spi. proc., left side. | Just above the crest of the right ilium. | The ball made two wounds in one fold of small intestine, and an opening into four more folds, then passed through the omentum twice, and finally passed through the ascending colon, the wounds in which were about $2\frac{1}{2}$ inches apart. Considerable extravasation from the colon, which was well filled. |
| " | " | 1 pace. | 2 inches below ant. sup. spi. proc., left ilium. | Found lying against the transverse process of the last lumbar vertebra. | The ball passed through the ilium, throwing the fragments in about two inches, some of the fragments being as large as a pea. The ball then passed through the descending colon, making two holes, quite ragged in appearance and larger than the ball. Next passed through one fold of small intestine, making two wounds, smaller than those through the colon. The ball then nearly split itself on the transverse process of the 5th lumbar vertebra. No fæcal extravasation. |
| " | " | 3 paces. | Free end of 12th rib, right. | Same point, left side. | Passed through five folds of intestine, making eight wounds, and two in the mesentery. Intestines adherent to the walls of the abdomen. Fæcal extravasation from one fold only, which had been perforated three times, the wounds being over two inches in diameter. |
| " | " | " | 2 inches below ant. sup. spi. proc., right. | Found lying against left ilium. | The fragments of the ilium were sent in about two inches. Four folds of intestine were wounded, making six holes, and the descending colon also contained two. Slight fæcal extravasation. |
| " | " | " | Just below 12th rib, right. | Same point, left. | The ball passed through three folds of small intestine and the descending colon, making six openings in all. Two of the wounds in the small intestine were three inches long and one inch in width. Fæcal extravasation from the descending colon only, that portion of the intestine being full. The 2d lumbar vertebra was fractured. Omental wound. |

| *Weapon* | *Form of Ball and Weight.* | *Distance* | *Point of Entrance.* | *Point of Exit.* | *Number, Character and Position of Wounds.* |
|---|---|---|---|---|---|
| Colt's revolver, No. 44 | Conical. Weight, 216 grs. | 4 paces. | Left side, 3 inches left of median line. | Right ilium. | The ball passed through five folds of small intestine, making eight wounds of pretty large size. The omentum was wounded and the ascending colon, in which were two openings, from which fæcal matter was extravasated. The wound in the right ilium was two inches in diameter. |
| " | " | 7 paces. | Between 9th and 11th ribs, left side. | Same point, right side. | After fracturing the 10th rib, left, the ball passed through the diaphragm, spleen, wounded the kidney and stomach, next through the 1st lumbar vertebra and liver. Fractured the 10th rib, right, in its exit. The wounds on the right side were very large, and the whole tract of the ball was marked by spiculæ of the comminuted vertebra. |
| " | " | 3 paces. | Above crest of left ilium. | Just below 12th rib, right. | The 3d lumbar vertabra was comminutely fractured. No other wound of consequence. |

From an examination of the foregoing tables it is seen that in 4 experiments round balls were used, from which 16 wounds were caused, being an average of 4 to each ball. In 14 experiments conical balls were used, causing 74 wounds—an average of 5.29 for each ball. The whole number of experiments was thus 18, and the whole number of wounds 90, being an average of 5 for each ball. In 2 of the experiments the intestines were uninjured. The mesentery was wounded 14 times, and there was extravasation in 10 cases. The largest number of wounds made by any one ball was 10. Longmore* refers to a case in which a man, being shot in the abdomen whilst in the act of defecation, was found, after death, to have received 16 wounds of the small intestine.

In view of the experiments above recorded, it is apparent, we think, that the method of procedure recommended by Legouest must prove eminently dangerous. The fact that the intestine is almost always wounded at more than one point, and often in many points, renders it certain that the exploration would cause extravasation.

This observation which we have now made is not new. Such —as we before stated—has been the opinion of nearly all military surgeons, but no one has before, to our knowledge, taken

* Treatise on Gun-shot Wounds, Am. Ed. p. 97.

the pains to demonstrate the plurality of these wounds by actual experiments. Whether these experiments made upon the cadaver can be applied rigidly to the living subject, may be in the minds of some a matter of question. For ourselves, we have no doubt that they may be so applied. We consider, moreover, that having established the fact of the plurality of these wounds the inference is inevitable, without further experiment, that the practice recommended by M. Legouest, is unsafe.

---

*Case of Cancer of the Larynx, successfully removed by Laryngotomy; with an Analysis of* 50 *Cases of Tumors of the Larynx, treated by Operation.* By HENRY B. SANDS, M.D., Attending Surgeon to the New York Hospital.

In the latter part of January, 1863, I was called to see Maria McDermott, a servant, 30 years of age, and obtained from her the following history:

She had generally enjoyed good health, and acknowledged no hereditary predisposition to disease. In September last she "caught cold," but recovered well in a fortnight. In October, however, the hoarseness returned, and had since been gradually increasing. Meanwhile, she had suffered occasionally from slight dyspnœa, and complained somewhat of a feeling of constriction in the throat. She had had no pain, and her general health had remained unimpaired. At the time of my visit, I was informed that she had recently attended the German Dispensary, where she had seen Dr. Simrock, who had pronounced her to have polypus of the larynx. A short time subsequently I consulted Dr. Simrock, and, through his kindness and assistance, I succeeded in examining the patient by the laryngoscope, and in confirming the accuracy of his diagnosis. The following description of the morbid growth is in Dr. Simrock's own words: "The laryngoscopic examination by artificial light brought into view a red, roundish tumor, springing forth from between the upper and lower vocal cords of the left side of the larynx, overlapping them about one line, and taking its origin from the Morganian ventricle by a rather broad pedicle. The surface appeared uneven and granular. The vocal cords

moved freely yet, and the remaining parts of the larynx were apparently normal. Considering the tumor as merely a conglomeration of granulations, a sort of raspberry, cellular polypus, I intended to remove it through the upper aperture of the larynx, and I succeeded, without much difficulty, in training the parts to bear the contact of instruments. Before proceeding, however, to the final act of operation, I examined the patient again by sunlight, when I found that the artificial light had not shown me the true state of things. The tumor, instead of being pedunculated, was sessile, with its broadest diameter upon the floor of the ventricle. This circumstance alone was enough to repel any idea of removing the tumor through the natural aperture. On the same day, I succeeded in removing a small particle of the tumor, the microscopic examination of which showed it to be unmistakably cancerous. The mass consisted of a well marked fibrous stroma, having alveoli which were filled with cells having large nuclei."

As I have already stated, I was able to confirm the observations of Dr. Simrock, and had no hesitation in recommending the patient to submit to a surgical operation for the removal of the growth. She readily consented, and at St. Luke's Hospital, on the 28th of February, having administered ether, I operated in the following manner: An incision, five inches in length, was made in the median line of the neck, extending from a little above the level of the hyoid bone, to within two inches of the sternum. By dissection, the larynx and trachea were laid bare as low down as the third tracheal ring, the division of the isthmus of the thyroid gland being necessary for this purpose. When all bleeding had ceased, the trachea was opened at its upper part, and a tracheotomy tube introduced, having a long, narrow slit along its upper wall, intended to permit the more easy passage of the knife in carrying the incision upward. The cut was then extended, by means of a probe-pointed bistoury, through the cricoid cartilage, crico-thyroid membrane, thyroid cartilage, and thyro-hyoidean membrane, as far as the os hyoides, dividing the base of the epiglottis. Considerable cough and spasm of the glottis followed this step of the operation, and some difficulty was experienced in preventing the entrance of blood and other fluids into the lung.

At this time, also, the patient vomited; and the vomited matters came freely down into the trachea. When she again became quiet, the head was thrown well back, and the alæ of the thyroid cartilage pulled apart by a pair of sharp hooks, inserted near the edges of the incision. This afforded a complete and satisfactory view of the interior of the larynx. The growth presented itself as a rounded, fleshy-looking excrescence, about as large as the end of the little finger, springing forth from the left ventricle, projecting rather more than a quarter of an inch into the cavity of the larynx, and overlapping and concealing from view both the upper and lower vocal cords. With a pair of curved scissors, it was cut off at the level of the latter, which were apparently healthy. On further examination it was ascertained that the tumor had a very broad attachment to the cartilage forming the floor of the ventricle; and, in order to insure its complete removal, having extirpated as much as possible with the scissors and forceps, I applied the actual cautery, hoping thus to destroy whatever diseased tissue might remain. The wound was then closed by sutures, except at its lower part, where a double silver canula of large size was introduced.

No difficulty was experienced in the subsequent treatment. The swelling of the soft parts was slight, the appetite good, deglutition easy, and on the fifth day, it having been ascertained that the patient could breathe naturally, the tube was removed from the trachea. On the tenth day she began to sit up, and at the end of four weeks she left the hospital, having meanwhile regained her voice to a very great degree. At the time of the operation, an enlarged bursa was encountered, situated over the hyoid bone. This was divided, and left a narrow fistulous track, which remained open for a long time after the rest of the wound healed. It finally closed, however, after repeated cauterization with nitrate of silver.

The tumor removed was soft, vascular, and succulent, and its microscopic characters were evidently cancerous. It consisted of a delicate framework of connective tissue, the meshes of which were filled with cells of various shapes and sizes, containing the large nuclei and nucleoli, which are so characteristic of cancer. Beside the nuclei inclosed in the cells, many were also

found free. Fig. 1 shows the more important microscopic elements of the tumor.

Fig. 1.—Cancer Cells and Free Nuclei from Tumor of Larynx—x 400.

The patient remained in good health for a long time after the operation. Her voice never regained its natural tone, although it acquired a very considerable degree of resonance. From time to time she was examined by means of the laryngoscope, but nothing could be discovered that indicated any return of the morbid growth. The mobility of the vocal cords on the affected side was, however, much restricted, and the left ventricle appeared to be occupied by cicatricial tissue. The functions of respiration and deglutition were unimpaired.

In October last, the patient's general health began to fail; she became emaciated, and suffered considerably from headache, nausea, and depression of spirits. Early in December, she was admitted into the New York Hospital, and at that time presented the well known aspect of cancerous cachexia. She was greatly emaciated, had lost her appetite, and complained of extreme muscular weakness. Her breath was also foul, and she had occasional attacks of vertigo. Physical examination of the chest and abdomen did not lead to the discovery of the cancerous disease, which, it was taken for granted, existed in some one of the internal organs. The dirty appearance of the skin excited the suspicion that the supra-renal capsules were diseased; but the lung and the brain were also each suspected in turn, and no positive diagnosis was arrived at. She continued to lose strength daily, refused food, and died January

4th, 1865, a little more than twenty-two months after the operation.

*Autopsy.*—The brain was healthy, as were also the thoracic organs. The liver and the abdominal viscera generally were healthy. The lumbar glands were enlarged, but the principal disease was found in the left kidney and ureter and the right and left supra-renal capsules, all of these organs being the seat of what looked like cancerous deposit. The most remarkable appearances were presented by the supra-renal capsules, both of which were greatly enlarged and indurated, creaked under the knife, and, on section, closely resembled scirrhus. The left one weighed 2 oz., and measured $3\frac{1}{4}$ inches in its greatest diameter; the right was not measured, but was of nearly equal size. The left kidney contained several yellowish-white nodules of morbid deposit, and its substance was expanded so as to form a number of cysts, containing pus and coagulated fibrin, which communicated with the pelvis of the organ. This dilatation of the kidney was evidently due to a narrowing of the ureter, the walls of which, as far down as the brim of the pelvis, were infiltrated with a substance similar to that found in the kidney and supra-renal capsules. The diseased ureter formed a firm cord, a little more than $\frac{1}{4}$ inch in diameter, and its canal was scarcely large enough to admit a fine silver probe.

On scraping sections of the diseased parts, an abundant juice was obtained, which, under the microscope, showed the appearances represented in Fig. 2. The cell elements were exceedingly

Fig. 2.—Cells and Nuclei from Left Supra-Renal Capsule—x 400.

numerous, and those obtained from the different diseased organs

resembled one another. It is not a little remarkable that the microscopic elements of the laryngeal tumor should vary so widely in appearance from those of the secondary deposits found after death. The former are such as would universally be admitted as characteristic of cancer, while the latter afford a typical example of what is generally termed the fibro-recurrent growth. The fact appears to indicate a closer relationship between the two forms of disease than has hitherto been supposed to exist.

The larynx and trachea were carefully removed, and their interior exposed by a section in the median line posteriorly. The most interesting point noticed, was the absence of any return of the original disease. In fact, the larynx was normal, except where it showed the traces of the surgical operation. There was a well-marked, whitish, linear cicatrix anteriorly, extending from the third tracheal ring to the epiglottis. The right side of the larynx was healthy. The left ventricle was occupied in part by adventitious fibrous tissue, to which the inferior vocal cord was closely adherent. The upper vocal cord was free, and a probe could easily be passed under it, to the deepest part of the ventricle. Neither the larynx nor trachea bore the slighest marks of cancerous disease. The left inferior vocal cord and the neighboring mucous membrane were somewhat contracted, and the larynx slightly twisted toward the left side. The specimens removed at the autopsy have been preserved in the Museum of the New York Hospital.

*Remarks.*—The extirpation, during life, of tumors within the larynx, is one of the triumphs of modern surgery. The first systematic account of laryngeal tumors was published in 1850, by Ehrmann, who collected, from various sources, 31 cases, 2 of which came under his own observation, and in one of which he performed a successful operation for the cure of the disease. Since the publication of Ehrmann's Treatise, the list has been considerably increased, and, in an able series of papers on this subject, by Lewin, of Berlin, 154 examples are given; this record embracing all, or nearly all, the cases which had been observed previous to the discovery of the laryngoscope. Of these 154 cases, all, with the exception of 3, ran their natural course, and

terminated fatally. The first successful operation for the removal of tumors within the larynx was performed by Ehrmann, in 1844, a similar operation having been attempted, a few years previously, by Brauers, of Louvain. Since the date of Ehrmann's operation, and up to the time when the laryngoscope came into use, I find only two additional examples recorded in which similar operations have been undertaken; viz., that of Buck, in 1851, and that of Prat, in 1859. The chief reason, doubtless, why such operations were not more frequently performed, lay, not so much in the rarity of the disease, as in the difficulty of its detection. Previous to the discovery of the laryngoscope, the diagnosis of the laryngeal tumors was always difficult, and often impossible. Hoarseness, dyspnœa, cough, and a feeling of constriction in the throat, were among the prominent symptoms of such affections; but, as these symptoms were also common to other diseases, in which the larynx was free from structural alteration, the existence of a laryngeal tumor, in any given case, could at best be a matter of uncertainty and speculation. In a few cases, it is true, morbid growths, having their origin within the larynx, protruded so far beyond its cavity as to admit of their detection by the finger, and even by the eye; yet such instances were exceedingly rare, and, moreover, as a general rule, where the disease had become so extensive as to be recognizable by the sight and touch, but little hope could be entertained of its complete removal by surgical interference. It is not surprising, therefore, that, up to the time of the laryngoscope, so few operations should have been performed; and, on the other hand, it is not a little remarkable that, since the employment of that instrument, and during a period which dates back scarcely five years, more than 50 cases have been placed on record, in which laryngeal tumors have been successfully removed by surgical operation.

It has occurred to me that some useful information might be obtained by presenting these cases in a tabular form, and I have accordingly collected, from all the sources within my reach, 50 cases, which I have arranged in two groups; the first embracing those in which the cavity of the larynx was exposed by external incision; the second, those in which the morbid growths were removed *per vias naturales*. The following table

I believe to be complete, except that it does not include a case which is mentioned by Pirogoff, as having occurred recently at Heidelberg, and concerning which I have been unable to obtain the necessary details.

TABLE I.—CASES TREATED BY EXTERNAL INCISION.

| No. | Name of Operator and where Report'd | Date of Opera'n | Sex & Age. | Size, Character, and Situation of Tumor. | Operation, after Treatment and Result. |
|---|---|---|---|---|---|
| 1 | Brauers, of Louvain. Case reported in Ehrmann's Monograph. | 1834. | M. 40. | Warty excrescences, filling the larynx. | Incision in median line, through entire length of thyroid cartilage; cavity of larynx exposed, and growths touched with acid nitrate of mercury. Disease not abating, the actual cautery was applied. The final result was scirrhus induration of the larynx, which, at the time of the report, threatened to prove fatal. |
| 2 | C. H. Ehrmann. Histoire des Polypes du Larynx. Strasbourg, 1850. | March 15, 1844. | F. 33. | Cauliflower-shaped excrescence, size of an almond, composed of fibro-cellular tissue, covered with pavement epithelium. Attached to greater part of left inferior vocal cord. | Laryngo-tracheotomy, to prevent impending suffocation; 48 hours later, incision carried upward as far as os hyoides, larynx opened, and tumor removed in three fragments by forceps and bistoury. Canula removed from trachea on third day. Wound healed in 21 days, and patient recovered completely, except that she does not appear to have regained her voice. Died 6 months after operation, of typhoid fever. At autopsy, larynx found healthy, with exception of left inferior vocal cord, which was the seat of several small granulations, resembling, in structure, the original growth. |
| 3 | Gurdou Buck. Transactions of American Medical Association, 1853. | May 3, 1851. | F. 51. | Epithelial cancer. Both ventricles and vocal cords, base of epiglottis and aryteno-epiglottic folds. | Laryngo-tracheotomy performed May 3d, 1851, and tumor partially extirpated; same operation repeated Sept. 20th. Patient was never able to dispense with canula, which, on account of extension of the disease, was inserted Jan'y 7, 1852, into a new opening in the trachea, just above the sternum. Died suddenly, Aug. 4, 1852, of suffocation, while endeavoring to change the tube. Autopsy revealed a great amount of disorganization, necrosis of cartilages, and gangrene of interior of larynx. |
| 4 | Prat. Gazette des Hopitaux, 1859, p. 409. | 1859. | M. | Firm, fibrous tumor, 3-5 inch in diameter, attached to left side of epiglottis. | Transverse incision through thyro-hyoidean membrane (subhyoidean laryngotomy of Malgaine;) tumor seized with a hook, and removed by a pair of curved scissors. Wound closed by sutures. Recovered. |
| 5 | Gurdon Buck. St. Luke's Hospital Records. | April 13, 1862. | M. 25 | Small, fleshy granulations, springing from anterior wall of larynx. | Tracheotomy, Nov. 26th, 1861, for supposed abscess of larynx. Larynx opened by median incision, April 13, 1862, and a small growth removed, which appeared to be a mass of exuberant granulations that had formed above the opening made for the canula. Patient still obliged to wear the tube, and laryngoscopic examination shows marked narrowing of the rima glottidis, as if from previous ulceration. |

| No. | Name of Operator and where Report'd | Date of Opera'n | Sex & Age. | Size, Character, and Situation of Tumor. | Operation, after Treatment and Result. |
|---|---|---|---|---|---|
| 6 | Ranchfuss. St. Petersburg Medicin Zeitschrift, 1862. Bd. 3, s. 153. | 1862. | F. | Warty excrescences, filling the larynx. | Larynx opened by incision in median line, and growths removed by the knife. Right inferior vocal cord also excised. Disease returned, and patient was never able to dispense with tube. Died of gangrene of lung, two years after operation. Autopsy revealed an abnormal communication between middle of trachea and œsophagus, large enough to admit a goose quill. Right bronchus contained a chicken bone. Trachea healthy. |
| 7 | H. B. Sands. | Feb'y 28, 1863. | F. 30. | Cancerous tumor, size of hazel nut, springing from floor of left ventricle. | Laryngo-trachcotomy, excision of tumor, and application of actual cautery. Tube removed on fifth day. Recovered, but died 22 months after operation from cancer of supra-renal capsules and kidney. No return of disease in larynx. |
| 8 | W. Busch. Beobachtungen zur innern Klinik v. Carl Binz. Bonn, 1864. | June 24, 1863. | M. 43. | Fibro-cellular polypus, (syphilitic?) filling half of cavity of larynx, attached by a broad base to posterior wall, opposite cricoid cartilage. | Larynx opened by a section extending from upper part of trachea to middle of thyroid cartilage. Growth torn away piecemeal by forceps, and subjacent surface cauterized by galvano-caustic apparatus. Recovered, but when seen several months after operation, was still obliged to wear the tube, and laryngoscopic examination detected a new growth springing from posterior wall of trachea, opposite 1st and 2d rings. |
| 9 | Debrou. Gazette des Hospitaux, 1864, No. 46. | Nov'r 7, 1863. | M. 52. | Fibrous tumor, size of hen's egg, attached to inner surface of larynx, from just above right ventricle, to inner border of corresponding arytenoid cartilage. | Transverse incision through thyro-hyoidean membrane, and vertical incision through thyroid cartilage. Tumor removed with linear ecraseur, and tube inserted into upper part of trachea, the cricoid cartilage being left intact. Died 7 days after operation, from bronchitis, pleurisy of right side, and metastatic abscesses in both lungs. |
| 10 | C. Ulrich, Berlin. Klinischer Wochenschrift, Dec. 19, 1864. | Oct'r 31, 1864. | F. 16. | Warty excrescences, forming a mass of size of hazel nut, attached to left superior vocal cord and left ventricle. | Unsuccessful attempts for several months to remove tumor through upper aperture. Oct. 8. Laryngotomy, and subsequently, further unsuccessful trials to effect removal through the mouth. Oct. 31st. Chloroform; larynx opened by external incision, growths excised, and solid Nit. Argent. applied to bleeding surface. Rapid recovery; tube removed on third day. Voice partially regained. |
| 11 | J. W. S. Gouley. Unpublished. Communicated by the operator. | Feb'y 26, 1865. | F. 6. | Cauliflower-shaped excrescence, filling entire cavity of larynx, composed of connective tissue and epithelium. Attached to both inferior vocal cords. | Tracheotomy, to prevent impending suffocation. Two months later, incision extended upward to base of epiglottis, larynx opened and tumor removed by scissors and forceps. Subjacent surface touched freely with Liq. Ferri Persulphat. Recovered. Tube removed three weeks after operation. At present date, April 2d, wound is rapidly closing, and patient breathes naturally through the larynx. Aphonia still remains. |

Of the 11 cases given in the table it is known that—

9 recovered, (2, 3, 4, 5, 6, 7, 8, 10, 11.)

1 died, (9.)

1 was expected to prove fatal, (1.)

Of the 9 cases that recovered from the operation, we find that

In 5, respiration through the larynx was rëestablished, (2, 4, 7, 10, 11.)

In 4, the patient was obliged to wear the tube in the trachea, (3, 5, 6, 8.)

Also, of the 9 cases that recovered, it is stated that

In 1, the voice was normal, both before and after operation, (4.)

In 2, the voice improved after operation, (7, 10.)

In 6, the voice still remained hoarse, (2, 3, 5, 6, 8, 11.)

Finally, of the 9 patients who recovered, 4 are known to have died at a later period, as follows:

Case 2 died 6 months after operation, of typhoid fever.

Case 3 died 15 months after operation, the disease extending to the trachea.

Case 6 died 2 years after operation, of gangrene of lung.

Case 7 died 22 months after operation, of cancer of suprarenal capsules and kidneys.

Of the 11 cases in the table, in five the diagnosis was made by means of the laryngoscope, (7, 8, 9, 10, 11.)

The age of the patients varied; that of the youngest being 6, that of the oldest, 52 years.

The above results are highly favorable to the operation, which we are naturally inclined to regard as one difficult of execution, and dangerous to life. When it is borne in mind that the alternative of the operation is almost certain death, by the progress of the disease, a much smaller per centage of success might be considered as justifying its performance. It may be fairly objected, perhaps, that the number of cases is too small to warrant any definite conclusions respecting the fatality of the operation; but the results stated will be found to be corroborated by an examination of the facts in the second table, as follows:

TABLE II.—CASES TREATED BY OPERATION THROUGH THE MOUTH.

| No. | Name of Operator and where Report'd | Date of Opera'n | Sex & Age. | Size and Character of Tumor. | Seat of Attachment. | Operation and Treatment. | Result. |
|---|---|---|---|---|---|---|---|
| 1 | Koderik. Richter's Chirurg. Bibliothek. Bd. 2, s. 72. | 1771. | | | | Removed by ligature. | Recovered. |
| 2 | Horace Green Surgical treatment of Polypi of the Larynx. N.Y., 1852. | 1846. | F. 13 | White, fibrous tumor; size of a cherry, with string-like pedicle. | Uncertain; supposed to be left inferior cord, or left ventricle | Tumor rose into the mouth, and was seized with forceps and excised. | Recovered. |
| 3 | Middeldorpf. Die Galvano-caustik. Breslau, 1854, s. 222. | May 20, 1853. | M. 42. | Lobulated tumor, size of a walnut; supposed to be cancerous. | Seen near epiglottis; probably attached to aryteno-epiglottic fold. | Removed by galvano-caustic ligature. | Recovered and voice improved, but in 1854 the disease returned, and patient coughed up a fragment of the morbid growth. In 1861 still tolerably well |
| 4 | Langenbeck. Gazette Hebdomadaire, March 13, 1863. | | F. | Fibrous tumor; size of a walnut. | Epiglottis | Partial removal by the linear ecraseur; subsequently, complete extirpation by the knife. | Recovered. |
| 5 | Victor von Bruns. Die erste Ausrottung eines Polypen u. s. w. Tubigen, 1862. | July 20, 1861. | M. 48 | Soft, pyriform, mucous polypus, 12 millimetres long and 8 millimetres thick. | Left side of larynx, just below inferior vocal cord | Repeated scarification of tumor, causing its disintegration. Treatment extended over a period of two months. | Recovered; voice regained. |
| 6 | Victor von Bruns. Op. cit. | Jan. 3, 1862. | M. 37 | Mucous polypus, of hemispheric'l shape, measuring about 5 millimetres through its base and 3 near its summit | By its broadest diameter to left inferior vocal cord. | Tumor transfixed at its base with a small double-edged knife, which only partially severed its attachment. On examination the next day by the laryngoscope, the tumor was found to have disappeared. | Recovered; voice restored. |
| 7 | Walker London Lancet, 1861. Vol 11, p. 444. | Aug. 14, 1861. | M. 14 | Polypoid growth, as large as tip of little finger. | Anterior wall of larynx, just above right vocal cord. | Portions of tumor removed by a loop of wire passed through a silver canula. Subsequent cauterization of stump with solid nitrate of silver. | Recovered; voice still very hoarse at date of report, October 20th. |
| 8 | G. Lewin. Deutsche Klinik. 1862. S. 202. | July 20, 1860. | M 33 | Polypus, size of a raspberry, composed chiefly of epithelium | Anterior half of left inferior vocal cord. | Tumor almost entirely removed by repeated operations with Lewin's polypus scissors and polypus forceps. | Recovered and voice improved. Growth returned in nine months, and patient refused to submit to further operation. |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 9 | G. Lewin. Ibid. | | F. 15 | Two lobulated mucous polypi, filling half the rima glottidis | Anterior angle of vocal cords. | Six operations with forceps, removing six fragments, varying in size from that of a lentil to that of a bean. Subsequent cauterization of stump with nitrate of silver. | Recovered; voice regained. |
| 10 | G. Lewin. Ibid. | | F. 20 | A number of small warty growths; some pedunculated, others sessile. | Left inferior vocal cord, and right ventricle. | Cauterization for three weeks without success. Subsequent extirpation, by means of forceps, of four polypi, forming a mass as large as a pea. | Recovered; voice improved. |
| 11 | G. Lewin. Ibid. | | M. 56 | Grayish-white excrescence, 8 millimetres long and 7 millimetres thick. | Right ventricle. | Repeated cauterization during nine days with solid nitrate of silver. | Recovered; voice regained |
| 12 | G. Lewin. Ibid. | | M. 43. | Mucous polypus, size of coffee grain | Anterior angle of vocal cord, by a narrow pedicle. | Repeated application of nitrate of silver in solution during a period of four weeks. | Recovered; growth disappeared and voice returned. |
| 13 | G. Lewin. Ibid. | | M. 40 | Club-shaped polypus, 5 millimetres long | Anterior wall of larynx | Cauterization daily for a fortnight apparently without success, when suddenly the tumor was found to have disappeared. | Recovered. |
| 14 | G. Lewin. Ibid. | | F. 3½ | Several small, soft, whitish excrescences | Posterior wall of larynx | One application, under chloroform, of nitrate of silver in solution. | Recovered; voice regained. |
| 15 | G. Lewin. Ibid. | | M. 7. | Mucous polypus, concealing right inferior vocal cord. | Right ventricle. | Ten successive cauterizations with solid nitrate of silver. | Recovered; tumor destroyed and voice improved. |
| 16 | Gibb. Medical Times and Gazette, Nov. 15, 1862 | | M. 37 | Two small pedunculated tumors. | Anterior wall of larynx and left inferior vocal cord. | Removed by the linear ecraseur. | Recovered. |
| 17 | Gibb. Medical Times and Gazette, Nov. 29, 1862 | | M. 37. | Two epithelial growths, size of a pea | Anterior part of vocal cords, by a pedicle. | Removed by the linear ecrasenr. | Recovered. |
| 18 | Gibb Medical Times and Gazette, Oct. 24, 1863. | | M. 52. | Fibro-cellular, warty growth. | Posterior wall of larynx. | Removed by the linear ecrasenr. | Recovered. |
| 19 | Gibb. Ibid. | | F. 25 | Polypus, having an apex resembling a bunch of feathers. | Posterior wall of larynx. | Removed by the linear ecraseur. | Recovered. |
| 20 | Gibb. Medical Times and Gazette, Jan. 24, 1863. | Dec. 10, 1862. | M. 42 | Fibro-cellular polypus. | Below vocal cords. | Removed by the linear ecrasenr. | Recovered. |

TABLE II.—CASES TREATED BY OPERATION THROUGH THE MOUTH.—*Continued.*

| No. | Name of Operator and where Report'd | Date of Opera'n | Sex & Age | Size and Character of Tumor. | Seat of Attachment. | Operation and Treatment. | Result. |
|---|---|---|---|---|---|---|---|
| 21 | Tobold. Deutsche Klinik 1862. S. 19. | | | Polypus; size of a pea. | Left inferior vocal cord. | Removed by forceps: stump cauterized with nitrate of silver. | Recovered. |
| 22 | Tobold. Archiv für Klinische Chirurgie. B. 5, S. 238. | | M 43 | Grayish-red polypus, size of a mulberry. | Anterior part of right superior vocal cord. | Excision by means of a curved instrument, having at its extremity a pair of scissor blades and a pair of hooks. | Recovered; voice improved. |
| 23 | Tobold Ibid. S. 240. | | M. 53. | Mucous polypus, size of a cherry pit. | Posterior part of ventricle | Cauterization with nitrate of silver, and repeated scarification by means of a concealed knife. | Recovered; voice restored in 14 days. |
| 24 | Tobold. Ibid. | | M 63. | Polypus, size of a pea, and numerous small warty growths | Entire length of both inferior vocal cords. | Polypus excised. Five days afterward, while being cauterized with solid nitrate, patient became suddenly asphyxiated, and tracheotomy was performed on the spot. | Recovered after tracheotomy, and refused to submit to further treatment, preferring to wear the tube |
| 25 | Trelat. Gazette Hebdomadaire, May 1, 1863. | March 28, 1863 | F. 44 | Fibrous polypus, size of a small filbert | Internal surface of left aryteno-epiglottic fold, by mucous membrane. | Laryngoscope not used at operation. Growth seized with forceps, and removed by a wire ecraseur. Could be seen without laryngoscope. | Recovered; voice regained. |
| 26 | Ch. Ozanam. Gazette des Hospitaux, June 30, 1863 | June 12 & June 16, 1863. | F. 39. | Two polypoid excrescences, (syphilitic?) | Posterior wall of larynx, below inferior vocal cord | Excision by the polypotome, an instrument resembling the tonsil guillotine. | Recovered; voice regained. |
| 27 | M. Bonrronillon. Gazette Hebdomadaire, Oct, 23, 1863. | | M. 41. | Tumor of size of gooseberry seed. | Free edge of right inferior vocal cord. | Various forceps tried without success; tumor finally detached by wire ecraseur, and fell into the air passages. No irritation followed the accident. | Recovered. |
| 28 | M. Fauvel. Gazette Hebdomadaire, May 29, 1863. | Nov. 28, 1862. | M 45 | Cauliflower polypi, forming mass as large as a bean. | Anterior half of inferior vocal cord. | Removed in eighteen fragments by repeated operations with curved forceps. Subjacent surface cauterized with nitrate of silver. | Recovered; voice improved. |
| 29 | Czermak. Medical Times and Gazette, May 30, 1863 | | M 25 | Epithelial growth. | Larynx and epiglottis. | Portions removed by curved forceps. | Recovered; voice improved. |
| 30 | Th. Stark. Archiv der Heilkunde, 1853, p 474. | Feb. 24, 1863. | M. 69. | Nodulated, grayish-white, cancerous tumor, size of hazel nut | Left ventricle. | Several particles torn away by curved forceps; dyspnœa increased and patient declined to submit to tracheotomy. | Died March 4th Antopsy showed a villous cancer filling the larynx, also double pneumonia |
| 31 | Th. Stark. Ibid. P. 239. | January 3, 1863, and subsequently. | M 22 | Fibro-cellular polypus, size of cherry pit | Right inferior vocal cord, at junction of anterior with middle third. | Nitrate of silver in solution and in substance, applied almost daily for a month without effect. From Jan. 3 to 18, repeated operation with curved forceps, which removed nearly the entire growth. | Recovered, and when last seen, Feb 14th, the voice was only very slightly hoarse. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 32 | Rauchfuss. St. Petersburg Med. Zeitschrift, 1864, p. 44. | March 29, 1863. | F. | Tumor with broad base and slightly nodulated surface, having a central depression. | Vocal cord. | Removed piece-meal by repeated operations with curved forceps. Stump cauterized with nitrate of silver. | Recovered; voice regained. |
| 33 | Rauchfuss. Ibid, p. 45. | | M. | Firm, lobulated polypus. | Vocal cord, by a broad base. | Two attempts at extirpation with curved forceps. Immediately after second operation patient became asphyxiated and was submitted to tracheotomy. Growth subsequently removed through upper aperture. | Recovered, but was still wearing tube in trachea; was able to breathe naturally, but voice still hoarse. |
| 34 | Rauchfuss. Ibid. | March, 1863. | M. | Several soft polypi filling larynx. | Not stated. | Tracheotomy, to prevent impending suffocation. Afterward, growths removed piece-meal through upper aperture. Operations extended over a period of two months. | Recovered, but still wore tracheotomy tube; voice improved. |
| 35 | Störk. Wiener Wochenblatt, 1863, p. 358. | 1863. | M. | Yellowish-red cystic polypus. | Right inferior vocal cord. | Excised by means of a concealed knife, known as Störk's laryngotome. | Recovery complete. |
| 36 | Störk. Wiener Wochenblatt, 1863, p. 350. | 1863. | F. 26 | Mucous polypus. | By a pedicle to right inferior vocal cord. | Removed by Störk's laryngotome. | Recovered; voice regained. |
| 37 | Semeleder, of Vienna, reported by Caswell in Amer. Med. Times, vol. viii., No. 22. | Oct. 25, 1863. | M. 28. | Warty excrescence, size of hemp seed, composed of fibrous tissue and epithelium. | Left inferior vocal cord, near anterior angle. | Excised by two operations with an instrument resembling the tonsil guillotine. | Recovered; voice regained. |
| 38 | F. Semeleder. Am. Med. Times, vol. viii., No. 23. | Nov. 1, 1863. | F. | Three polypi, filling greater part of rima glottidis. | Left inferior vocal cord; anterior angle of glottis, and right arytænoid cartilage | Growths excised and removed through upper aperture by three successive operations. | Recovered; voice improved. |
| 39 | M. Weiss. St. Petersburg Med. Zeitschrift, 1864, Heft 10. | Oct. 17, 1862. | M. 27. | Pyriform mucous polypus, size of a bean, and having a constriction at its middle. | Anterior part of left inferior vocal cord. | Growth almost entirely removed by repeated operations with curved forceps; stump cauterized with solid nit. argent. In 1863 tumor began to grow again, and in March, 1864, was completely removed by forceps and caustic. | Recovered; voice improved. |

Of the 39 cases in the table, one died after operation, (30,) and 38 recovered.

Of the 38 cases that recovered—

In 35, respiration was normal after operation.

In 3, tracheotomy was performed, and the patients continued to wear the tube, (24, 33, 34.)

Also, of the 38 cases that recovered—

In 12, the voice was restored after operation.

In 11, the voice was improved after operation.

In 2, the voice was unimproved after operation.

In 13, the state of the voice is not mentioned.

The average age of those patients whose ages are given, was 35 years, and the extreme ages, 63 and 3½ years, respectively.

In all, except the first 4 cases mentioned in the table, the diagnosis was established by the aid of the laryngoscope; and in all except 5, that instrument was used to guide the steps of the operation.

It would thus appear, from an examination of all the cases included in the above tables, that the extirpation of laryngeal tumors may be undertaken without especial risk to life, and with a reasonable prospect of success. And, since the laryngoscope enables us not only to discover the existence of these morbid growths, but also, in many instances, to effect their removal through the natural aperture of the larynx, it becomes important to determine the comparative merits of this mode of operation, and to ascertain to what extent it is likely to supersede the other method, by which the larynx is laid open by an incision from without. A simple comparison of the two sets of cases given in the tables, would incline us to give preference to the operation through the mouth, partly for the reason that it involves a far smaller amount of mutilation than that by external incision, and partly because it would appear to favor the restoration of the voice. Of the 11 cases in the first table, in no instance was the voice regained, and in 2 only was there any manifest improvement; while of the 39 cases in the second table, the voice is stated to have been restored, either wholly or partially, in 23 cases, and of the 13, in which the state of the voice is not mentioned, it is probable that the latter was, in a majority of in-

stances also restored. This comparison, however, loses much of its value when it is remembered that, in most of the cases contained in the first table, the disease was so extensive that its removal could in no way be accomplished without serious and permanent injury to the vocal cords.

In coming to a decision in any given case, as to the plan of operation to be adopted, there are, it appears to me, three principal considerations that should determine our choice, and these may be briefly stated, as follows:

1. *The situation and extent of the disease.*—When the tumor is of small size, attached by a narrow pedicle, and situated at, or above the level of the vocal cords, there can be no question as to the propriety of attempting its removal through the mouth. On the other hand, when the tumor is of large size, deeply situated, and has a broad surface of attachment, its removal can hardly be accomplished without the exposure of the laryngeal cavity by external incision. In a doubtful case, the minor operation might be tried, and in the event of failure, as in case 10, of table No. 1, the larynx could then be opened from without. As to which one of the several methods should be adopted of effecting removal through the upper aperture, whether by excision, scarification, cauterization, or the ligature, it is not within the scope of the present paper to discuss.

2. *The nature of the disease.*—This is also an important consideration. A firm, fibrous tumor, even though it be of small size, may offer great resistance, and demand an incision into the larynx for its removal. Warty excrescences, on the other hand, such as are not unfrequently met with on the vocal cords, are generally of soft consistency, and possess a low degree of vitality, so that they may be readily destroyed, either by caustics or by instruments introduced through the mouth. Indeed, it seems to be doubtful whether any operation should be undertaken in many of these cases, since there is evidence to prove that such morbid growths may disappear spontaneously. Störk* recently exhibited before a Medical Society in Vienna, a patient in whom he had previously demonstrated the existence of epithelial vegetations, covering the vocal cords to such an ex-

* Wiener Wochenblatt, 1863, p. 351.

tent as to interfere seriously with respiration. Powdered alum had been applied from time to time, without any appreciable effect; at length the patient was allowed to go without treatment for two months, at the end of which period, laryngoscopic examination showed that the disease had entirely disappeared.

Lastly, cancerous tumors, if capable of removal, should, in my judgment, always be treated by external incision. In this manner alone, can we make sure of that complete extirpation, without which the disease is almost certain to recur. I think that the success in my own case was due, in great degree, to the thorough destruction of the cancerous tissue by the actual cautery.

3. *The accessibility of the larynx, and its degree of irritability.*—It is by no means in every case that, even with the aid of the laryngoscope, we can gain access to the interior of the larynx by instruments introduced through the mouth. Tobold relates instances in which, owing either to the size of the tongue, the depth of the larynx, or the position of the epiglottis, it was found impossible to guide instruments into the laryngeal cavity with any degree of precision. Such cases would call for the operation by external incision.

But, even where the larynx is easy of access, it may be so irritable as to frustrate any attempt at operation through the mouth; and, as a general rule, much patience is required, both on the part of the patient and the surgeon, in order to insure success. It will be observed, on consulting the second table, that in many of the cases there recorded, repeated operations were necessary before a cure could be effected; and in two instances (5, 34,) the treatment was exceedingly tedious, and extended over a period of two months. Finally, in two cases (24, 33,) the patients became suddenly asphyxiated, from spasm of the glottis, either during or immediately after the operation, and in order to prevent death by suffocation the surgeon was compelled to resort to tracheotomy on the spot. In one of these cases the growths were subsequently removed through the upper aperture; in the other case the patient ran away, preferring to wear the tube in the trachea, rather than encounter the risk of further operation.

PIROGOFF.—*Outlines of General Military Surgery.*—From Reminiscences of the Crimean and Caucasian Wars and of Hospital Practice. Vol. II. By G. A. QUINBY, M.D., Attending Surgeon St. Luke's Hospital, N. Y.

[Continued from page 48, No. 1.]

We hasten, in our compilation of the most recent labors in the department of military medicine and surgery, to finish the resumé of Pirogoff's work, after a study of the recently published second volume. In doing so, we take occasion to call attention once more to the great merits of the production, which, besides many interesting peculiarities due to the circumstances of its origin, presents a rare fullness of practical matter.

This volume, which contains a brief index and register, begins where the first abruptly left off, with injuries of the chest.

*For simple fractures of the ribs*, Pirogoff, after fifteen years' experience, finds nothing better than starch or plaster of Paris bandages; in *gun-shot* fractures of the *ribs* they are of equal service. *External emphysema*, arising from air introduced through an outside wound, must not be confounded with the internal form. Examination of wounds of the chest with a finger or probe, for the mere purpose of ascertaining their extent and complications, is very generally productive of more harm than good. *Prolapse* of the lung was seldom observed; the passage of balls superficially, to a greater or less extent, around the thoracic cavity, occurred only in very few instances throughout the war. Traumatic visceral prolapse, that of the intestine alone excepted, should be left to itself, provided it closes up well the wound of the serous membrane.—Gun-shot wounds of the neck are divided into three classes, according to the direction they take—

*Wounds of the abdomen and pelvic cavity.*—The passage of projectiles superficially around the abdomen, especially round balls, was seen much more frequently than similar injury of any other region; the track of the wound was usually found along the outer surface of the peritoneum. In penetrating stabs and incised wounds of this region, prolapse of mesentery and intestine is a frequent and important complication. The prolapsed mesentery, whether the portion be large or small,

injured or uninjured, healthy or sloughing, should not be reduced, but left to itself. Four cases treated thus recovered, but not a single one where the opposite course was pursued.

The treatment of *fæcal fistula* is quite different from that of preternatural anus after incarcerated hernia.

Antiphlogistics are to be used very guardedly after *herniotomy* and in *traumatic wounds* of the abdomen, whether complicated or not with injury of the intestine; chief, if not sole reliance is to be placed on opium and cold applications; castor oil may be given where there is great tympanitic distension, but warm cataplasms are not appropriate until the adhesive process is completed, and then only in well arranged hospitals or clinical establishments.

*Wounds of the urinary organs* require no abstraction of blood, general or local; only cold applications and opiates are to be employed. In nephralgia and in urinary collapse emollient, narcotic and camphorated fomentations give relief. Urinary infiltration, when accessible, should be followed up with free incisions. After *operative* as well as *accidental injuries* of the *bladder*, the cause of death lies in urinary infiltration and peritonitis, or uremia, (acute urinary purulent œdema of the pelvic fasciæ.) The use of the catheter in vesical wounds is only indicated when there exists retention of urine with distension of the bladder.

Wounds and rupture of the urethra may be divided, in practice, into two classes, according as there is retention of urine or not.

*Wounds of extremities.*—All cases of recent gun-shot wounds of the limbs demand an expectant or conservative course of treatment, if the hygienic conditions of the hospital in which they are to be placed is comparatively favorable, if there be no prevalence of erysipelas, purulent œdema, or pyæmia, or if circumstances admit of their being treated in the country. If such conditions are not present, early incisions of the faciæ, especially of the lower extremities, will contribute to secure a good result. Enlargement of deep-seated gun-shot tracks is disapproved of in toto. Incisions are of eminent service where there is tense swelling about the orifices of the gun-shot wound, and in subaponeurotic tumefaction.

No sutures were used in lacerated wounds, but simple bandages trusted to, with suitably arranged compresses; these last being allowed to remain for a long time, to prevent burrowing and infiltration. In wounds of muscles and tendons Pirogoff uses the favorite plaster of Paris dressing to fix the limb in a position that ensures relaxation. Wounds of the hand and lower third of the fore-arm require an elevated position with the use of proper splints. In suppurating and infiltrated wounds of the hands in soldiers, laborers and others, the thickened cuticle should be kept soft, by frequent warm (local) baths.

*Wounds of Articular Cavities—of bones—complicated (compound) fractures.*—The usual pathological changes after penetrating wounds of the joints are suppuration of the cavities and pulpy degeneration of the peri-articular tissues. Over these changes the various modes of treatment have no direct influence, and the most that can usually be done to advantage is to prevent further injury. With this view absolute rest, perfect immobility of the joint, and protection of the fresh wound from all external irritation should be enjoined. Exploration, with the finger or probe, of stabs, incised wounds, as well as those from blows with cutting weapons, in the vicinity of a joint, is regarded as very reprehensible. With most gun-shot wounds, however, it is quite the reverse, where the introduction of the finger may often detect the presence of a ball or fragments of bone in a joint, and especially comminution or other injury of the osseous tissue, which it might be impossible to recognize from external examination alone. The following indications are to be fulfilled in incised wounds of the joints: 1st. Accurate cöaptation of the edges of the wound, by adhesive plaster applied according to Baynton's method. 2d. Uniform compression, as well of the wounded joint as of the entire limb, by the use of plaster of Paris dressings. 3d. Absolute rest of the limb in such a position as affords most relaxation. Wounds of the bursæ, situated near large joints, require quite the same treatment as wounds of the joints themselves. In simple gun-shot wounds of the joints, cold and other antiphlogistic measures may be energetically used. Pirogoff thinks that the accumulation of layers of coagulated synovia in the re-

cesses of an articular cavity, by undergoing degeneration, may tend to keep up the suppuration.

The treatment suitable for articular suppuration is discussed at length. Applications of ice in various ways, no doubt, depress and limit the suppurative action, still, if much benefit is to be derived from them, they must be employed energetically for a long time, and over a greater extent of surface than is usual: for instance, after exsections, the entire limb should be surrounded by bladders filled with ice. Fixed dressings of plaster of Paris, and counter-openings wherever fluctuation is detected, should not be forgotten. The opening of an abscess of the joint, however, in idiopathic disease of the bone or cartilage, is regarded as a great error.

*Wounds of the bones and compound fractures of the pelvis and extremities.*—It may be assumed as very probable that the concussion in comminuted gun-shot fractures, is propagated through the entire shaft to its epiphyses, and is associated at points with more or less detachment of periosteum and rupture of the small anastomosing vessels. The sub-periostial extravasations are for the most part punctiform. In the medullary structure, also, are found scattered or confluent extravasations of blood. There are to be distinguished, 1st. Local and disseminated osteomyelitis. 2d. General osteomyelitis. 3d. Osteophlebitis (thrombosis,) and total breaking down of the medulla into a dark colored offensive fluid mass. The two last are associated with different forms of pyæmia. The author describes the various solutions of continuity, observed by him, from gun-shot wounds, and explains the circumstances which can more or less embarrass, or even render impossible, the diagnosis of such injuries. He discusses, also, the consequences of gun-shot fractures, such as acute œdematous and acute purulent infiltration, either local or extending over the entire limb, erysipelas, gangrene, formation of fistulæ, etc. The often promptly to be decided, "delicate question," as to the *propriety of amputating a limb in gun-shot wounds or of treating it conservatively*, receives, as it justly deserves, very profound and lengthy consideration.

*Primary amputation* is indispensably necessary whenever the limb has been torn off or completely crushed by a large

projectile, as well as in crushing of the joint or diaphysis, with injury of the principal vessels or nerves.

In these cases the conditions requisite for maintaining the vitality of the part no longer exist, and the necessity for amputation, therefore, admits of no doubt. In all other cases of gun-shot wounds, from large or small projectiles, there are only three points to guide us in deciding the question whether a limb should be treated *conservatively*, or amputated according to prophylactic indications. 1st. A rational or *à priori* comparison of the advantages and disadvantages of amputation on the after utility of the limb: 2d. surgical statistics, and 3d. individual experience.

The first way of deciding the question is becoming more and more obsolete; in the last two, individual experience, especially with old military surgeons, has much weight, while among younger members of the profession statistics often settle the point.

The results of modern surgical statistics will not be of any particular value, as long as some positive and fixed international system is not universally adopted, and proper regard paid to other special questions in determining the relative mortality after any particular mode of treatment, (among facts of importance in statistics may be mentioned causes of death, age and nationality of wounded, influence of transportation, change of residence, etc.) The field for conservative treatment of gun-shot injuries of bones, has of late been much enlarged by the introduction of gypsum dressings; indeed, Pirogoff says that where the material for some variety of immovable apparatus is not at hand, amputation may become necessary on that account alone. Amputation, except in emergencies, should not be done during the existence of fever, though this or any other urgently indicated operation should not be deferred solely on this account. One great advantage in favor of secondary amputations and exsections is that the incisions are through condensed connective and muscular tissues. States of irritation (tension, erysipelas, etc.) often disappear very rapidly after operations.

Fragments of bones should only be extracted when they protrude from wounds, project the integument greatly, lie loosely in

the wound and tend to close it, or as sharp spicula penetrate the muscles, and when they have a vertical direction to the axis of the limb.

Pirogoff does not regret that *exsections*, in continuity, were never practiced in military hospitals, and he acknowledges almost unbounded confidence in absolute rest and immobility of the parts in the conservative treatment of gun-shot fractures. He regards this method only contra-indicated for a time when swelling and tension have already come on. Otherwise the immovable gypsum dressing is in general the best means of warding off infiltration and tension. This dressing is appropriate at two different stages in the course of gun-shot fractures: First, in recent cases, before the suppurative period; second, when swelling, tension, infiltration, etc., have begun to give way. The manner of applying the gypsum dressing is then described. In some instances, in order to give the appliance more firmness, small splints of linden bark are inserted. All contrivances (swings, etc.) for keeping the entire wounded limb in fixed position are generally of but little use in military practice, and cannot take the place of the simpler gypsum dressing. The contingency of a secondary amputation is included in the idea of conservative treatment as an *ultimum refugium*. English and French statistics of the Crimean war, as well as those of the Italian war, of primary and secondary amputation, Pirogoff regards as giving nothing more than *sum-totals*.

The statistical result of primary amputation would certainly be made to appear more favorable, if the greater number of upper extremities were sacrificed; while, on the other hand, early amputations of the leg do really appear in a more favorable light, because the attempt to save the leg is less frequently made, and secondary amputation of this segment is often performed on patients already exhausted from pyæmie or other serious constitutional trouble. The author gives the results of his experience as to the different amputations at Sebastopol, in which that of the thigh is regarded as the most reliable criterion of the relative mortality of primary and secondary operations. It is well known that gun-shot fractures of the femur are beyond all others the most fatal, and may therefore

serve as a reliable standard in estimating primary amputations. According to this, early amputations are, of course, most fatal. More brilliant results are furnished by secondary amputations, since they are done according to purely vital indications.

Conservative treatment should always be adopted, in preference to primary disarticulation or amputation, in gun-shot epiphysial fractures of the upper extremities, whenever military exigencies will admit of it. Primary amputation at the shoulder joint is much less dangerous than its primary exsection, and even less so than the expectant or conservative course, in at least one respect, viz., that it is less likely to be followed by acute purulent œdema. Primary exsection of the elbow, on the other hand, yields quite as favorable results as early amputation of the arm. Secondary exsection of the shoulder and elbow joints, even when performed under seemingly very unfavorable circumstances, do remarkably well, and should always be preferred, by the military surgeon, to secondary amputation of the arm, or at the shoulder. Only the want of requisite appliances and the necessities of the occasion can contra-indicate delay. The comparative results of these conservative operations on the lower extremities must remain a long time undetermined in military surgery; but the enormous mortality after amputations of the upper part of the lower extremities, fully justifies every surgeon in adopting conservative treatment, with or without resection, in gun-shot fractures of the thigh. In the management of resections the immovable apparatus, with a relaxed position of the injured part, is indispensable.

In the majority of cases of gun-shot fractures of the shaft of the humerus the limb should not be condemned, and amputation, primary or secondary, of the lower third or middle of the arm, is only indicated in comminuted fracture of the upper third of the fore-arm or of the elbow-joint, when the injury is attended with violent arterial hemorrhage, great loss of substance, total loss of innervation, exhausting suppuration, and hectic. The saving of the limb should never be despaired of in gun-shot fractures of the diaphysis of the fore-arm, even if the radial or ulnar arteries are injured. Secondary amputation of this

segment, in its upper third, does not appear to result as favorably as that of the elbow or arm. In gun-shot fractures of the upper third of the femur the probabilities of a favorable termination, under conservative treatment, are somewhat greater than in amputation in this region. Gypsum bandage is only advisable in fracture of the middle and lower third, and, with few exceptions, the limb is to be kept in an extended position. Gun-shot fractures of the thigh require no particular dressing, position, or appliance. Antiphlogistics, in these injuries, are for the most part contra-indicated, the points in treatment being to make timely incisions, and to extract splinters of bone. Amputation of the thigh is the most unsuccessful of all secondary operations.

Pirogoff has amputated at the hip-joint eight times, always with a fatal result; but he has had three recoveries, after removal of the limb, through the inter-trochanteric line.

The result of conservative treatment, in gun-shot fractures of the diaphysis of the leg, differs essentially accordingly as one or both bones are broken, and therefore the relative mortality is much less than after amputations of the part. Secondary amputations are more favorable in their results than primary. The chief dangers in fractures of the leg are from hemorrhage and sloughing of the integument over the front aspect of the limb.

In gun-shot fractures of the shoulder-joint, Pirogoff either disarticulated at once, or ordered a conservative course, with the contingency of secondary exsection, primary exsection having given no very encouraging results; partly, perhaps, from uncontrollable *extrinsic* causes.

In general, Pirogoff was guided by the following circumstances, in deciding upon the course to be pursued in gun-shot injuries of the shoulder-joint, in military practice: 1st. When there are large numbers wounded from large projectiles, and relative deficiency in the surgical staff, primary amputation is to be preferred. 2d. Fractures of the upper third of the humerus require particular attention, from the fact that sharp splinters may project in the axilla, and wound the axillary artery or some of its branches. In these cases, amputation at the shoulder-joint is indicated. 3d. Secondary exsection is to

be preferred where the head of the humerus has been injured by an oblique shot, or when the ball remains imbedded in it, and the patient is muscular and powerfully built. 4th. Primary exsection is only expedient when a moderate gun-shot fracture, not extending too far beyond the epiphysis occurs in spare, delicately organized persons. In opposite cases, secondary exsection offers better chances of success. Amputation, close to the capsule, is to be done in those cases where the upper part of the humeral diaphysis is extensively shattered, but the capsule and articular head remain intact.

In all *gun-shot fractures of the elbow-joint* exsection should be regarded as imperative; only simultaneous injuries of the brachial artery, or some of its chief branches, with extensive disorganization of the soft parts and bones, by large projectiles, can call for amputation. The author never adopted the expectant treatment in cases of this sort. The exsection, when done, was scarcely ever partial, but for the most part complete, and only in six or seven instances was secondary amputation required. The periostium was not saved in earlier or later operations.

*Gun-shot Fractures of the Wrist, Metacarpus and Phalanges.*—The most rapid recoveries, after amputation, were in those at the wrist-joint and in the fore-arm, immediately above it.

*Gun-shot Fracture of the Hip-joint, and the upper Femoral Epiphyses.*—Pirogoff's experience convinced him that it was better, in every respect, to subject these injuries, in their earlier stages, to a strictly conservative treatment, and not to be too anxious in the beginning to overcome shortening and deformity.

*Gun-shot Fractures of the Knee-joint.*—In these cases, either with or without amputation, the result was the same, viz., death. The principal forms of injuries of the knee-joint, from gun-shot wounds, are described. Free hemorrhage from them was not seen. Introducing the finger into the wound is only to be advised when done for the purpose of removing a foreign body, or in view of performing primary exsection. In the absence of a better course, Pirogoff says he is obliged to declare himself in favor of articular resection.

*Gun-shot fractures of the ankle-joint and foot.*—Simple per-

foration of the ankle-joint demands a conservative treatment; however, this course should not be carried too far in the management of injuries of the foot, and primary amputation should be chosen instead of secondary. Amputation through the metatarsus usually resulted very well. In injuries of the tarsus itself, Pirogoff operates according to his osteoplastic method, and very seldom adopted Chopart's. The supra-malleolar amputation he recommends unconditionally, only four cases out of thirty having proved fatal.

*Gun-shot injuries of the pelvic bones.*—These have been found in recent wars to be more dangerous than was formerly supposed, as well from pyæmia as through purulent infiltration. Formation of abscess on the parietal surface of the peritoneum, caries, necrosis, injury of the pelvic viscera, consecutive hemorrhage, and paralysis, are all to be treated on a purely expectant plan.

[Resumé of Volume II. to be continued in the June Number.]

---

## PROCEEDINGS OF SOCIETIES.

### NEW YORK OBSTETRICAL SOCIETY.

*Stated Meeting, February 7th*, 1865.

Dr. E. R. Peaslee, President, in the Chair.

[Extracted from the Minutes, by J. B. Reynolds, M.D., *Secretary.*]

#### ON THE NATURAL HISTORY AND MEDICINAL USES OF SPONGES.

Dr. Gardner read an elaborate paper on the subject, with remarks on the natural history and structure of sponges. In reference to the medicinal uses of sponges, particular attention was called to the injurious effects of sponge tents, which the author said were a very efficient cause of pyæmia, from the decomposition they originate in the secretions of the cervix, when resorted to for the removal of uterine polypus.

Dr. Noeggarath considered that septæmia, and not pyæmia, was caused by the introduction of compressed sponge into the cervix uteri. In most cases the evil produced by its employment passed off, and he could recall but one instance where it proved fatal. In pyæmia the

veins become inflamed, and in septæmia decomposed serum is absorbed. His experience had taught him that the effects of the sponge tent differed according to the habit of the woman, some not being at all injured, whilst others were always so. This latter class were invariably anæmic, and it has been observed of this class of women that the uterus absorbs both liquid and gases easily. No evil effects follow the use of sponge tents in healthy women, and he is constantly in the habit of employing them in treating imperfectly developed uteri, and imperfect involution. He agrees with Dr. Gardner, that many deaths follow their use in dilatation of the cervix for removal of polypi.

Dr. T. G. Thomas remarked that many cases of death after removal of polypi were inexplicable, and mentioned instances where the patients died, "without any sufficiently assignable cause." He could not agree with Dr. Gardner regarding the dangers from sponge tents, having seen, after a large experience with them, but two fatal cases: one in his own practice, and the other under the care of Dr. T. A. Emmet. In his own case the tent was used to dilate the cervix, in order to remove a retained portion of a placenta, which had become fætid. After the second tent the portion was removed, and the patient died from tetanus. In the other case, though Dr. Thomas supposed peritonitis to be caused by the sponge tent, Dr. Emmet stated that, in his opinion, the tent had no connection with the death, as upon removal of the tent the woman left the hospital, and did not fall sick until the third day afterwards. In this case there was no inflammation of the cervix, but the peritoneal cavity contained pus.

Dr. Emmet stated, in addition, that he had never observed in his, or in Dr. Sims' practice, any fatal effects from the use of sponge tents. He is always very particular in having the sponge thoroughly cleansed before its compression, and never allows the patient to leave her bed until after the tent is removed from the womb.

Dr. Noeggarath asked whether the members had not observed that the menstrual flow was at first diminished or obstructed by the use of the tent, to continue afterwards normally; to which Dr. Emmet answered, that he could recollect some cases of such occurrence.

### CYSTIC TUMOR, BEHIND THE SYMPHISIS PUBIS, CONTAINING STEARINE.

Dr. Noeggarath presented a specimen of stearine with the following history: He was called to see a lady 32 years old, healthy up to the last confinement, ten months ago. Last menstrual flow occurred two weeks previously. Upon examination, an irregularly shaped tumor was found behind the symphisis pubis, of the size of two fists,

giving an indistinct sensation of fluctuation, and easily displaced by pressure through the vagina. It was questionable whether it was due to ovarian disease, or abdominal pregnancy. The tumor was tapped through the abdominal wall, and a liquid, resembling pus, drawn off, but it solidified immediately, and exhibited the appearance of cocoa butter, blocking up the trochar. This substance was found to consist mainly of stearine.

Dr. Noeggarath also presented a bone resembling the petrous portion of the temporal, which was removed post-mortem from a dermoid tumor, or ovarian cyst, together with hair and teeth.

*Meeting of February 21st*, 1865.

Dr. E. R. Peaslee, President, in the Chair.

The President presented the following note sent by Dr. Fordyce Barker:

"ON THE EMMENAGOGUE AND GALACTAGOGUE PROPERTIES OF FARADISATION."

Several special works have been written on the subject of Electro pathy, and those of Duchenne, of Becquerel and of Tripier, in French, and of Althaus and Golding Bird, English, are regarded as standard authorities on this subject. I may not be warranted in saying that the profession generally are not alive to the value of Faradisation as a therapeutic resource in a large class of cases, where known remedial means were formerly very limited; but I can say for myself that I have not given the subject that careful and experimental investigation which its importance demands, and which I hope to do in the future. But I propose to give my very limited experience on two points, which especially come within the scope of the Obstetrical Society, and may not only be of some interest to its members, but stimulate them to personal investigation and experimentation. I will, very briefly, relate two cases in which Faradisation proved effectual as an emmenagogue, and one in which it was equally serviceable as a galactagogue.

1st.—Mrs. E., was married at the age of 19, in the autumn of 1860, and at the time of her marriage she supposed herself in perfect health. A few months after marriage the menstrual discharge began to decrease in quantity, and fourteen months after it ceased entirely. Her physician was disposed at first to believe her to be pregnant, but time eventually proved that this was not the fact. The amenorrhœa was unattended with any symptoms of disease, except that she became enormously obese. At the time of her marriage her weight had never exceeded 120 lbs., but when she came under my care, in November,

1863, she weighed 212 lbs., and as her height was but five feet and one and a half inch, her obesity constituted a veritable deformity, very afflictive to a young married woman of 22. On a careful physical examination, I could find nothing in the condition of the generative organs to explain the absence of menstruation, except that the uterus seemed to be moderately atrophied. It would be of little interest to the Society to describe the treatment she received from me from November, 1863, to May, 1864, as it was only partially successful. She menstruated slightly three times, and her weight was decreased to 160 lbs. She was apparently very much better satisfied with the result than I was. On the 3d of October, 1864, she again called on me, when I learned that there had been no attempt at menstruation since May, and she had again become enormously fat. She was evidently very anxious to believe herself pregnant. I then determined to try Faradisation. The poles of the battery were carried into the vagina, and applied to the cervix, and a bearable current was passed for fifteen minutes. Menstruation came on the next day and continued for five days. It came on spontaneously on the 5th of November and the 2d of December, lasting each time four days; and the loss at each period was greater than she was accustomed to have in her early days of menstruation.

There was no attempt at menstruation in January. On the 1st of February I again applied Faradisation as before, and the menstrual flow came on while I was making the application, which continued for six days.

*Case 2d.*—Mrs. T, aged 40, married, and the mother of four children, the youngest six years of age, applied to me at Newport, in July, 1864, on account of a variety of nervous symptoms, such as we are all accustomed to meet with at the climacteric period. She was subject to fulness of the head, vertigo, palpitation of the heart, great nervous and moral depression, flatulence, and many other symptoms, which it is unnecessary for me to detail. She had been perfectly regular as to menstruation, until the preceding March, since which there had been apparently no attempt or appearance of the *molimen hemorrhagicum.* I could find no evidence of disease of the uterus or ovaries, or, indeed, of any other organ. I do not think that any treatment she received from me was of the slightest service, until I resorted to Faradisation, as in the former case that I have described. Menstruation came on the day after, viz, October 4th, without pain, and continued the period usual with her, and it has returned regularly since. With the re-establishment of this function, all those symptoms which made her so

wretched and unhappy, have entirely disappeared, and I never desire to have a more grateful patient.

FARADISATION AS A GALACTAGOGUE.

Mrs. ——, aged 30, of an excellent constitution, and apparently perfect health, had a tedious powerless labor with her first child, which was terminated at the end of twenty-two hours, by delivery with the forceps. The child was vigorous and healthy, and of a good size, weighing, as I estimated, between eight and nine pounds. Puerperal convalescence was in every respect perfectly normal, in fact, unusually free from many of the minor ills of this period, except that there was apparently on the part of the system, not the slightest attempt to establish the function of lactation. The breasts were large and well developed, but seemed to possess an adipose rather than a glandular fulness. After confinement, at no time did they swell or become harder or sensitive to pressure, nor could any secretion of milk in them be discovered. Every means usual under such circumstances was persistently, but ineffectually, made use of to stimulate the secretion. The child, which was kept half starved, was regularly applied to the breast, until it got disgusted, and refused to work any longer for nothing. Then I made the nurse do the child's duty, but she failed to draw, as she declared, after many attempts, a single drop. On the tenth day after confinement, I resorted, with very little hope of success, to Faradisation. The current was applied from the circumference of the gland to the nipple, for about fifteen minutes to each breast. At the second sitting both breasts were manifestly fuller and more sensitive, and during the application of the current, milk ran out of the right nipple. At the third sitting both breasts were very hard and full, and milk ran freely from both nipples. For two days the child has seemed to be abundantly satisfied from the breasts. At a future meeting I will report whether the effects have proved permanent. My friend, Dr. Skinner, of Liverpool, has reported to the Obstetrical Society of London eight cases, in which the effects of Faradisation in establishing lactation were permanent after two sittings.

While some of the authors that I have before alluded to have reported similar cases, I am not aware that this agent, as a therapeutical resource, has been made use of to any considerable extent by the members of this Society.

LITHOPÆDION.

Dr. Conant presented a specimen of lithopædion, with the follow-

ing partial history: The specimen was the result of the woman's first pregnancy. So far as known, gestation was normal, and when labor came on, Dr. Prescott, of Maine, was called in to attend her. Labor pains continued for some time, but gradually subsided. Subsequently, she had a very offensive perspiration, so fœtid as to drive away all attendants, being obliged to have the food passed to her through a window. This condition subsided, the patient recovered, and upon examination a hard tumor could be felt in her side, which merely from its weight was uncomfortable. She became again pregnant, and gave birth successively to three children. In June, 1863, thirty-five years after the above accident, she died. Post-mortem examination revealed the present calcified fœtus extra-uterine, seemingly not enveloped with or in membranes; another hard mass, said to have been the uterus, was also in the abdomen, but from its resemblance to the after-birth, Dr. Conant considered it the placenta. The lithopædion was then described in detail, showing the head, face, body, limbs, etc., and the above mentioned mass was likewise presented.

Dr. Gonzalez Echeverria remarked that the whole fœtus was covered by a calcified membrane, and that, judging from its appearance, he should consider the structure of the separate mass as that of the placenta. He thought that both specimens would probably soften when soaked for some time in water, thus allowing their structure to be studied.

Dr. Jacobi thought the smaller mass to be the placenta, and pointed out the maternal and fœtal surfaces, and what might, upon closer examination, turn out to be two cords. The Doctor mentioned cases from Medical Literature, especially "the stone child of Leinzell," which has been the subject of careful examination, and found to be composed mainly of carbonates and phosphates of lime and magnesia, infiltrated into the tissues of the child.

Dr. Gardner mentioned the case of a negro woman, in whom labor pains continued for days and then ceased. There was no discharge and she recovered, dying of dysentery when about 70. Upon post-mortem examination the whole uterus and the fœtus within it were found calcified.

Dr. Peaslee remarked that, some twenty years ago, he saw in a sheep the fœtus in a similar condition to that presented by Dr. Conant.

### EXTRA-UTERINE GRAVIDITY.

Dr. Kammerer presented a specimen of extra-uterine gravidity, from a woman 30 years of age, who died last year. She had been under

treatment for chronic metritis, and had passed from under his care, with the exception of the introduction of a large sound, once a month, to keep the cervix open. Seven or eight years previously she had a child. She became again pregnant, and a little time subsequently was taken suddenly ill, with symptoms of internal hemorrhage and peritonitis, and in the course of a few hours died. Upon post-mortem examination, several quarts of blood were found within the peritoneal cavity, and on the left ovary a rent revealing the source of the hemorrhage.

Opening the ovary an embryo was discovered about four weeks old.

Dr. Kammerer replied to a question of Dr. Peaslee, that he could see no decidua within the uterine cavity.

### USE OF ERGOT IN CHOREA.

Dr. Jacobi related the following case he had recently treated: A girl 10 years old, had been under his care for pneumonia, and afterwards for bronchitis, but has, during the past year, been healthy. Five weeks ago she was brought to him, suffering with intense chorea, not being able to walk or sleep, and hardly to swallow, and with no cessation in the movements during sleep. She was feverish, with hot skin, thirst, rapid pulse, etc. The spine was examined and no excessive sensitiveness was detected in the lumbar or lower dorsal regions; but over the first dorsal vertebra, and increasing in severity on ascending the cervical region, there was tenderness. The chorea being due to irritation of the spinal cord and cerebellum, the cervical region was leeched, and ice applied for three or four days, when the girl began to improve. The ice was now continued for a week longer, and a strong purgative given with marked benefit. Afterwards, as the Doctor has seen good effects from ergot in spinal meningitis, he administered it in this case and in large doses. At first, half an ounce of Squibb's fluid extract was taken daily, in combination with sulphate of soda, and latterly but two drachms, with ten grains of quinine per day, continued for two weeks. The girl is greatly improved, being able to walk with assistance, and to eat and talk. Dr. Jacobi remarked, that the majority of cases of chorea occur in girls between 6 and 11 years of age, and that it is generally impossible to trace the symptoms to any local affections, except to rheumatic disease of the heart. If no rheumatic or cardiac trouble can be found, the spine and cerebellum are examined, but generally with like result.

Dr. Gonzalez Echeverria stated that he had seen a case in which there was pain in the cervical region of the spine, with most violent

choreic convulsions. The patient died, and, on post-mortem examination, apoplexy in the spinal-gray substance of the cervical region of the cord was found. (The history of this case has been reported in detail in the April number of this Journal.) The Doctor also related a case of chorea, mostly located in the right limbs, in a pregnant woman he had seen in consultation with Dr. W. H. Van Buren. The disease was preceded by sudden hemiplegia, occurred upon protracted lactation, but which nearly subsided, until the development of the choreic convulsions at the beginning of gestation. The sensibility of the limbs was evidently diminished, and the patient showed a tendency to cerebral congestion, which made once necessary the application of leeches to the back of the ears. The urine contained no casts, once or twice was slightly albuminous, but kept throughout its normal condition, with the exception of an increased quantity of phosphates. The state of the patient continuing to be alarming, and appearing to depend in a great degree on gestation, premature labor had to be induced at about the eighth month. This operation was skilfully carried through by Dr. George T. Elliot. The nervous symptoms did not, however, materially abate. The patient was then put upon the use of ten grains of bromide of potassium, three times a day; the remedy was soon discontinued on account of pain in the stomach, which the patient attributed to it. She was then directed to use ergotine gr. j., with quinine grs. ij., twice a day, and to resume the bromide of pot. mixed with the tr. rhei., and carbonate of ammonia. Under this treatment she decidedly improved: the ergotine was carried up to grs. xij. a day, and then discontinued, but the bromide of potassium has been kept up to the dose of thirty grains, three times a day, with the carbonate of ammonia, and half an ounce of the infusion of calumbo. Cold bathing, application of ice to the spine, and the localized movement cure, were employed in addition to the above means. Uterine disease having been suspected all along, the patient at last consented to be examined with the speculum. Besides retroversion, a large ulcer of the neck and enlargement of the womb were found, together with leucorrhœa and the dysmenorrhœa already complained of by the patient. A local treatment has been instituted for these latter symptoms, and the patient's improvement has continued beyond the stationary point it seemed to reach with the above means. Let me add, that the child, now over a year, has grown very robust, and to this date free from any nervous derangement. It is true, that in this case ergot was not the only remedy employed, but I have used it mainly in other cases of chorea,

with similar good results to those mentioned by Dr. Jacobi. I generally prescribe the Aq. extract of ergot, or Bonjean's ergotine, in the shape of pills, combined with quinine and the extract of conium added, to prevent the pain which ergotine is apt to cause on the digestive organs. The largest doses of ergotine I have prescribed have been from eight to fifteen grains a day, the latter dose having been employed with adults.

*Meeting of March 7th*, 1865.

Dr. E. R. Peaslee, President, in the Chair.

Dr. B. F. Barker's paper, read at a previous meeting, was the subject of the evening's discussion. After some difference of opinions as to the terms galvanism and Faradisation,

Dr. Gonzalez Echeverria remarked that the term Faradisation was first proposed by Duchenne de Boulogne, in honor of Professor Faraday, and is now admitted in science as synonymous of the application of the induced current. There is a broad difference between galvanic and Faradaic or induction currents. Galvanic currents are generated by piles or batteries, always move in a constant direction, have permanent poles and possess great chemical power, their physiological effects varying with the position of the poles as regards the nervous centres. Faradaic currents are induced in the electro-magnetic or magneto-electric machines; they move alternately in opposite directions, having, therefore, no permanent positive and negative poles, and only the *extra-current* circulating in the thick and short wire is capable of any chemical effects. This current has a contrary direction to that of the battery on closing the circuit, and equal to it on opening it; it also excites the sensibility more than the induced current of the fine wire.

It is not necessary that the induced current be applied to the womb itself, to re-establish the menstrual period in cases of amenorrhœa. If one electrode or reophore is put to the back and the other to the pubis, or to the region of the ovaries, the result is obtained. Even when applied to distant organs, Faradisation may induce the catamenial discharge, and frequently hastens it in cases other than amenorrhœa. Dr. Echeverria added, that he observed once in a case of uterine hemorrhage, with ulcer of the cervix, the application of the induced current to the womb attended with relapsing paraplegia. The woman had recently miscarried. Similar paralytic effects of a powerful induced current on the muscular coats of the vagina have been noted by Seiler, of

Geneva, in cases of prolapsus uteri. Finally, the Doctor thought that the emmenagogue properties of Faradisation were evident only in cases of amenorrhœa, unconnected with structural changes of the womb. He also considered electricity useful to favor development in cases of atrophy, or arrested growth of the womb, and did not doubt that it might prove useful in chronic engorgement.

Dr. Jacobi remarked that he had used electricity to some extent, and considered that the interrupted current acted as an irritant. Consequently its use was contra-indicated when an irritant would do harm. In breasts where there was no glandular tissue, or where there was sufficient blood, electricity would be of but little benefit as a galactagogue, but where there was glandular material and an insufficiency of blood electricity would be good.

Dr. Gonzalez Echeverria further remarked that the galactagogue effects of electricity are capable of being produced by directing the agent to the womb, as it happened in the case of uterine hemorrhage, already mentioned, in which the secretion of the mammary glands had stopped for a few days, and was re-established upon the application of the induced current to the womb.

Dr. Barker stated that when he hastily wrote his note, he had no idea that it would lead to any discussion. He had treated two other cases since, which he desired to add to those already reported. The first patient was a young woman, age 22, unmarried, physically tolerably well developed, and of high or excessively cultivated nervous sensibility. She had never menstruated, nor could he ascertain that there was any menstrual molimen; but about every four weeks she experienced a slight indistinct epileptiform seizure. A short time before she was seen by the Doctor, her family noticed certain moral alterations. Such was her condition about two months ago. An examination per vaginam was made and the uterus found rather small—the ovaries could not be felt. The breasts were pretty well developed. Iron and laxatives were given, and Faradisation used for fifteen minutes for three consecutive days. One forty-eighth of a grain of strychnine, and two grains phosphate of iron were taken thrice daily. In three weeks Faradisation was tried again; and on the second day, and while Faradisation was being applied, menstruation came on. There has been, in the meantimes a general and satisfactory moral change taking place, noticeable by her family.

The second case was a young woman of 19, married last May. On the second day after her marriage menstruation came on, since which time it has not reappeared, and she supposed herself pregnant, ex-

pecting to be confined about the second week in February. In October she was threatened, as she stated, with a miscarriage. During the third week in February Dr. Barker was called in, and upon making an examination, he could not find the uterine organ above the pubis, nor any change in the neck of the uterus. The breasts had not enlarged, but she had fattened generally. She was told that she was not pregnant, or, at least, was not over two months gone. Finding no disease to account for the absence of menstruation, he resorted to Faradisation. It was applied during a morning, and the same afternoon he was called and found her flooding, and with regular paroxysmal pains. In the course of an hour a clot of blood, the size of the thumb, was passed, and in it there was an embryo of between thirty and forty days old.

It is very seldom that conception takes place when menstruation has been absent for some months, except during lactation, when it is not uncommon; but he (Dr. Barker) had before known some instances of this kind. It is important to remember this fact in deciding some cases of doubtful pregnancy.

He wished, before concluding his remarks, to acknowledge his indebtedness to Dr. W. A. Hammond, not only for calling his attention to the subject, but for much valuable information and instruction as to the modes of applying this agent.

He added, Tripier claims to have cured certain cases of flexion, and also, that chronic engorgement and imperfect involution are benefited by Faradisation; but on these points he had no experience.

Dr. Gardner had tried the effects of electricity in one case of amenorrhœa. A young woman, 26 years old, anæmic, had experienced several periods of amenorrhœa. She had taken daily exercise and many preparations of iron. He had given her the tr. of the muriate of iron, and placed a plate of zinc and one of copper, to the front and back of the pelvis. As yet, she had no menstrual period, but her general appearance was much improved, whether due to the tonic treatment or to the galvanic effect, he could not decide.

Dr. Dewees remarked that some years ago he reported, in the *New York Journal of Medicine*, a case of a young woman, tuberculous, hectic, and with severe night sweats, attended by amenorrhœa of ten months standing, in which by means of galvanism, directly applied, he had succeeded in restoring menstruation; at first vicariously through the rectum, but afterwards normally. The relief from the phthisical symptoms was complete. The Doctor also stated that it was by no means a matter of indifference in the treatment, not only of amenorr-

hœa, but of other diseases, as to the direction of the so-called positive and negative currents, and hence the diversity of the reports of success or non-success. As to the danger of producing abortion, this, no doubt, could and had been done, but he had also employed electricity in arresting abortion, when threatened from irregular contraction, by causing a reductive equalization or relaxation of the muscular efforts. In using electricity the Doctor prefers the simple galvanic current, as obtained from a series of Smee's batteries.

Dr. Gonzalez Echeverria desired to state that the claims of the therapeutical effects of the galvanic current are very much exaggerated, and, therefore, not surer than those of the induced current, when properly applied. Remak, who was one of the first to praise the virtues of the galvanic current, could hardly obtain any of the sudden results he advanced before the Academy of Paris, in 1856, although he was allowed to chose the subjects for his clinical demonstration before a committee appointed by the Academy.

PORTION OF SMALL INTESTINES PASSED BY THE RECTUM.

Dr. E. R. Peaslee presented the intestine of a girl of 17. In the summer of 1863, she suffered from what seemed like uterine colic. She experienced several similar attacks in 1864, until she died in October of that year. She had attacks of fæcal vomiting, and her only alvine discharges were by enemata. In May, 1864, after one of these enemata, she discharged from the rectum five or six feet of what was then suspected to be part of the intestine of some lower animal.

The *post-mortem* showed the small intestine to be only sixteen feet long, instead of about twenty-two, as usual. Above the junction of the jejunum and the ileum, there was a contraction, and below this, the intestine was small. The portion passed had doubtless sloughed off from the small intestine after an attack of intus-susception, between four and five months before her death.

[A full report of this interesting case will appear in a future number of this Journal.]

# REVIEWS AND BIBLIOGRAPHICAL NOTICES.

*A Treatise on Military Surgery and Hygiene.* By Frank Hastings Hamilton, M.D., etc. New York: Bailliere Brothers, 1865, pp. 648.

There is no better teacher than war. The financier has his faculties quickened and his ideas enlarged by it; the political economist draws from its lessons some of his most sober and at times some of his most startling truths; the legislator strains his mind to evolve from it laws that will meet unlooked for emergencies and provide for unforeseen contingencies; the theologian sees the hand of Providence at every turn, and discovers attributes in the Deity which a state of peace would never have revealed to him; the philanthropist finds himself surrounded with objects of charity from which he cannot avert his face, and in ministering to which he expands his heart, and gains a deeper and a more truthful idea of human nature, and the physician and surgeon make new applications of their sciences, detect new truths, and thus often learn more in a single day than from years of toil in civil practice.

That the present rebellion has not been without its fruits in the directions mentioned, no one at all conversant with the course of events can doubt; and in no way has its influence been more strikingly manifested than in the impetus it has given to the medical sciences, though as yet, from the constant demands upon the energies of those professionally engaged in the war, that influence has scarcely been manifested to the world at large. Previous to the rebellion, military surgery was almost unknown among us. The laws which govern diseases in large bodies of men exposed to hardships of almost every kind were imperfectly understood, and hygiene existed only in name, being altogether unrepresented in our literature, except by a few superficial compilations of a popular character, from which as much error as truth was to be learned.

Among those engaged in the military service who have labored to advance the interests of medicine and surgery, and at the same time to exalt the dignity of those who practice them, the author of the work before us must be placed in the front rank. Few have done as much as he—none have done more, and what he has done, has been marked by so much good sense and proper feeling, and so correct an appreciation of circumstances, as to make it not only valuable to the present generation, but still more so to those who shall come after us.

The *Treatise on Military Surgery and Hygiene* is a work based in

great part upon Prof. Hamilton's own observations and experience, and is therefore of a highly practical character. In the limits of an octavo volume of 650 pages, it was, of course, impossible for the author to enter at any great length upon the consideration of all the branches of his two subjects. By far the greater portion of the work is devoted to military surgery, and it is here that we meet with the most important and useful matter. What he has written, however, upon hygiene and hospitals is clear and to the point, and no one will be led astray by adopting the views he inculcates.

The chapters upon Gun-Shot Wounds are, of course, fuller in detail than any others, and are characterized by sound and intelligible reasoning and a lucid statement of facts, which are admirable. We have sought in vain throughout them for a single instance of erroneous or unsafe doctrine, and in this respect they stand in remarkable contrast to several recent French and German treatises upon these species of injuries, which enunciate some views we should be sorry to see accepted in this country. The chapters upon Amputations, Exsections, Arrow Wounds, Gangrene, Tetanus, Anæstheties, etc., are also to be commended, as inculcating opinions very generally in harmony with the present advanced stage of surgery. We find no mention, however, of Prof. Van Buren's case of amputation at the hip-joint, which, as it was one of the first successful cases which occurred in this country, and as it was performed by an original method, was deserving of notice among the others cited.

Prof. Hamilton's views in regard to the employment of anæstheties are somewhat peculiar, but, as they are based upon an extensive experience, they are entitled to respectful consideration from both civil and military surgeons. After giving the preference to ether over chloroform for anæsthetic purposes, in which preference we certainly agree with him, Dr. Hamilton says:

"Anæsthetics are of inestimable value in their effects as remedial agents; in their power to extinguish sensibility temporarily, especially during the performance of certain painful surgical operations; in the control which they exercise over muscular action, thus facilitating the reduction of dislocations, and in many other ways.

"Anæsthetics, however, produce certain effects upon the system which tend to prevent union by first intention; and, consequently, they must be regarded as indirectly causes of suppuration, pyæmia, secondary hemorrhage, erysipelas and hospital gangrene. Ether ought generally to be preferred to chloroform, as being less liable to destroy life immediately; but no anæsthetic ought to be employed when the

system is greatly prostrated by disease, or by the shock of a recent injury, or by loss of blood, unless the patient exhibits an unconquerable dread of the operation, or the operation is likely to prove exceedingly painful.

"It ought to be particularly borne in mind, that by the loss of a large amount of blood, the action of absorption is greatly increased, and that, consequently, such patients come rapidly under the influence of the anæsthetic."

Whilst we doubt that anæsthetics tend to prevent union by the first intention, or that they—being insoluble in the blood—are more readily absorbed after extensive hemorrhage than in normal conditions of the system, we repeat that Dr. Hamilton's opinions on these, as on all other points in surgery, should be deliberately weighed and tested before being rejected. It is only by the most extensive experience that such important questions as the above can be definitely settled, and in the meantime we must accept the doctrines which appear to have the most weighty evidence to sustain them.

It is not our intention to give an exhaustive review of Dr. Hamilton's excellent treatise. The scope of this journal scarcely admits of such a course, with a work so readily accessible to the profession as is the one before us. We do not, however, go beyond our province when we recommend it most cordially to the medical profession both in civil and military life. To students contemplating army service it will prove of especial advantage, and cannot fail to awaken an interest in a branch of surgical literature, which, as we have already said, has been too much neglected among us.

*Lectures on Venereal Diseases.* By William A. Hammond, M. D. Philadelphia: J. B. Lippincott & Co. 1864.

In a very neat volume of nearly 300 pages Dr. Hammond has presented to the profession a series of twenty lectures he had prepared for his course of instruction at the Baltimore Infirmary, of which he was, in 1861, an attending surgeon. Five of the lectures were delivered, when the course was interrupted by his resigning his position in that institution for the purpose of re-entering the army. These were published, at the time of delivery, in the *American Medical Times*, and have, with the undelivered fifteen, been recast, brought down to the present time, and thus published.

It does not enter into the scope of this short notice to discuss the points presented, in some of which the author differs from the opinions

which generally obtain throughout the profession. Dr. Hammond has briefly given his own opinions, and has endeavored to sustain them by succinctly stating the processes of reasoning and experiment by which he has been led to adopt them. When he has found it necessary to state the opinions of others, he has done so freely and fairly, without in any great degree entering into the literary history of the disease. This volume is rather the transcript of the author's personal investigations, than a treatise on the subject.

Dr. Hammond is a believer in the duality of the venereal poison. The following quotation from the first lecture enunciates his creed upon the subject:

"I admit two species of venereal poison: First, that which gives rise to a simple, non-infecting, soft chancre; and second, that which causes an indurated one, liable to be followed by constitutional syphilis. Besides these, we have two kinds of virulent gonorrhœa; one caused by the deposit of the matter of the soft chancre on a secreting mucous surface, and another due to the contact of the pus of an indurated chancre with such a surface. * * *

"Are the two primary kinds of poison I have mentioned convertible, one into the other? By no means: they are essentially distinct. The virus of a soft chancre cannot give rise to an indurated chancre, nor the virus of this latter to a soft chancre. Each inoculates with its own specific poison, causing a sore of the same character as the parent chancre."

Three lectures are taken up with the discussion of the first species of chancre, with its relations. The author thus recapitulates his views:

"Soft chancre is a local disease; it never infects the general system; it may be inoculated, if the process of reparation has not advanced far, and this upon the patient affected; it is the kind of chancre pre-eminently liable to complications, such as inflammation, ulceration and phagedena; that it is occasionally accompanied or followed by two kinds of bubo—one a simple symptomatic adenitis, non-virulent; the other caused by the absorption of chancrous pus, always suppurating, the pus formed being inoculable, and therefore truly of a specific character."

In the two lectures following, the subject of true chancre is presented. The author designates it as "the indurated chancre, the infecting chancre, the true syphilitic chancre, the chancre, *par excellence*," and thus qualifies these titles:

"It is the indurated chancre, because it alone possesses a true indurated base; it is the infecting chancre, because it alone poisons the system; it is the true syphilitic chancre, because it alone causes syph-

ilis; and it is the chancre, *par excellence*, because it alone possesses all these characteristics."

The diagnostic appearances of this species of chancre are very vividly portrayed in these lectures, and the microscopical differences between the secretion of the two species pointed out.

The phenomena attending and the complications arising from indurated chancre, with the treatment to be adopted in all its phases, are here tersely stated.

In the sixth lecture, the author again takes up the subject of the duality of the venereal poison, and his views already stated he seeks to substantiate, by the experiments of known syphilographers.

Then follow lectures on the phenomena connected with the inception of constitutional syphilis and the protean forms of the constitutional disturbances, with the methods of treatment, including a fair and critical mention of the plan by syphilization.

The closing lectures of the volume are devoted to the subject of gonorrhœa. The views entertained by the author are so peculiar, and so different from those held by most of the profession, that we shall close our brief notice of this book by quoting them:

"Two forms of specific gonorrhœa are recognized: the one proceeding from the action of the secretion of an indurated chancre on a mucous surface; the other from the action of the pus of a soft chancre on such a surface."

The origin, characteristics, and manifestations of these two forms are clearly enunciated in the following propositions:

1st. That the virus of an infecting chancre, when deposited upon a secreting mucous surface, may give rise to an inflammation of that surface, attended with a muco-purulent discharge, without a chancre being necessarily formed, unless an abrasion exists; in which case, if the chancrous virus comes in contact with it, a chancre will in all probability be produced, and will coexist with the general inflammation.

2d. That the affection thus produced by the virus of the infecting chancre is a syphilitic gonorrhœa; that it is followed by constitutional manifestations, and is contagious; and that, though the local disease will disappear without specific treatment, the general symptoms are more efficaciously treated with mercury.

3d. That the virus of a soft, non-infecting chancre, when deposited on a secreting mucous surface upon which there is no abrasion, generally gives rise to a muco-purulent discharge without the necessary production of a chancre; that if there be an abrasion, the liability to chancre is much increased; that both diseases may exist in one individual; and that the discharge from the inflamed mucous membrane is capable of giving rise to a similar discharge in other persons; and that it is not followed by any specific constitutional symptoms.

4th. That the two sources named are the only ones from which a contagious gonorrhœa can *originate*, though it may be *transmitted*, according to its kind, from one individual to another.

5th. That there are thus two species of virulent gonorrhœa, corresponding to the two species of chancre; that both are contagious; but that only that due to the virus of the infecting chancre is followed by constitutional infection, or can give rise to syphilis by inoculation.

6th. That the matter of each of these species of gonorrhœa will, when inoculated, give rise to its own particular form of chancre; but that greater care and longer contact are necessary than are required with the virus direct from the chancre.

7th. That the muco-purulent discharges from the urethra or vagina, due to inflammation or irritation caused by stimulating food, excess of venery, acrid applications, the introduction of instruments, injuries, ascarides, etc., are not contagious, and are simply cases of urethrites or vaginitis, in nowise possessed of any specific characteristics.

These lectures are well worthy the closest attention of the student. However much we may dissent from some of the views of the author, we cannot do otherwise than accord to him the credit of presenting them in a logical and philosophical manner. And in a question so sharply discussed, and which admits of so much demonstrative evidence, we must give heed to the well-directed experiments and the deductions drawn from them, which we find in this volume.

*A Comprehensive Medical Dictionary, containing the Pronunciation, Etymology, and Signification of the terms made use of in Medicine and the Kindred Sciences, with an Appendix, comprising a complete list of all the more important articles of the Materia Medica, according to their medical properties. Also, an explanation of the Latin terms and phrases occurring in Anatomy, Pharmacy, etc.; together with the necessary directions for writing Latin prescriptions, etc., etc.* By J. Thomas, M.D. Philadelphia: J. B. Lippincott & Co. 1864.

This ample title very fully explains the object and uses of the volume. Its principal features are, that it gives the correct pronunciation, furnishes the etymology and explains the meaning of all the medical and scientific terms contained in it.

It cannot be denied that there is a lamentable looseness in the pronunciation of medical terms among the profession generally, and that our teachers are by no means free from fault in this particular. Two sources of error are constantly apparent; that of the accentuation and syllabication of words, and that of the quality of vowels. In the former few or no differences should exist among educated men, while in the latter the advocates of the Oxford or continental school make a

difference in this respect legitimate So long, then, as this difference is not widened by a deviation from either the one or the other method, the pronunciation may be regarded as correct.

This work, simply as a Pronouncing Dictionary, is, therefore, most invaluable, for the accentuation is given so that no one can mistake it, while the quality of vowels is left to the individual to determine, according as he may be influenced by habit or previous education.

It would, perhaps, have been well if a uniformity in this latter respect had been adopted by the author, so that this Dictionary might have become an authority to the profession, for the pronunciation of words, both as regards quantity and quality.

The Etymology of the words contained in this Dictionary is another feature which will be found of valuable service. It is given in so plain and simple a manner that the student of the most moderate classical attainments cannot fail to appreciate it.

The definitions of technical terms are concise, and yet full enough for the plan purposed. To these are often added translations of Latin phrases and sentences, which will be of use to those unacquainted with that language.

The work we cordially commend to all. It is elegant in point of typographical execution, and in its main feature, that of a Pronouncing Dictionary, is a safe and reliable book of refereuce.

*Manual of Instructions for the Guidance of Army Surgeons, in Testing the Range and Quality of Vision of Recruits, and in Distinguishing the Causes of Defective Vision in Soldiers.* By Deputy Inspector General T. Longmore, Professor of Military Surgery at the Army Medical School. London: pp. 74.

In the work before us, Dr. Longmore has supplied a want which all Army Surgeons will be glad to see filled. In the absence of any similar manual by an American authority, it would be well were it extensively circulated among the medical officers of our own army. It is concise, and, at the same time, sufficiently full for all practical purposes. It is divided into two parts: the first treating of the optical examination of the eye, and the second of the use of the Ophthalmoscope as a means of inspection. For those, whether in or out of the army, who desire to make themselves acquainted with the present advanced stage of opthalmic diagnosis, we know of no guide so suitable for the purpose as Dr. Longmore's manual.

# PROGRESS OF THE MEDICAL SCIENCES.

## I.—MATERIA MEDICA AND THERAPEUTICS.

1. *On the Febrifuge Properties of the Common White Willow.*

It has long been known that the white willow and its alkaloïd, salicine, possess febrifuge properties, and the fortunate coincidence has often been remarked of the growth of the willow in those very localities where intermittent fever prevails—namely, in low, marshy situations. Dr. Cazin remarks, that if the willow has failed to exert a febrifuge action in all cases, the circumstance is due to the smallness of the dose employed, and he suggests that the remedy should be associated with other bitter and aromatic vegetable extracts. M. Cazin has been in the habit of treating in this manner for the last twenty years the intermittent fever which prevails among the inhabitants of the marshy grounds about Calais; and he has found the willow an efficient substitute for cinchona and quinine. In the early stage he recommends an emetic or aperient, when gastric disturbance is present, and then he prescribes large doses of the bark of the white willow, alone or in combination with camomile, wormwood, and some other indigenous tonics, alteratives, and aromatics. He considers that the combinations of vegetable bitters with astringent and aromatic substances are far more efficient than the indigenous febrifuges administered alone. He also thinks it desirable to persevere for a week or ten days in the treatment after the removal of the paroxysms, and to prescribe a large dose every week for a month or longer, if any symptoms indicate the danger of a relapse. M. Cazin recommends the willow bark to be employed in a decoction (℥ss to ℥j. in a pint of water) or in powder in the dose of ʒij. to ʒj. in wine or beer, or in the form of a tincture or extract.—Dr. Semple's "Report on Materia Medica and Therapeutics," in the "British and Foreign Medico-Chirurgical Review."—*The Medical Circular, August* 17, 1864.

2. *Preparations of Bromine.* By G. D. Gibb, M.D.

Bromide of lithium was prepared with the view of treating gout and rheumatism of the throat and neck. In small doses, it acted as a tonic gentle stimulant, and sometime as a diuretic, and might be combined with other agents with advantage. The bromide of zinc he had found to relieve impaired nervous power; and he proposed bromide of lead as a soothing and cool local agent in certain inflamed states of the mucous membrane.—*British Medical Journal, October* 15, 1864.

3. *Honey as an Excipient for Pills.*

M. Thibault (*Bulletin de Therapeutique*) believes that much of the disappointment following the employment of pills arises from their, as ordinarily prepared, acquiring a degree of induration that prevents their solution, and enables them to traverse the alimentary canal unchanged. To prevent this he recommends the employment of honey; pills prepared with it always remaining soft, however long they might be kept.—*British Medical Journal, October* 8, 1864.

3. *On the action of Anæsthetics, and on the Administration of Chloroform.* By Arthur Ernest Sansom, M.D. (Read before the British Medical Association.

"The early notions as to the action of the volatile anæsthetics—and these are now the generally received ideas—were that they exerted a primary action upon the brain and nervous system. In virtue of a particular elective affinity, they stored themselves up in the cerebro-spinal centres, and exercised a sort of stupefying action thereupon. Lallemand, Perrin, and Duroy having found, after death from the inhalation of anæsthetics, a larger proportion of each anæsthetic employed in the nerve matter than in any other part of the organism, argued (1) that they accumulate in nerve substance by virtue of an affinity of election, and (2) that thus, and thus only, are they capable of abrogating the functions of the nervous system. And now it is the general habit to speak of these bodies as having an active influence on the brain, and to consider them as special nerve poisons.

"A primary difficulty has been advanced to this theory by MM. Faure and Gosselin, whose experiments tend to show that chloroform applied to or circulating in the brain, merely as chloroform, fails to produce anæsthesia. Therefore to some this paradox of elective affinity has been the occasion of a deeper investigation, and these combined labors point to a more universal cause for the phenomena of etherization. The element of the organism to which these observers refer the first action of anæsthetics is the blood.

"When chloroform or ether is inhaled it may do one of two things: it may be absorbed and be projected throughout the body, manifesting its presence by its direct action on the nervous system, or it may act upon the blood, modifying its vitalization. And when we consider the vast vascular area to which, in the progress of inhalation, the anæsthetic is applied, it is not difficult to appreciate the influence exerted on the phenomena of aëration of the blood.

"It is not doubted that there are certain gaseous bodies capable of thus influencing hæmatosis, the action of which is precisely analogous to that of the other æsthetic agents. Carbonic acid and carbonic oxyde produce an exactly similar train of symptoms to those induced by ether or chloroform, and that these act by an influence on hæmatosis is undeniable. One is led to ask wherein is the difference of action between chloroform and these? MM. Lallemand, Perrin, and Duroy separate them widely, because they find the liquid vaporisable anæsthetics in greater quantity in the brain after death than in other parts of the body. This evidence is but little worth when we consider how admirably the brain is adapted, from its soft structure and free supply of blood, to allow exosmose and the storing up of fluid in its substance. And the theory is rendered still more incredible when we ask, how is it that in chloroform narcosis the effects pass off with such rapidity, with a facility quite disproportionate to that of eliminating a quantity of fluid impregnating the brain.

"Both analogy and observation show that the phenomena of narcosis are due, not to the influence of a circulating poison, but to the influence of an altered blood. Given, then, that chloroform, ether, &c., act by suspending oxygenation, how do they effect that suspension? Obviously either by acting upon the blood itself, or upon the structures through which oxygen passes into the blood.

"M. Faure adopted the view that an ecchymosis of the lungs occurred, and impeded the entrance of air. The abundant proofs, how-

ever, of the absorption of chloroform and the production of anæsthesia when injected under the skin or into the peritoneal cavity—the commonly observed fact that after death from chloroform the lungs are not congested, but pallid; and the consideration of how much then ecchymosis, if they occurred, would compromise life—are sufficient to invalidate the theory. The fact is, therefore, that chloroform directly influences the fluid blood. It has the property of diminishing the tendency of the organic constituents of the blood to unite with oxygen.

"Dr. Jackson, of Boston, has recorded a case in which he found the whole of the chloroform to have changed by oxydation to formic acid —it had robbed the blood of its oxygen. On the other hand, there have been many cases in which the chloroform has been recovered unchanged.

"What is the exact nature of the action is difficult to say, but the author considered it probable that the cell-wall of the blood corpuscle was so affected as to impede the entrance of oxygen.

"The first effect in narcosis is increase in frequency and force of the heart pulsations; a subsequent effect is decrease of both; the increase is due to heart stimulation, and to disturbance of the molecular change in the brain; the decrease, to the more exalted brain disturbance, and the loaded state of the capillary system."

The author gave the results of a number of experiments upon the effects of anæsthetics on the circulation, as seen in the web of a frog's foot under the microscope. In these experiments he had received the valuable assistance of Dr. John Harley, of King's College. The conclusions were these:

(1.) In the case of all the anæsthetics employed—carbonic acid, ether, alcohol, and chloroform—there is an increase in the flow of blood in the whole vascular system.

(2.) There is, next, decided contraction of the arteries, the current maintaining its original force. Contraction may persist throughout perfect anæsthesia, and dilatation of the artery is evidence only of too profound an action.

(3.) Sluggishness of the capillary circulation is observed. Sometimes the corpuscles agglomerate. They toil along in an irregular current.

(4.) Dilatation of the artery; increasing sluggishness of circulation; stasis.

These stages are constant in the case of the other anæsthetics; in chloroform they vary with the strength of the vapor. If the vapor be strong, the stop of contraction is of very short duration; frequently dilatation rapidly supervenes, and there is great embarrassment of the capillary circulation.

Failure of the circulation is the cardial sign of danger in chloroform administration. In nearly all the cases of death from chloroform, pallor of the face and failure of the pulse were the first signs of danger.

The manner of death from chloroform varies. It varies in experiments according to the nature of the animal, and that directly in proportion to the independent contractile power of the heart. The heart of the higher animals soon succumbs to the power of chloroform, but yet it always outlives respiration. The heart of the lower animals continues to contract, and resists the most profound action. In man, the heart, possessing but little automatic power, yields first; in children, however, the heart has less dependence on the central nervous system, and hence their immunity from chloroform syncope.

Reviewing the signs and symptoms of induced anæsthesia, the following considerations have their weight in reference to the proper modes of administering chloroform:

In all cases of experiment upon animals the symptoms of narcosis are induced in the most regular, uniform, and safe manner, when freely diluted vapor has been administered. Highly charged atmospheres always cause great trouble of the capillary circulation, but dilute atmospheres allow, as it were, the gradual accommodation of the system to the new state. When, after some time, a weak atmosphere has been breathed, a strong dose has been administered, there is far less irregularity than as if the concentrated atmosphere had been breathed at the first. The dangers of a strong dose are obvious in our experience with respect to the human subject, and we know that one containing 6 per cent. of chloroform is fatal to animals. Everything shows us that when we deal with chloroform, we deal with a dangerous drug, and it is incumbent on us to use the utmost caution.

The author strongly urged that mechanical means for insuring the due dilution of chloroform vapor should be employed, and that the question should not be considered one of convenience only. In giving chloroform upon a handkerchief or upon folded lint, you have no knowledge whatever of the strength of the atmosphere inhaled. Assurances of personal confidence in the anæsthetic are of little use. People who boast that they have given it two thousand times and have never had a fatal case, should know that only the probable proportion of deaths to inhalations is one to twenty thousand. And this is far too much. Chloroform ought, in the nature of things, to be rendered absolutely safe.

Two methods present themselves as devoid of danger. One provides the inhalation of a definitely weak atmosphere, that never rises above 3½ per cent. This is only attainable with absolute certainty by Mr. Clover's method, the proportions of chloroform vapor with atmospheric air being commingled beforehand, and kept in an india-rubber reservoir.

A second plan commences with a very slight proportion of chloroform—an almost inappreciable quantity—and provides a gradual increase in the proportion of chloroform inhaled. All analogy shows that to a certain extent tolerance of chloroform can be induced just as tolerance of vitiated air can be. The dangers of chloroform narcotism are not in a direct ratio with the quantity of chloroform absorbed, for it is a fact that most of the deaths have occurred in cases where anæsthesia has been incompletely established, and the quantity of chloroform inhaled has been small. There has been an intolerance—a repudiation of the vapor at the first. Coughing and struggling, and voluntary withdrawal from the chloroform-besprinkled surface, are signs of this intolerance; but when chloroform is given in an absolutely progressive manner these signs never occur. The instrument which the author uses admits two direct currents of air besides the current admitted by the aperture of Sibson's face-piece. These currents are gradually cut off by the mere revolution of one tube upon another. An atmosphere of any concentration up to five per cent. can thus be breathed.

The author hoped that soon medical practitioners would no more allow their patients to inhale the uncertain atmosphere given off from a folded handkerchief, than they would permit them to take unlimited draughts of a solution of morphia.

A discussion followed, in which Dr. Gibbon, Dr. Richardson, Dr. George Buchanan, Mr. Clever, and Mr. Solomon, took part.

Dr. Gibbon, in the main agreed with Dr. Sansom.

Dr. Richardson described that the action of all anæsthetics and all narcotics was the same in principle; they, one and all, by their presence prevented the combination of oxygen with oxydised matters, and they, one and all, prevented combustion. They acted in the same manner out of the body, and the whole of the phenomena of anæsthesia could, as Snow had said, be demonstrated "on a farthing candle." This discovery of the action of anæsthetics was due *exclusively* to the late Dr. Snow, who had brought it to such perfection of proof that more could scarcely be added to it. Chloroform, therefore, acted generally through the blood; it checked all chemical combination, and it checked the development of force; it produced, in plain words, a temporary death, from which the patient recovered only by virtue of the fact that the narcotic being volatile it could, under careful manipulation, be given until the patient had reached near enough to death to be operated on without sensation, and then, the vapor being withdrawn, could recover by a process of gradual evolution of the narcotic. It was not that oxygen acted on a particular part of the blood, as Dr. Sansom had suggested; not that it acted on the blood corpuscles only, but that it produced a general action which suppressed oxydation. The process was most simple, and it not only resembled the process of insensibility brought about by carbonic acid and other negative poisons, but also the insensibility that follows from extreme cold locally or generally applied. After showing that all anæsthetics were likewise antiseptics, Dr. Richardson said that as in anæsthesia from chloroform the body was brought as near as was just safe towards inertia or death, it followed that the dangers incident to the process were greater or lesser according to the health of every important organ and the unity of function that prevailed. He was proceeding to illustrate this point, but, as the time allotted to each speaker was up, he closed his observations by thanking Dr. Sansom for the very able and advanced paper which he (Dr. Sansom,) had laid before the Association.—*Dublin Medical Press, September* 7, 1864.

4. *Bromide of Potassium as a Sedative.*

Dr. A. Gubler, Physician to the Beaujon Hospital, has been investigating, by experiment and clinical observation, the action of bromide of potassium. He has given it in laryngeal and bronchial affections, in œsophageal spasm, in hysteric and spasmodic cough, in chorea and other nervous disorders, and in heart disease; and sums up his memoir with the following conclusions: Bromine, in combination as a salt, is not only an anaphrodisiac, or an anæsthetic to the throat, it is a powerful general sedative. Bromide of potassium has generally been preferred; but the preference should probably be given to bromide of sodium, on account of the greater tolerance, on the part of the animal system, of soda-salts, which enter in large proportion into the composition of the tissues of the body. Bromide of potassium, in average daily quantities of about thirty-five grains, in two or three doses, in some mucilage or sugared water, produces a marked sedative effect on the sensory and motor nervous system and on the circulation. As an anæsthetic, it acts more on the internal than on the external integuments, and especially on the isthmus of the fauces, the pharynx, and the genito-urinary passages. The action, however, is not confined to these parts,

but extends into the neighboring regions, especially the œsophagus larynx, and air-tubes. By this action painful dysphagia, œsophageal contractions, and spasmodic cough, are calmed. Bromide of potassium acts equally on the nervous centres as a contrastimulant. It relieves congestive headache, prevents or moderates convulsions, diminishes the excito-motor action of the cord, and relaxes tetanic contractions, while at the same time it restrains reflex action. Under the influence of the alkaline bromide, the action of the heart is moderated and rendered slow, turgescence of the capillaries is diminished, and fever is abated. Diuresis, if it have not already existed, appears on the cessation of febrile excitement. Perspiration, on the other hand, is arrested, and the formation of pus and mucus is diminished. The symptoms of *bromism* are almost exactly the opposite to those of *iodism*, hence bromine may be regarded and used as an antidote to iodine.—*Bull. Gén. de Thérap.* and *British Medical Journal.*

5. *On the Action of Kreosote in the Treatment of Sycosis.*

Dr. Masse called the attention of the Paris Academy of Sciences to the use of kreosote, to destroy the growth of spores in parasitic affections of the skin. The idea was a deduction of Bèchamp's experiments, proving that this essential substance stops the development of spores of mucedines, and of ova of infusoria in fermentable solutions. Cryptogameous parasites resembling in their organization those grown during fermentation, Dr. M. thought that kreosote ought to act on them in the same way. The experiment was successfully tried with a young soldier having sycosis. Spores and tubes of the *mycrosporon mentagrophyte* were discovered with the microscope in the tubercles of the affected bearded portion of the face. The patient was cured after eight days of treatment, consisting in lotions, made twice daily, with fifty gram. of water, fifty of alcohol, and fifty centigram. of kreosote.—*France Médicale.*

6. *On the Therapeutical Action of the Alkaloids of Opium.* By Dr. Ozanam.

Opium contains six important alkaloids: *morphine, codeine, narcotine, opianine, thebaine,* and *narceine.* There are, in addition, the *pseudo-morphine, meconine,* and *propylamine* without any marked action on the brain. *Morphine, opianine* and *narceine* are sedative principles. The first two, especially morphine, are sedatives, producing anæsthesia of the brain and of the whole nervous system. Narceine is a precious sedative, which seems to possess an elective action on the lumbar region of the spinal cord. In doses from one to two grains it does not induce sleep; the subject, however, experiencing a great quietness and comfort. It is a reliable remedy to relieve pain in paralysis from congestion of the spine. *Narcotine* and *thebaine* are excitant principles; the first is a *general excitant of the brain,* the latter of *the cervical portion of the spinal cord.* In cases of extreme exhaustion upon surgical operations, paralysis, or in agonizing subjects, narcotine is a valuable excitant, whether administered pure, or with acetic or chlorhydric acid, contrary to the opinion entertained by some authors that narcotine acts as a sedative diluted in oil, as an excitant with the acetic acid, and is quite neutral with the chlorhydric acid. The doses employed by Dr. Ozanam are from one to two grains. *Thebaine* is

more violent in its action, and it agitates and tetanises the patient. *Codeine* possesses several therapeutical properties: it may, according to the dose, be an excitant, a sedative, or even a stupefacient. *In very large doses*, of four or five grains, it stupifies like morphine, inducing anæsthesia like chloroform or ether; in *middling doses*, it causes like them a period of excitation, followed by calm; in *small doses* the excitation is *none* or nearly none, and *calm* is only produced. But besides this general action, codeine has a peculiar elective action on the *cerebellum* and *medulla oblongata*. Frequently the retrograde movement has been observed in animals poisoned with it, and the above organs very much congested with blood. The effects on the medulla oblongata account for the efficacy of codeine in nervous coughing and gastralgia.—*Revue de Thérapeutique*, 15*th October*, 1864.

From other experiments recently made by Claude Bernard, to determine the power of the above alkaloid as soporific, excitant, convulsive and toxic, he finds that *narceine* ranks first as soporific, second, *morphine*, and third, *codeine*. *Thebaine* is the most excitant and toxic of the six, and in this respect morphine occupies the fifth rank.—*Comptes Rendrus de l'Acad. de Sciences, October*, 1864.

## II.—OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

7. *On some of the Signs of Early Pregnancy.* By C. H. F. Routh, M.D., &c., &c. (Read before the British Medical Association.)

The author referred to the signs of the first period of pregnancy from the date of conception to the fourth month. The symptoms then observed as diagnostic were, cessation of the menses, the purple color of vagina, and velvety feel of the os uteri, the presence of kiestine in urine, enlargement of abdomen and breasts, and peculiar characters of areola. Only two of these, kiestine and an occasional modification of the follicles of areola, which he described, were at all certain. Auscultation was not supposed, except at the end of the first period, to assist. Naegele stated the placental souffle was heard certainly only at fourth month. Rigby at fifteenth and sixteenth week. Kennedy had, however, heard it as early as twelfth, eleventh, and once at the tenth week, but his experience had not been confirmed by others.

The author thought by means of the vaginoscope, which he described, and which was in the main a single or double stethoscope with a vaginal speculum attached, that he had succeeded in diagnosing pregnancy by auscultation at a much earlier period. The earliest sound heard was a general muffled murmur, once interrupted during the pulse beat. It was difficult to describe it. It was an intensely vesicular murmur, an attempt as if it were to produce the ordinary placenta souffle. This was heard from the sixth to the ninth week generally. Its pitch was higher when the placenta was attached near the os. The ordinary placental souffle was heard generally at the ninth week; but he had heard it distinctly at the seventh and eighth week, and once at the sixth. In non-pregnant women the vaginal pulse or a single cardiac sound was heard; also the sounds of the intestines, which owing to the solidity of the uterus, were transmitted, and distinctly heard. These he had never detected in the case of pregnant women where tumors (fibroid) existed in utero. These were

heard, and, besides, the murmur was tubular, not vesicular, and often attended with a thrill.

The author instanced nine cases in proof; one of thirteen weeks and one day; one of thirteen weeks; one of thirteen, perhaps eleven weeks; one of eleven weeks and two days; one of twelve weeks and one day; one of ten weeks; one of nine weeks and two days; one of seven weeks, and one of six weeks and two days; in all of which early periods pregnancy had been made out by the vaginoscope.—*Dublin Medical Press, September* 7, 1864.

8. *On the use of the Hysterotome in the cure of Uterine Disease.* By Dr. Routh. (Read before the British Medical Association.)

After referring to Dr. Simpson's instrument, first promulgated in 1847, and his own double hysterotome in 1849, Dr. Routh stated their use appeared to be then limited to cases of mechanical dysmenorrhœa. Upon the existence and frequency of such cases authors differed. The latest writer, Dr. West, believed them very rare, and only mentioned one case, while he disapproved of hysterotomy altogether, and had known pelvic abscesses follow their employment. Dr. Routh, after showing that pelvic abscess will often result from the mere uterine manipulation, stated his belief that mechanical dysmenorrhœa in London was not very uncommon. A thickening of the uterine mucous membrane following endometritis, a constriction, short of occlusion of the internal or external os, chronic cases of endometritis, antiversion and retroversion, fibroid growths of uterus, and congestion of the uterine organ itself, were all conditions in which the hysterotome could often be most advantageously employed. In this way, by hemorrhage, the congestion present was effectively relieved. Dr. Routh referred to cases of complete occlusion and the method to adopt before the hysterotome could be used. He pointed out the danger of using it in cases where the uterus contained uterine menses, or a large quantity of retained fluid, showing that then, by the movements of uterus during respiration, air was admitted within the uterus. For the same reason puncturing ovarian cysts per vaginam was bad, because air was admitted within them, and the contents became putrid, and death from pyæmia was the common result. The uterus should first be voided per rectum.

Dr. Routh then proceeded to exhibit a variety of hysterotomes. The mistake in all the older instruments was, that the incision made above and about the internal os was as great as that made below. Death had more than once resulted from their use. Dr. Savage had beautifully shown in his plates that this was due to the circular arteries of the uterus, which, coming in at the parts near the internal os, were cut through. Dr. Greenhalgh had, therefore, invented a double hysterotome, by which the incision made was triangular—*i. e.*, small above at the internal os, large below at the external. This was most important, as in this way all risk of undue hemorrhage was avoided. This was a perfect straight hysterotome, made by Weiss, well guarded and narrow. Its only objection was its price. Dr. Savage had invented three hysterotomes—1. A straight double-action hysterotome, something like Smellie's scissors, and which, by means of the adjustment of a spring inferiorly, might cut much or little at will. 2. An hysterotome, first manufactured in France by Matthieu, having the same double triangular action as Dr. Greenhalgh's, with metal plates covering the same: by altering the position of the pins on which it worked,

it could be made to cut much or little. 3. A straight hysterotome, with action same as the last, made by Weiss, as it was found that the length of incision of last varied with position of pins. These instruments were all cheaper. The first and last were made by Weiss.

The last instrument he referred to was his own, manufactured by Coxeter. Having found that in cases of complete antiversion and retroversion, it was sometimes very difficult to put in a straight instrument, he had devised one with a curve, like Simpson's sound. This curve was the arc of a circle, and extended to three times the length of the uterine portion of the instrument; so that the blades, moving on the same plane, could cut very easily. The internal mechanism was in the main the same as that adopted in Dr. Savage's French instrument. It was the cheapest of the English instruments.—*Dublin Medical Press, September* 7, 1864.

9. *Absorption of the Placenta.*

Dr. J. Layas reported a case in a colored woman, who miscarried during the third month of her sixth pregnancy from hemorrhage. The fœtus was found in a coagulum remaining in the vagina. No placenta came out, the external os was contracted and the womb gradually diminished in size, until menstruation reappeared, at the end of three months, from the time of the accident. No examination of the cavity of the womb is mentioned, and the case does not seem altogether conclusive as to the true resorbtion of the placenta, which is so doubtful a fact, if not improbable, with the modern notions of Pathological Anatomy.—*Anales de Ciencias, &c., November* 15, 1864.

---

# EDITORIAL.

## ABRAHAM LINCOLN.

A great calamity has fallen upon the nation, and it staggers under the blow like a strong man overburdened. Familiar as the members of our profession are with death, seeing it in all its varied forms, brought continually in contact with its many solemn accompaniments, and thus taught by long experience to look upon it with a stoical indifference, amounting almost to contempt, no one of us can think of the recent loss our country has sustained, and of its attendant horrors, with other emotions than those of heartfelt grief and almost overwhelming awe.

It is rarely the case that the character of a living man is estimated correctly. It is only after death that the world ceases to exaggerate his virtues or his faults, for it is then only that the element of selfish-

ness, which enters so largely into the composition of human nature, and incites mankind to love or hate, relinquishes its hold, and allows a calm and deliberate judgment to be formed of one whom it is no longer necessary to like or dislike, to confide in or to fear.

Yet few men have been less misunderstood whilst living than Abraham Lincoln, and therefore but few will be obliged to reverse their opinions of him. The qualities of his mind were so strongly marked, there was so much natural frankness in his disposition, and so little of what is called courtliness, that those who came in even casual contact with him felt that they had obtained a deeper insight into his character than could be acquired of most individuals by long-continued intercourse.

That he was honest in his opinions, sincere in his convictions, merciful in his impulses, acting in all things for the best, according to the light he had, no one can doubt who knew him and judged him fairly, as man should judge his fellow mortal. If, during his administration, acts were done in his name not in themselves right; if others were omitted which should have been performed; if wrongs were inflicted upon individuals for which full amendment can never be made, the responsibility cannot with justice be fastened upon him. It rests with those who were appointed to advise and assist him in the multitudinous duties of his great office, and in whom he trusted with the child-like confidence which formed so prominent a feature of his open and ingenuous disposition.

Perfection is not an attribute of human nature. If it were, we should be gods, not men. But it will be well for us if, when we receive our summons to another world, we can enter with as much confidence into the presence of our Father as might have filled the heart of him who for four long and weary years of war has held the destinies of this nation in his keeping, and who, when his task was nearly ended, passed into eternity without a moment's warning.

But all great afflictions have their lessons—lessons more profound and more enduring than those which are to be learned from the unvarying prosperity of many years. It is our duty to take this sorrow to ourselves, and to evolve from it those teachings which we require to make us wiser and better men. If we do this; if as a people we are lifted up to a higher sense of our relations to the other nations of the earth, and if as individuals we open our hearts to the reception of larger views and more ennobling ideas, the blood which has been spilt will not have been shed in vain. The sacrifice has been made; it is for us to accept it in a proper spirit. W. A. H.

Death of Dr. Valentine Mott.—The profession of medicine is suddenly called to lament the death of one of its most distinguished members, Dr. Valentine Mott. No name is so extensively known or so thoroughly identified with American Surgery as that of Dr. Mott. His long and eminently successful career, not only placed him in the very first rank of Surgeons in this country, but he stood as peer with the most renowned Surgeons of Europe. His reputation had won for him the highest honors accorded to the learned by the Scientific Societies of all countries, while at home he was regarded with veneration and affectionate esteem.

Dr. Mott was born at Glen Cove, Long Island, August 20, 1785, and was at the time of his death in his eightieth year. He was graduated in medicine at Columbia College, in 1806; soon after which he went to England and Scotland, where he continued his studies for several years.

He was long engaged as teacher in the several medical institutions of this city, and held at various times a Professorship in the Medical Department of Columbia College, in Rutgers' Medical College, in the College of Physicians and Surgeons, and in the University of New York.

Dr. Mott has not been a voluminous writer. Besides a number of reports and cases published in medical journals, his principal works were: "Travels in Europe and the East;" "Notes to a Translation of Velpeau's Operative Surgery;" "Anniversary Discourse before the New York Academy of Medicine," and "Clinical Reports."

The death of our distinguished citizen and renowned Surgeon occurring, as it has, just as we were closing the pages of this journal, does not permit us at this time to give a longer notice or a fitting tribute to his memory.

He died, after a few days illness, ripe in years and full of honors.

---

Sanitary Wants of New York.—When the cholera was threatening to devastate the city of New York in the summer of 1849, a medical council was immediately extemporized, and its advice was implicitly followed by the municipal authorities who had solicited its aid. By efforts never witnessed before or since in this city, the streets, courts and alleys were thoroughly cleansed and nuisances were removed. At the end of that season of terrible peril and anxiety, the Aldermanic Committee that had directed the sanitary works during the epidemic, gravely published that their investigations had "brought into full view the fact that we have no sanitary police worthy of the name; and that

we are unprotected by that watchful regard over the public health which common sense dictates to be necessary for the security of our lives, the maintenance of the city's reputation, and the preservation of the interests of its inhabitants."*

Year by year the management of the sanitary departments of the municipal government has grown less effective, until at last this proud and wealthy metropolis has acquired the ignoble repute of the most neglected and uncleanly city in christendom. It is but small comfort to say that this condition of things is not attributable to the derilection of medical officers, for the city has *no such authorities.* Even its offices of "resident physician" and "health commissioner" are sinecure appendages to the mayoralty, and the incumbents, however capable and worthy, are necessarily impotent to reform or influence the government of the municipal health department. The medical profession has been thoughtfully considering this subject for many years, and it has planted itself upon the principle that "the care of the public health cannot be safely committed to authorities the majority of which" (or, as in New York, all of whom) "are not educated and specially prepared for so weighty a charge."†

Acting upon this principle and in firm faith that its vital importance must at length be recognized by state and municipal authorities, the great majority of physicians among us have with increasing zeal steadily supported the efforts that have been put forth to secure proper legislative action upon this basis. The "Metropolitan Health Bill," which has just been defeated in one branch of our Legislature at Albany, faithfully embodied the views of the medical profession, and it is said to have been prepared with greater care and by better legal advice than any former bill of similar character. Originating with the Council of Hygiene of the Citizens' Association, the draft of the proposed act assumed its final shape in the Board of Legal Advisers of the Association, and previous to its introduction into the Legislature was unanimously approved by all the members of that board, which is known to embrace the very highest talent and worth of the legal profession.

We have carefully examined the printed bill, and most cordially do we approve its animus. Its provisions are plain and effective, its purposes and its powers unmistakeable, and its plan of administrative and executive duties were such as would seem to insure great efficiency and

* See Report of the Board of Health in relation to the Cholera as it prevailed in New York in 1849, p. 37.

† See Essays on State Medicine, by Henry W. Rumsey, p. 40.

economy. Though it was an "Act to establish a Metropolitan Sanitary District and Board of Health, to preserve the Public Health in said district, and to prevent the Spread of Disease therefrom," its operations were not to be imperative elsewhere than within the limits of this city, except upon request and authorization of the local authorities in particular districts or places within the Metropolitan Sanitary District. The bill provides that the Board of Health should consist of three physicians and one non-medical man; that it should be in perpetual session; that there should be a Superintendent of Public Health, ten Sanitary Inspectors, and one Sanitary Engineer; and that the Metropolitan Police force should execute all orders and regulations of health. It also made it incumbent upon officers and boards of health throughout the state to communicate such information to the Metropolitan Health Board as might be useful in this district, while it was enjoined as a duty upon the latter board to furnish such data to other health authorities as may be useful or may be requested for the promotion of the public health in the State of New York." It also provided for the accumulation and analysis of the "statistics of health and disease," and for properly utilizing the study of vital statistics.

This is as it should be. In the default of the passage of this bill, we trust something resembling it may unite the suffrages of our representatives. Let nothing less be asked from the Legislature. It relates to questions of humanity and to questions of state polity. It is to save life and diminish suffering.

Deformities of the Pelvis.—Professor George T. Elliot, of the Bellevue Hospital Medical College, has, by a very simple and ingenious method, illustrated the subject of deformed pelves in his lectures in that institution. A natural pelvis stripped of its muscular tissues, is placed, until softened, in a solution of nitric acid, with the exception of the lumbar vertebra and portion of the femora. On this softened pelvis the teacher is enabled to produce with facility every variety of deformity, and to show the manner in which the distortion of any part reacts upon the normal position of the others. No doubt that such practical illustration at once gives to the student a complete notion of one of the most important subjects in obstetrics, and it may, in addition, contribute to elucidate the true origin of several distortions of the very pelvis itself, and of the spinal column, which are not yet satisfactorily explained.

Exchanges will please address the New York Medical Journal, New York.

## BOOKS, JOURNALS, &c., RECEIVED.

A Treatise on Military Surgery and Hygiene. By Frank Hastings Hamilton, M.D., late Lt. Col. Medical Inspector U. S. A.; Professor Military Surgery and Hygiene, and Fractures and Dislocations, in Bellevue Medical College; Surgeon to Bellevue Hospital, &c., &c. Illustrated with 127 Engravings. New York: Balliére Brothers. 1865.

Outlines of Surgical Diagnosis. By George H. B. Macleod, M.D., F. R. C. S. E., &c. First American Edition. New York: Balliére Brothers. 1864. Reprint.

The Army Surgeons' Manual, for the use of Medical Officers, Cadets, Chaplains, and Hospital Stewards, &c., &c. By William Grace. Published by permission of the Surgeon-General. New York: Balliére Brothers. 1864.

The Diseases of the Ear, their Diagnosis and Treatment. By Dr. Anton Von Tröltsch, Aural Surgeon and Lecturer in the University in Würzburg, Bavaria; Translated from the German, and Edited by D. B. St. John Roosa, M.D.; Assistant Surgeon to the New York Eye Infirmary. Illustrated with Wood Engravings. From the second and last German Edition. New York: William Wood & Company. 1864.

Uterine Therapeutics. By Edward J. Tilt, M.D., &c. New York: William Wood & Company. 1864. (Reprint.)

A Practical Treatise on Pulmonary Tuberculosis, embracing its History, Pathology and Treatment. By Horace Green, M.D., LL.D., &c. New York: John Wiley. 1864.

A Comprehensive Medical Dictionary, containing the Pronunciation, Etymology and Signification of the Terms made use of in Medicine and the Kindred Sciences, &c., &c. By J. Thomas, M.D., &c. Philadelphia: J. B. Lippincott & Co. 1864.

Lectures on Venereal Diseases. By William M. Hammond, M.D. Philadelphia: J. B. Lippincott & Co. 1864.

Contributions to Practical Surgery. By William H. Van Buren, M.D., Professor, &c. Philadelphia: J. B. Lippincott & Co. 1865.

On Ovariotomy. By E. R. Peaslee, M.D., LL.D. Reprinted from the Transactions of the New York Academy of Medicine.

Ovarian Tumors and their Treatment (excepting Ovariotomy.) By E. R. Peaslee, M.D., LL.D.

The Medical Profession, its position and its claims as a Science, a Business and an Art. An Address delivered by Ezra M. Hunt, M.D.

On the Direct Influence of Medicinal and Morbific Agents upon the Muscular Tissue of the Blood Vessels. By R. Cresson Stiles, M.D.

Nordamericanische Deutsch Medicinische Zeitschrift für Praktische Heilkunde. 1 Heft. 1 Band, April, 1855. Buffalo, N. Y.

Buffalo Medical and Surgical Journal. March, 1865.
Boston Medical and Surgical Journal. April 6, 13, 20.
Chicago Medical Examiner. January, February, 1865.
Chicago Medical Journal. January, February, March, April, 1865.
American Journal of the Medical Sciences. April, 1865.
Cincinnati Lancet and Observer. April, 1865.
American Journal of Insanity. January, 1865.
Catholic World. April, 1865.

# NEW YORK
# MEDICAL JOURNAL,

A MONTHLY RECORD OF MEDICINE AND THE COLLATERAL SCIENCES.

JUNE, 1865.


---

## ORIGINAL COMMUNICATIONS.

*Arsenical Albuminuria.* By S. Weir Mitchell, M.D., Philadelphia.

[Read before the Pathological Society of Philadelphia, January 8th, 1862.]

The cases which I am about to report in this memoir fell under my observation several years ago. They excited my curiosity to such a degree that I have since then been attentive to scrutinize every instance in which arsenic had been freely given, with the hope of encountering additional evidence in the same direction. It is rare, however, to meet with cases demanding large doses of arsenic. I have of late years failed to chance upon any in which the œdema arsenicalis was well marked. Nor have I felt justified in pushing this drug to such an extent as to create, for purposes of observation, the condition here alluded to. It is probable that the experience of other physicians may offer opportunities in this direction, when once attention has been called to it, and for this reason I think myself justified in publishing the curious facts about to be related, although on some accounts I should have liked better to have delayed until my cases had become more numerous.

I will state as briefly as possible the two instances which

have fallen under my eye, and then make such comment upon them as their peculiarities seem to invite.

In the fall of 1858, C. J. W., æt. 23, consulted me on account of disease of the chest. A careful examination revealed the existence of tubercle in both lungs. On the left side there was softening, and all the constitutional signs of tubercle were well developed.

After various remedies had been employed, I began on December 16th to give him the liquor potassæ arsenitis, five drops thrice a day. He failed to return to my office at the time appointed, and I did not see him until January 8th, 1859, when he reappeared, suffering with sore throat, and general œdema which extended even to his palate. His belly was the seat of obscure fluctuation, and the anasarca was so great in his legs as to oblige him to wear loose india-rubber shoes. There was no disturbance of stomach or bowels, and his general appearance was better rather than worse. At my request he urinated before leaving my office. The urine was of medium color; of a sp. gr. of 1026. It was acid, deposited urates on cooling, and contained albumen, as was proved by both the heat test and the addition of nitric acid. The amount of albumen present was not large, but of its existence there could be no doubt. A few very pale tube casts were found during a microscopic examination. There was no blood in the urine. The arsenic was discontinued, and saline diuretics given freely. The swelling and albuminuria diminished together, and by January 25th both were gone.

A month later the patient urged me very much to give him the arsenic again, as he felt persuaded that it had been of use. Before complying, I thrice examined his urine without finding a trace of albumen. Somewhat reluctantly I then gave him two drops of Fowler's solution thrice a day, and observing no ill effects after a week, I increased the dose to four drops. His visits to my office were made once a week. Between two of these the œdema suddenly developed, and when I saw him he was breathing uneasily and was singularly swollen. As before, the stomach and bowels were not disturbed by the arsenic. At this period the urine was of a sp. gr. 1023, pale and highly acid. It contained albumen, but less than before. The same

remedies were used, except that a full saline purge was employed to relieve the breathing. The albuminuria and the anasarca disappeared together in the course of a few days. About six weeks later I was tempted to repeat the use of the arsenic. During this interval I examined the urine again, and again without detecting albumen, his general health meanwhile improving under the employment of cod-liver oil and corn whisky. On this third occasion the dropsy and albuminuria reappeared, when the solution of arsenic had been freely taken in twelve drop doses thrice a day for about two weeks. Their coming was, as far as I could judge, simultaneous. The patient died during the following autumn, with his legs a good deal swollen from anasarca, but up to two days of his death without albuminous urine. No later examination was made.

The second case was one of lepra vulgaris, not of specific origin. The patient, a woman æt. 42, was by occupation a laundress. She was not dyspeptic, and she had suffered from the skin disease just mentioned, during two years. I placed her under the influence of arsenic, giving Fowler's solution in doses of five drops thrice a day after meals, with a teaspoonful of bitter wine of iron. At the close of a week the arsenic was increased to seven drops thrice a day. After she had taken this medicine for a month without any marked effect on the malady, and without being in any way disturbed by it, I again increased the dose to ten drops. At the close of eleven days the patient exhibited a slight puffiness under the eyes. At this time, with the experience of the last case before me, I examined the patient's urine on two successive days. It was clear, acid, contained a few crystals of oxalate of lime, and had a sp. gr. of 1023, 1028. Both specimens were passed on rising in the morning.

As the stomach and bowels were in no way disturbed by the remedy, and as the lepra appeared to be yielding, I continued the arsenic as before. The patient failed to return to my office at the usual time, and a day later I was sent for to see her. I found that she had been in bed for two days. The anasarca, which was slight when I saw her a week before, was now so extensive as to alarm me. Her whole body was swollen, and even the palate was œdematous, but she complained of no pain.

Her pulse was 120; skin, hot and dry; urine, acid, sp. gr. (fasting) 1023, medium colored, rather light than dark, and contained albumen in small amount. Upon microscopic examination I found a few very pale renal tube casts in the sediment. There was no blood present. Active purgation readily relieved the patient of her most urgent symptoms. On the third visit the albumen was no longer capable of detection by heat or acids, but the anasarca was not entirely gone until more than a week had elapsed.

I learned from the patient that she had taken cold the day after last calling upon me, and had had fever, muscular pains, and catarrh in the nasal passages; during which the dropsy suddenly increased. The lepra from which my patient suffered was ultimately cured by the persistent use of arsenic, in very small doses, with iron. Once only a slight amount of œdema reappeared, but, as often happens, was removed without the withdrawal of the arsenic.

In considering the subject thus introduced, I shall call attention first to some peculiarities connected with arsenical symptoms, and then to such thoughts as the cases presented may suggest. Every physician who has used arsenic must have met with instances of arsenical œdema. Owing, however, to various causes, some of which I have already stated, it is rare to encounter this symptom highly developed, and, in fact, it is not a symptom which can be produced at will, and to any degree we may desire, because, when the mineral is given in large doses, the stomach and bowels usually become disordered before any œdema arises. In other cases the œdema appears, and again leaves the patient, even though the use of the arsenic be continued. Fowler, who gave large doses of the remedy which bears his name, saw œdema in but few of his patients. Supposing, however, the œdema to exist, it is probable that only a small number of œdematous cases would exhibit the secondary symptom of albuminous urine, so that not even in all of the severe cases of œdema arsenicalis shall we be sure to find coexisting the symptom in question. It is possible that the general condition of the patient may determine this question, and that in some instances there may exist in the system precedent causes favoring the development of albuminuria. In

fact, albuminous urine has sometimes been met with in lepra and psoriasis, and in the latter stages of tubercle; nor has its presence in such relations been of necessity due to actual disease of the kidneys.

I wish to be understood, then, as affirming that in extreme arsenical œdema there may ensue secondarily a slightly albuminous state of the urine.

The cause of this curious symptom, the immediate cause at least, is obscure, from the fact that we are to-day in the most profound ignorance as to the causation of the phenomena attendant upon arsenical poisoning in its chronic form—nay, more, it has become probable that the different preparations of arsenic cause somewhat different symptoms; while to complete our ignorance, or our knowledge of that ignorance, we have the practice of arsenic eating and its singular effects to account for.

The accidental chances of studying arsenical albuminurina are likely to be rare. I have seen numerous cases of trifling œdema from arsenic, but in three only was the symptom very marked, and one of these took place before my attention had been called to the urinary organs.

Had the second of the cases here quoted occurred first, I should probably have failed to notice the albuminous urine; or, had I seen it, should have no doubt attributed it to other than the cause to which I believe it to be really owing. At present, however, and even with the insecurity of a small amount of evidence, so complete is that evidence in its nature, that I have little doubt that albuminous urine may follow the production of œdema, and that both symptoms may be caused by the arsenic.

Among the rare instances of general arsenical œdema seen by me, since noticing the albuminous urine in the two cases here reported, were two, at least, in which the dropsy was marked enough to lead me to suppose that I should discover the urine to be albuminous. This failed to be the case.

If the dropsy and albuminuria of arsenic took place in those cases which became dyspeptic and diarrhœal under the use of arsenic, we might suppose the albuminuria to be due to the passage into the blood of materials, which, resembling albumen

rather than albuminose, enter the blood only to leak out of it again; but these are the very cases in which neither dropsy nor albuminous urine are to be met with.

It has occurred to me that most of the poisonous metals on entering the blood combine with its albumen; and that arsenic, which has this affinity, may, when present in certain amount, so affect the albumen, as to alter its osmotic relation to the walls of the vessels, and thus allow of the production both of the œdema and the albuminous urine.

Whatever causes the dropsy probably produces the albuminuria—the difference in causation being one rather of degree than of kind. Indeed, it is quite possible to comprehend, that whatever gives rise to an exudation of serum from the blood into the areolar vessels may also be capable of causing a like exudation into the renal tubes, for the kidney is an organ possessing so little areolar tissue that we may regard the interior of the renal tubules as holding to the adjacent blood vessels no very different relation from that held by the areolar spaces to these vessels elsewhere in the œconomy.

Yet, however interesting may be such speculations, until the œdema arsenicalis has itself been further studied, we can hope for little light upon arsenical albuminuria.

Meanwhile, it is most interesting to know that in some cases the same cause may give rise both to dropsy and albuminous urine, and that in order of time the dropsy may reverse the usual sequence of symptoms, and precede the albuminous state of the urine. It is well known, I believe, that poisonous doses of arsenic may give rise to bloody urine, but I am not aware that any author has reported cases of albuminous urine caused by medicinal doses of this drug.

---

*On the Influence of Alcohol upon the Animal Temperature.* By J. S. Lombard, M.D., Boston.

The following experiments were undertaken with a view to determine the extent to which alcohol is capable of influencing the temperature of the body.

It has been somewhat gratuitously assumed that the agent in question exercises a powerful influence on the production of animal heat, this assumption being based principally on the sensation of warmth experienced in our own persons after taking alcoholic liquors. We know, however, that our sensations are extremely fallacious guides in all matters pertaining to temperature, and that therefore, in this case as in others, but little reliance can be placed on their indications. So far as I can learn, but few systematic investigations have been made in this direction, and the proofs of the heat-producing power of alcohol rest chiefly on the sensations arising from its ingestion, and on its chemical constitution; which latter is considered, by those who support Liebig's theory of animal heat, to furnish evidence of the effectiveness of alcoholic compounds as sources of heat when introduced into the living organism.

Dr. John Davy, however, found that wine, so far from increasing the temperature of his body, caused, on the contrary, a very visible diminution of its heat; and moreover, that this diminution was proportional to the quantity of wine taken—the greater the quantity the more marked being the decrease of temperature. Dr. J. D. Hooker, who accompanied Sir James Ross in his antaretic expedition, also denies the heating properties of alcohol, and says that, even if it is capable of warming the central portion of the body, it is incapable of raising the temperature of the extremities; and Dr. Carpenter considers, that although alcoholic liquors may produce a slight and transitory increase of heat, yet this is followed by a depression that more than counterbalances the previous elevation.

Still, the great majority of authorities are in favor of the first opinion, viz., that alcohol is a powerful promoter of animal heat.

The experiments now given were all made at a similar hour of the day, in the same room, and always fasting. The liquors used were rye whisky and dark sherry, and were both of excellent quality. The thermometer employed is graduated to quarters of a degree F., and was held with the bulb enclosed in the left hand. The experiment was not commenced until the mercury had been perfectly stationary for fifteen or twenty minutes, at the end of which time the liquor was drunk, with-

out removing the thermometer, and the observations commenced.

In the concluding investigations the astatic galvanometer was substituted for the thermometer, and as the one made use of is a remarkably fine one, the results obtained may, so far as the instrument itself is concerned, be considered reliable.

At the commencement of the first experiment the temperature of the air was 72° F., and that of the left hand 83° F.—two ounces of rye whisky diluted with half their volume of water were taken. The temperature of the mixture was 67° F. The observations were commenced at the end of three minutes from the time of drinking the liquor, and continued at intervals of three minutes each.

| | | | | | |
|---|---|---|---|---|---|
| Temperature | at | the | end | of | 3 minutes, 83½° |
| " | " | " | 6 | " | 85½ |
| " | " | " | 9 | " | 88 |
| " | " | " | 12 | " | 90¼ |
| " | " | " | 15 | " | 92½ |
| " | " | " | 18 | " | 93¼ |
| " | " | " | 21 | " | 93¾ |
| " | " | " | 24 | " | 95 |
| " | " | " | 27 | " | 95¼ |
| " | " | " | 30 | " | 95½ |
| " | " | " | 33 | " | 96 |
| " | " | " | 36 | " | " |
| " | " | " | 39 | " | " |
| " | " | " | 42 | " | 95¼ |
| " | " | " | 45 | " | 94¾ |
| " | " | " | 48 | " | 94½ |
| " | " | " | 51 | " | 94½ |
| " | " | " | 54 | " | 94½ |
| " | " | " | 57 | " | 94¼ |
| " | " | " | 60 | " | 94 |

At this point an ounce more of whisky was taken.

| | | | | | |
|---|---|---|---|---|---|
| Temperature | at | the | end | of | 3 minutes, 93½° |
| " | " | " | 6 | " | 93¼ |
| " | " | " | 9 | " | 93¾ |
| " | " | " | 12 | " | 94¾ |
| " | " | " | 15 | " | " |
| " | " | " | 18 | " | 95¾ |
| " | " | " | 21 | " | 96 |
| " | " | " | 24 | " | 96½ |

| | | | | | |
|---|---|---|---|---|---|
| Temperature at the end of | | | 27 | minutes, | 96½° |
| " | " | " | 30 | " | " |
| " | " | " | 33 | " | 96¾ |
| " | " | " | 36 | " | 95¾ |
| " | " | " | 39 | " | 95½ |
| " | " | " | 42 | " | " |
| " | " | " | 45 | " | 95¼ |
| " | " | " | 48 | " | 95 |
| " | " | " | 51 | " | 94¾ |
| " | " | " | 54 | " | 94½ |
| " | " | " | 57 | " | 94½ |
| " | " | " | 60 | " | 94¼ |

After this time the observations were made less frequently, as the mercury remained nearly stationary.

At the end of 3½ hours from the commencement of the experiment, that is, 2½ hours after the last dose of liquor, the mercury was stationary at 89°, and as it continued so for half an hour longer, the experiment was concluded. Whatever slight cerebral effects had been produced by the liquor had long before this passed off, and the system, so far as could be determined, was very nearly in the same condition as before the experiment.

These observations show that the ingestion of the first dose of liquor was followed by a gradual elevation of temperature up to 96°, which point was reached in 33 minutes, thus making in this time a rise of 13°. From 96° the mercury fell, till at the end of the hour it stood at 94°.

The second dose of whisky was then taken.

For the first few minutes the fall of the mercury was unchecked. But this was to be expected, as it would necessarily take some little time for the alcohol to produce its effects.

Between the 6th and 9th minutes the mercury began to rise again, and continued so doing until it stood at 96¾, which was the highest point attained. After this it began to fall, but, as before stated, did not descend below the point from which it started at the beginning of the experiment; on the contrary, it remained permanently elevated 6° above this point.

The second experiment was made a few days after the first, and in precisely the same manner. The temperature of the air was 62½°, and that of the left hand 96½°; two ounces of

sherry wine were taken, the temperature of the liquor being 55°. The following is a condensed table of the results:

| | | | | | |
|---|---|---|---|---|---|
| Temperature at the end of | | | 5 | minutes, | 96½° |
| " | " | " | 10 | " | 98 |
| " | " | " | 15 | " | 98½ |
| " | " | " | 20 | " | 97¾ |
| " | " | " | 25 | " | " |
| " | " | " | 30 | " | 96¾ |
| " | " | " | 35 | " | " |
| " | " | " | 40 | " | " |
| " | " | " | 45 | " | " |

At the end of an hour and a half the mercury still stood at 96¾°.

A third series of observations made with the same quality and quantity of liquor, the temperature of the air being 63°, and that of the hand 96°, gave results very similar to those of the last experiment, the mercury rising to 98¼°, and thence falling to 96¼°, where it remained stationary.

All the experiments thus far given go to confirm the generally accepted theory, that alcohol possesses the power of augmenting the heat of the body. Those which follow, however, appear, at first sight, to be directly contradictory of the results of those already related.

At the commencement of the fourth experiment the temperature of the air was 72°, and that of the hand 98½°. Two ounces of wine of a temperature of 55° were drunk, and the observations were as follows:

| | | | | | |
|---|---|---|---|---|---|
| Temperature at the end of | | | 3 | minutes, | 98½° |
| " | " | " | 6 | " | " |
| " | " | " | 9 | " | " |
| " | " | " | 12 | " | " |
| " | " | " | 15 | " | " |
| " | " | " | 18 | " | " |

Here three ounces of whisky mixed with half their bulk of water were taken.

| | | | | | |
|---|---|---|---|---|---|
| Temperature at the end of | | | 21 | minutes, | 98° |
| " | " | " | 24 | " | " |

At this time I began to perspire freely.

| | | | | | |
|---|---|---|---|---|---|
| Temperature at the end of | | | 27 | minutes, | 98° |
| " | " | " | 30 | " | 98¼ |
| " | " | " | 33 | " | 98 |
| " | " | " | 36 | " | " |

| | | | | | |
|---|---|---|---|---|---|
| Temperature at the end of | | | 39 | minutes, | 98° |
| " | " | " | 42 | " | 98¼ |
| " | " | " | 45 | " | 98½ |
| " | " | " | 48 | " | " |
| " | " | " | 51 | " | " |
| " | " | " | 54 | " | " |
| " | " | " | 57 | " | " |
| " | " | " | 60 | " | " |

Further observations showed the mercury to be still at 98½°, at the expiration of two hours.

Now in this experiment, although the amount of alcohol consumed was greater than in any of the previous cases, yet the thermometer detected no increase of temperature, and therefore, if such increase existed, it must have been less than one-quarter of a degree of F. The temporary depression of temperature from 98½° to 98° was probably owing to the cooling effects of the perspiration, for the mercury fell soon after I began to perspire, and rose again after the perspiration had disappeared.

On a second and third occasion the temperature of the hand and of the air being the same as in the last experiment, and an equal amount of liquor being used, the results obtained did not differ materially from those just given, excepting that, as there was no perspiration, there was consequently no fall of the mercury during the observations.

These last three experiments would appear, then, to lead to conclusions opposite to those arrived at by the first three. But a moment's reflection will show that this is not the case.

In the first series of observations the temperature of the hand at the commencement of the experiment was in every case below the normal standard, whereas in the last series the mercury stood at 98½°, which is about the natural temperature.

Now it is a well-known fact that it is much easier to raise the temperature of the body up to its proper standard, when it has been depressed a few degrees below this point, than it is to raise it the same number of degrees *above* its proper standard. Thus, for example, it is far easier to raise the temperature from 94° to 98°, than from 98° to 102°. A few moments' active exercise will cause the mercury to rise from 90° to 98°; but no

exertion, no matter how violent or how long continued, will cause it to rise from 98° to 106°.

Mr. Hunter never succeeded in heating the urethra in the living subject a single degree above the maximum of elevated temperature of the body. Sir Charles Blagden, and Dr. Fordyce, in their famous experiments, noticed that the temperature of their bodies never exceeded 100° F., although they were exposed to a degree of heat varying from 212° F. to 260° F. Dr. Dobson and others have obtained similar results.

It is true, that Delaroche and Berger found their temperatures raised 9° after exposure for sixteen minutes to a temperature of 176° F.

But even this increment is slight, compared to that which takes place in a shorter space of time, and with a far less degree of heat, when the temperature of the body is below its proper point.

Because, then, the temperature of my body was not perceptibly raised in the last three experiments, we cannot conclude that alcohol possesses no heating properties.

But in order to determine whether there was any increase of temperature less than a fourth of a degree of F., I had recourse to thermo-electricity, as being a far more delicate test of variations of temperature than the thermometer.

Accordingly a small battery, consisting essentially of a junction of bismuth and copper, was connected with the galvanometer, and then applied to the palm of the left hand. A permanent deflection of 66° took place. The liquor was the same, both as to kind and quantity, as that last used, and the temperature of the air and of the hand were also the same.

The needle of the galvanometer remained unaffected during the first few minutes that followed the drinking of the liquor; but after this time it began to move very slowly, and in the course of the first forty minutes the deflection amounted to 5°. It then began to slowly return, and at the expiration of an hour and a half was stationary at 66°

Knowing, however, that it requires a far greater force to move the needle from 66° to 71° than from 0° to 5°, and that, therefore, the needle, when permanently deflected to 66°, acted at a great disadvantage, I introduced into the circuit a second

battery, similar to the first, and exposed it to a constant source of heat sufficient to keep the needle of the galvanometer steadily at 0°, when the first battery was in contact with the palm of the hand. In other respects there was no difference between this experiment and the last.

The result was a steady deflection of the needle (commencing soon after the ingestion of the alcohol) up to 50°, which point was reached at about thirty-five minutes from the time the observations were began. After remaining at 50° for some minutes the needle gradually returned towards 0°, and at the end of an hour and three-quarters was stationary a few degrees from 0°. It was watched an hour longer, but was still stationary at the end of this time.

This experiment has been since repeated on several occasions, and always with results essentially the same. In every case there has been a rise of temperature, and in none, a subsequent depression below the point maintained at the commencement of the investigation.

If now the results which have been given be correct, they go to prove, first, that alcohol possesses the power of increasing the temperature of the body; and second, that so long as the quantity taken be not excessive, this increase is not followed by any depression below the temperature existing before taking the alcohol. If, however, the dose of liquor be excessive, there will ensue a greater or less depression of all the functions, and with the rest, that of producing heat may suffer.

But although the ingestion of alcohol causes a rise of temperature, yet its power in this respect is, so far as I can judge from my experiments, comparatively feeble to that exercised by muscular exertion, for I have almost invariably found that a very few moments' active exertion produces a considerably greater effect on the temperature of the body, than a large amount of alcohol.

Still, cases frequently occur in which the body is exposed to the action of causes tending to reduce its temperature, while at the same time obstacles to muscular exertion exist, and in such cases alcohol may doubtless prove highly beneficial.

I am well aware that the advocates of total abstinence have tried desperately to prove that even small quantities of alco-

hol lessen the power of resisting a reduced temperature. But the proofs to the contrary are just as numerous and as weighty.

This article must not, however, be construed as a defence of the habitual use of intoxicating liquors, which is the usual lot of such articles. On the contrary, I am far from advocating any such anti-temperance doctrine, but at the same time consider it equally unreasonable to indulge in a fanatical crusade against the use of alcohol in all forms and on all occasions, as Dr. Carpenter, Professor Miller, and others have done.

---

*On Sleep and Insomnia.* By WILLIAM A. HAMMOND, M.D., of New York.

[Continued from page 101.]

## PART II.

### THE PATHOLOGY AND TREATMENT OF INSOMNIA.

As nations advance in civilization and refinement affections of the nervous system become more frequent, because progress in these directions is necessarily accompanied by an increase in the wear and tear of those organs through which perceptions are received and emotions excited; and, in addition, the mode of life as regards food, clothing, occupation and habits, is being constantly removed farther from that standard which a regard for hygienic considerations would establish as most advantageous. If, as we have every reason to believe, each thought involves the destruction of a certain amount of nervous tissue, we can very well understand why, as we go forward in enlightenment and in all the elements of material and intellectual progress, we are at the same time, unless we also advance in the knowledge of the laws of our being, hurrying ourselves with rapid strides to a state of existence in which there is neither waste nor repair.

I am far, however, from desiring to be understood as intimating that a high state of civilization is antagonistic to long life or health. What is lost in these directions as regards the nervous system is more than made up by the increased provision afforded for comfort in other ways. But whilst we have improved the hygienic condition of our cities and dwellings; whilst we as a rule clothe our bodies according to the princi-

ples of sanitary science and common sense; and whilst cleanliness of person has become the rule and filthiness the exception, we have made little or no progress in the hygienic management of those organs which place us in relation with the world, and a healthy condition of which is so essential to our happiness.

Among the many derangements in the normal operation of the nervous system, induced by irregular or excessive cerebral action, those which relate to the function of sleep are certainly not the least in importance, whether regard be had to the actual comfort of the individual or to the serious consequences to which they may give rise. To the consideration of one of these, insomnia or morbid wakefulness, I propose to devote the remainder of the present memoir.

As a symptom of various diseases which affect the human organism, insomnia is sufficiently well recognized by systematic writers on the practice of medicine, though, even here, it is very certain that its pathology has seldom been clearly made out. As a functional disorder of the brain, arising from inordinate mental activity, it has received scarcely any notice. This neglect has, doubtless, been in a great measure due to the fact that it is only within late years that the condition in question has become so common as to attract much attention. At present there are, probably, but few physicians, engaged in extensive practice in any of our large cities, who do not in the course of the year meet with several cases of obstinate wakefulness, unaccompanied, in the early stages at least, by any other prominent disorder of the system.

In my opinion, no one cause is so productive of cerebral affections as persistent wakefulness; for not only is the brain prevented from obtaining rest, but it is kept in a state of erethism, which, if not relieved, must sooner or later end in organic derangement. Southey laid the seeds of that disease which terminated in the loss of his intellect by watching at the bed-side of his sick wife during the night, after the excessive literary labors of the day.* Newton's mind also suffered in the later years of his life through deprivation of sleep;† and Dr. Forbes

* The Scenery and Poetry of the English Lakes. By Charles Mackay, LL.D.

† Life of Sir Isaac Newton. By Sir David Brewster. Vol. II., p. 240.

Winslow, in remarking on Southey's case, says: "No brain can remain in permanent health that has been overtasked by nightly vigils still more than by daily labor."*

Several years ago a case similar in several respects to that of Southey came under my observation. A gentleman of superior mind, and of great powers of application, spent from sixteen to eighteen hours each day in severe literary labor. This of itself would have been a heavy strain to most persons, but he went regularly to bed and slept soundly six hours each night, and it is possible that he might have continued this mode of life for several years without serious inconvenience, when his wife was suddenly taken ill. His anxiety on her account was very great, and he spent nearly the whole night by her bed-side, sleeping only for about an hour towards morning. After three weeks passed in this manner his wife was pronounced out of danger, but he found it impossible to resume his former habits. He could neither study nor sleep. The nights were passed in walking the floor of his chamber or in tossing restlessly on his bed. There were no pain, no fever, no disorder of any other organ. There was nothing but ceaseless activity of the mind and an utter inability to sleep. Stimulants and hypnotics only increased the violence of his symptoms, and every other means employed failed to give relief. The danger of his situation was pointed out to him, and travel recommended. He followed the advice, and, though it was several months before he was completely relieved, his condition began at once to improve. He was taught a lesson which has not been without influence, in causing him to task his mental faculties less severely.

Another, an intimate friend, who occupied an important public position, gave so much time and attention to his duties, which were of a highly laborious character, that he deprived himself of the amount of sleep to which he had previously been accustomed. It was rarely the case that he got to bed before two or three o'clock in the morning, and then an hour or two was always occupied in active intellection. The consequence was that he finally broke down through want of the mental repose so essential to him. Inflammation of the brain

* On Obscure Diseases of the Brain, &c. London, 1860, p. 609.

ensued, and this terminated in acute insanity, from which he died.

It would be easy to bring forward other instances of which I am personally cognizant, or which have been cited by authors, in illustration of the point in question, but it is scarcely necessary to enlarge further upon this portion of the subject. We should be careful, however, not to mistake the effect for the cause, an error which is often committed in this as well as in other matters. It is well known that many cases of insanity are marked in the early stages by persistent insomnia. Doubtless this is frequently a consequence of the morbid action already set up in the brain, but much observation has satisfied me that it is more often the cause of the cerebral aberration, and that by proper medical treatment the mental excitement may be generally allayed. Certainly the means most commonly resorted to in such instances are adopted without the full consideration so imperatively necessary, and consequently are fully as liable to increase as to lessen the disturbance.

In primary insomnia there is always an increase in the quantity of blood circulating in the brain. This is either absolute or relative. The former is the case when there has been no exhausting disease, hæmorrhage, or other debilitating influence in operation, and whilst, though general good health exists, the amount of blood in the cranium is augmented. The latter, when from any cause the system has become reduced, and when, whilst this condition prevails, a temporary activity takes place in the cerebral circulation. The first may properly be called sthenic, the latter asthenic insomnia. In the one there is more blood in the brain than is normally present in the other; though there may be less blood than in health, the quantity is increased over the amount to which the brain has in a measure accustomed itself.

Thus if we suppose the cerebral vessels of a healthy brain to contain ordinarily a pint of blood, and the amount to be increased to a pint and a half, and continued at this standard for several consecutive days, a state of sthenic insomnia ensues. If, on the other hand, this pint should be reduced to a gill by any cause producing general debility, such as hæmorrhage, starvation or disease, and then by some exciting mental emo-

tion the excessive use of alcoholic liquors, or other influence acting for a considerable period, be increased to half a pint, a condition of asthenic insomnia would be produced—the latter condition resulting not from a disturbance of the normal relation existing between the *intra* and *extra* cranial blood, but of that which has been established by morbific causes, and to which the organism has become habituated.

A short time since a gentleman was under my charge, in whose case the only deviation from health which could be perceived was an utter inability to sleep. Being by profession a broker, and passing his days, and a great portion of his nights, in the stock and gold rooms, during a period of great financial excitement, his brain had been kept so continually in a state of intense action that it was impossible for him, when he went to bed, to compose his mind so as to allow of sleep ensuing. Thoughts similar to those which were excited during his business operations were in full flow, notwithstanding all his efforts to banish them. Calculations were entered into, and speculations were constantly being formed with as great or even greater facility than during the day. Many of the latter were of the most extravagant character, a fact of which he was fully aware at the time, but he nevertheless found it impossible to refrain from indulging in them. All his other functions were performed with regularity. His appetite was good, he took a not inconsiderable amount of exercise, and he committed no excesses of any kind except as regards his brain. When I first saw him he had not slept a particle for six nights, although he had taken large quantities of brandy, morphine, and laudanum; but beyond a slight feeling of confusion in his mind at times, and a little pain in his eye-balls, he experienced no unpleasant sensations during the day. As soon, however, as his head touched the pillow, and he tried to get to sleep, a feeling of the most intense uneasiness came over him, whilst at the same time his face and ears became hot and flushed. His mental faculties were roused into increased action; he tossed restlessly from one side of the bed to the other, and by the time morning came he was thoroughly exhausted, mentally and physically. A cold bath and a breakfast of two large cups of coffee, beefsteak and eggs, set him up for the balance of the day, till he retired to

bed, when the phenomena of the previous night would be repeated.

In this case I conceived that the blood vessels of the brain from over distension had lost, in a great measure, their contractile power, and that a larger quantity of blood was, in consequence, circulating within the cranium than was normal. The vessels were therefore in a condition very similar to that of a bladder, in which, from the desire to urinate having been too long resisted, contraction cannot be induced even by the most strenuous exertion of the will. As the gentleman was of strong, athletic build, and otherwise in full health, blood-letting would undoubtedly have proved of great service; but, for reasons which will appear hereafter, I determined to try a remedy less likely to do harm, and fully as capable of doing good. I administered thirty grains of the bromide of potassium at six o'clock in the evening, and repeated the dose at ten, directing him to go to bed half an hour subsequently. The first dose produced a decided sedative action, and the second was still more effectual in calming the mental excitement. When he lay down his mind was not disturbed by a flow of thoughts, and he fell almost unconsciously into a quiet sleep, from which he did not awake till near seven o'clock the following morning. There were no unpleasant symptoms of any kind; on the contrary, he felt strengthened and refreshed. The next night one dose was administered at about bed time, which was also followed by a sound and invigorating sleep. No further treatment was given, as on the following night sleep came naturally.

This case was one which I would call sthenic insomnia. The following affords a good illustration of the asthenic form of the affection.

A lady aged about thirty-five, unmarried, and of rather delicate constitution, consulted me in regard to persistent wakefulness, with which she had been affected for nearly a month. According to the account which she gave me, she had received a severe mental shock, which had not lost its influence when a subject of great anxiety was forced upon her consideration. Her menstrual period, which had been due about ten days before she came under my notice, had been anticipated by a week, and the

flow was prolonged much above the ordinary time. She had, therefore, lost a good deal of blood, and was, in consequence, greatly reduced in strength. This, conjoined with the exhaustion due to the long-continued wakefulness, rendered her condition a much more serious one than would otherwise have been the case.

She had taken large doses of laudanum, of ether, and of valerian, together with many other medicines, the names of which I do not now recollect, besides employing a variety of means of traditional efficacy. All had, however, been useless. Homeopathy was then tried with an equal want of success. When I first saw her she was nervous and irritable, her hands trembled violently upon the slighest exertion of their muscles, her eyes were bloodshot, the pupils contracted, and the lids opened to the widest possible extent. There was a constant buzzing in the ears, and the sense of hearing was much more acute than was natural. There was also increased sensibility of all that portion of the surface of the body (the skin of the hands, arms, legs, back and breast) which I submitted to examination with the æsthesiometer. Her pulse was 98, irritable, small and weak.

At night all her symptoms were increased in violence. Her mind was filled with the most grotesque images which it was possible for the imagination to conceive, and with trains of ideas of the most exaggerated and improbable character. These succeeded each other with a regularity so well marked that she was able to foresee the routine night after night. "No one," she said, "can imagine the weariness I feel, or the horror with which I look forward to the long rows of too familiar phantoms and thoughts which I know will visit me before morning." "There is one set," she continued, "which always comes as the clock strikes two. No matter what may be passing through my mind, it is banished by this. It consists of a woman with very long hair, who sits on a rock by the sea side, with her face buried in her hands. Presently a man armed with a long sword comes up behind her, and, clutching her by the hair, drags her to the ground. He puts his knee on her breast, and still holding her hair, cuts it off, and binds her with it, hand and foot. He then commences to pile stones on her, and continues to do so till she is entirely covered, notwithstanding her

piercing shrieks, which I hear as distinctly as I do real sounds. Turning then to the sea, he cries out, 'Julia, you are avenged. My vow is accomplished. Come! come!' He then draws a dagger from his breast and stabs himself to the heart. He falls over the pile of stones he has raised, and instantly hundreds of little devils not more than a foot high swarm around his body, and finally carry it off through the air. My horror at all this is extreme. For more than an hour the scene is passing before me, and though I know it is all purely imaginary, I cannot shake off the terror it induces."

I questioned this lady closely, and found that she was very intelligent, and fully sensible of the unreality of all her visions. There was no evidence whatever of the slightest tendency to insanity, but there was a condition present which would surely terminate in the loss of her reason if not quickly relieved. I regarded her symptoms as indicating a state of passive cerebral congestion, and as calling for stimulants rather than what are called sedatives. I directed, therefore, that she should take an ounce of whisky, properly diluted, every hour, commencing six hours before bed-time; that she should immerse her whole body except her head in water, at the temperature of 98° F., for half an hour just before retiring for the night, and, instead of lying down, should sit up in an easy chair and try to sleep in that position.

I administered the whisky upon the same principle that governs us when we apply stimulating lotions to an inflamed eye, or give alcoholic liquors in passive congestions of other parts of the body. The warm bath was prescribed with a view to its dilating action upon the blood vessels exposed to its influence; and the sitting position, with the object of facilitating the flow of blood from the head, and impeding its return through the carotids and vertebrals.

All these measures I had employed previously with success, in many cases of insomnia due to delirium tremens, and which is almost always of the asthenic form. In the instance under consideration their action was all that could be desired. At ten o'clock, having taken the whisky and bath as directed, she sat down to sleep in a comfortable chair, and, as her mother informed me, was asleep in less than half an hour. She awoke

about three o'clock, but soon fell asleep again after another dose of whisky, and remained in this condition till about nine o'clock in the morning. She then took breakfast, feeling very much refreshed, but was unable to remain awake longer than two or three hours, but, taking to her chair, slept soundly till evening. That night she was again overcome with sleep, and it was passed very much as was the previous one. No further medicine was required, and after a few nights she went to bed as had been her custom, and slept soundly till morning. Under the use of iron and lager beer she recovered her health and strength.

The foregoing cases are given as examples of the two forms of insomnia to which I wish to call attention. They show that, though the cause in each variety may be essentially the same, the means of relief are not altogether identical. It is important, therefore, to discriminate between them. But the main point upon which it is necessary to insist, is, that in morbid wakefulness, whether occurring in strong or weak persons, there is always an excessive amount of blood circulating through the substance of the brain. In the course of the discussion of the points involved in the physiology of sleep, this subject was incidentally noticed. We come now, however, to consider it with more particularity.

In the first place it is important for us to have a distinct knowledge of the causes capable of inducing hyperæmia of the brain, and in the second, to ascertain whether or not these causes likewise give rise to insomnia.

An increased amount of blood is attracted to the brain, and insomnia is produced:

1st. *By long-continued or excessive intellectual action, or any powerful emotion of the mind.*—Every organ of the body, the condition of which admits of being ascertained by ocular examination, invariably contains more blood in its tissues when in a state of activity, than when its functions are temporarily suspended. We are hence, *a priori*, justified in assuming that the law is equally applicable to the brain, but we are not forced to rely entirely upon reasoning from analogy. It has been shown already that during sleep the circulation of blood within the cranium is at its minimum, both as regards quantity and

rapidity, and that as soon as the individual awakes there is an immediate afflux of this fluid to the cerebral tissues. All of us are familiar with the facts that, during severe mental labor, or whilst under the influence of some exciting emotion, the vessels of the head and neck become distended, the head feels full, the face is flushed, and the perspiration of the parts in question is increased in quantity. Within certain limits the more blood there is in the brain the more actively its functions are performed, and so well known is this fact that some persons, who require to exercise the several faculties of the mind to an extreme degree, make use of stimulating ingesta for the purpose of accomplishing the object in view.

A moderate degree of cerebral activity is undoubtedly beneficial. Exercise strengthens the mind and improves its faculties, if it is succeeded by a proper period of repose, during which the vessels are emptied to some extent of their contents, and are thus enabled to recover their tone. If, however, the brain is often kept for long periods on the stretch, during which the vessels are filled to repletion, they cannot contract even when the degree of cerebral activity is diminished. Wakefulness results as a necessary consequence, and every day renders the condition of the individual worse, because time also brings the force of habit into operation.

It is not to be denied, however, that many individuals are able to live in comparative health for long periods with but little or no sleep. Thus it is stated,* that Boerhaave did not "close his eyes in sleep for a period of *six* weeks, in consequence of his brain being over-wrought by intense thought on a profound subject of study." Sir Gilbert Blane† says he was informed by General Pichegru, that for a whole year, whilst engaged in active campaign operations, he slept but one hour out of the twenty-four. Such statements as these, however, and others to the same effect which have been made, must be accepted with some allowance. Many persons sleep uncon-

---

* On Obscure Diseases of the Brain, &c. By Forbes Winslow, M.D., London, 1860, p. 604.

† Medical Logic, p. 81, quoted in Cyclopedia of Anatomy and Physiology, Vol. IV., p. 1, p. 686.

sciously, and we all know how common it is for individuals to deny having slept when we have been eye-witnesses of their somnolency. I should consider it impossible for a person to enjoy good health if deprived for even a few weeks of half his ordinary amount of sleep, and it is very probable that Boerhaave's standard of health, never high, was very much lowered by his protracted vigils.

So long as the attention is kept fully aroused the blood vessels of the brain are distended, and it is possible for an individual to remain awake whilst this condition exists. When the attention begins to flag, the tendency is for the vessels to contract, and for sleep to ensue. This disposition may not, however be strong enough to restore the full measure of contractility to vessels that have been long over-distended, and then insomnia results.

Whilst it is doubtless true that variations in the amount of blood in the brain are primarily dependent upon nervous action, it is equally certain that this latter is increased or lessened according as the brain is in a more or less hyperæmic condition. These factors, therefore, react upon each other, and consequently the resulting insomnia is more aggravated than would otherwise be the case.

Instances of insomnia dependent upon intense intellectual exertion have already been given, but the following, which I extract from my note-book, will not, I think, prove uninteresting or uninstructive.

A gentleman, aged 39, unmarried, of correct habits, and good general health, consulted me on the 19th of April, 1865, in reference to a peculiar nervous affection with which he had suffered for several months. He stated to me that, being engaged upon a literary labor of some importance, he had given the greater part of his time to the studies necessary to its being carried on with success, and was conscious of having overtasked his mental powers. So great, however, was his ambition to excel in his undertaking, that he had persevered notwithstanding the admonitions of friends, and the still more pointed warnings he had received from his own sensations. Instead of sleeping, as had been his custom, from seven to eight hours, he rarely, for nearly a year, had slept more than four

hours out of the twenty-four, and frequently even less than this. He did not, however, feel the want of sleep. In fact he was never sleepy, and if this had been the only ill consequence of his severe application I should probably not have had him under my charge at all, so little weight did he attach to the condition which it was of the first importance should be relieved.

The symptom of disordered action which attracted his attention most was an inability to concentrate his mind upon subjects about which he wished to write. There was no difficulty in maintaining a connected line of reasoning, except when he attempted to put his ideas on paper, and then he found it utterly impossible to direct his thoughts in a methodical way. He conversed with me very intelligently in reference to his case, and was perfectly conscious of the difficulty under which he labored. As an instance of the character of his disease, he said that the day before he came to see me he had reflected to his entire satisfaction upon certain points in literature which he was investigating, and that when he came to read over what he had written he found it was a tissue of the most arrant nonsense. The subject of his thoughts was the Greek drama, and the ideas in reference to it, which he communicated to me, were in the highest degree logical and interesting. He then showed me the first page of what he had written, and though he was annoyed at the nonsensical strains of his language, he could not at the same time conceal his amusement at its utter absurdity. I quote a few lines from this paper.

"The rise of the Greek drama is not to be associated with the Homeric age of minstrelsy, nor to be discovered in the cimmerian darkness of the north. It rests upon a foundation far anterior to either. It is found in the hearts of those men who look beyond a mere utilitarian idea, and who are able to conceive of the existence of beauty without the disturbance due to causes inseparably connected with the barbarism from which Greece emerged into that mythical age which created a god for every river and forest and for every emotion of the heart or element of the mind. Lyric poetry and philosophy may claim the precedence of antiquity, but the power that could draw tears from eyes that had never before wept, or

cause the hardened lines of stoicism to relax in smiles, is not to be despised or even elevated upon a pinnacle of greatness."

At the time of writing, his thoughts flowed so rapidly that he was not conscious of the disconnected nature of his composition. If he stopped, however, to read it over he at once saw how thoroughly it misrepresented his conceptions. No matter what the subject, the same thing happened, and even the most trivial notes could not be written without language being used which was either perfectly without relation to the ideas he wished to communicate, or else in direct opposition to them. For instance, wishing to obtain a book from a friend, he found he had written the prayer of Socrates which concludes the Phædrus of Plato. On another occasion, intending to indite an epistle to a lady who had sent him a volume of her poems, he discovered, when half through his letter, that he had requested her to accept one of his own books, and had then gone on to give his views relative to suicide and matrimony.

Upon questioning him, I ascertained that he went to bed generally at about two o'clock in the morning; that he lay awake for an hour at least, during which his mind was exceedingly active; and that he rose between six and seven, took a sponge-bath, and ate a light breakfast. He then went to work, spending the day in reading, and in dictating to his sister, who wrote out his language *verbatim*. At six o'clock he dined plainly, and then again resumed his labors. He drank neither tea, coffee, nor any alcoholic liquor. Occasionally he took a cup of chocolate at breakfast.

The only indications of a disordered system other than those I have mentioned, were, that his pulse was too frequent, (104;) that it was irritable and irregular; that he had had several attacks of slight vertigo and headache; that his eyes were brilliant and somewhat congested, and that pressure upon the closed lids caused considerable pain. His bowels, contrary to what might have been reasonably expected, were regular, and his appetite was generally good. His urine contained an excess of urea and of phosphates; oxalate of lime was also present. There was nothing in his condition which appeared to give him the least anxiety, beyond the impossibility of controlling his thoughts when writing, and this he attributed directly to

over-exertion of his mental powers. He had, however, tried the effect of suspending his studies for two or three weeks, but had not perceived that any benefit was derived from this procedure. He had, therefore, returned to his occupations.

I told him very plainly that, unless he was prepared to forego his literary labors for several weeks at least, he would be in great danger of permanent injury to his mind; but that with the avoidance of severe mental exertion, and by the aid of other measures, I believed he could be restored. He demurred somewhat to the first condition, but finally promised to follow my advice implicitly.

Although I was unable to explain the fact that mental aberration should only be manifested when he wrote, I was confident that his condition was clearly the result of intense hyperæmia of the brain, and that, if this could be dissipated, and sound, regular, and sufficient sleep be produced, the mental trouble would also vanish. I therefore directed that half a dozen dry cups should be applied to the nape of the neck every evening, that he should take a warm bath directly afterwards, and that, whilst in the bath, cold water should be poured on his head. Instead of lying down when he attempted to sleep, I advised that he should assume the sitting posture, supporting his head on a hair pillow. All literary labor was to cease. Instead of the books he was in the habit of studying, he was to read novels. He was to compose himself for sleep at eleven o'clock at night, and was to rise punctually at seven; take his sponge-bath as usual, and, after eating a moderate breakfast, to do anything he liked, except studying or writing, till twelve o'clock, when he was to take a walk for an hour, then eat a biscuit, read light literature till four, and then ride on horseback till six, at which hour he was to dine, simply, but to the extent his appetite prompted him. He had been in the habit of smoking one cigar a day, (after dinner,) and I allowed him to continue in this indulgence.

I am thus particular in stating my instructions, because I determined to see what could be done by hygienic measures, and others directed to the relief of the supposed cerebral congestion, without resorting to the use of drugs, so long as it was probable they would not be required. Opium and other medicines of

the narcotic class would, I was satisfied, do more harm than good; bromide of potassium I reserved for use, should it become necessary to employ it.

I have every reason to believe that he complied faithfully with the directions given him, and ere long marks of decided improvement were visible. His pulse had fallen to 80, was regular and full; there were no more headaches and vertigoes; his eyes had lost their bloodshot appearance, and above all, his sleep had become sound, and was of from seven to eight hours' duration nightly. As soon as he got settled in his easy chair for the night his eyelids began to close, and he slept steadily on till it was time for him to get up for the day. Three weeks were necessary to bring about these results in full, although amendment was manifested from the first. Yesterday, May 18th, I wrote him a note, requesting his permission to make use of his case in illustration of this memoir. The following is his answer: it is the first time he has written a line for a month:

"My Dear Doctor—If, in your opinion, my case is possessed of any value in a pathological point of view, I hope you will make such use of it as will best serve the ends of science. I make only one condition. You know I am a literary man, and that my reputation as a student and author would suffer in the estimation of the critics were I suspected of insanity. It takes very little to form a foundation for such an assumption, and, perhaps, in my case, there would be more truth than fiction in the notion as applied to me. With the exception, therefore, of giving my name, you are at perfect liberty to dish me up for the satisfaction of all your medical friends.

"I shall come and see you to morrow, and in the meantime believe me ever,

"Yours sincerely and gratefully,

"———— ———— ————."

"P.S.—I have read the above over, and to my great delight find that I have said what I wanted to say. I would stand on my head with joy, were it not that you were desirous of keeping as much blood out of my noddle as possible. *Laus Deo.* Can I go to work Monday?"

I have no intention of letting him "go to work" on Monday, or for at least two weeks yet. I am of the opinion, however, that after that time he may resume his labors to a slight extent, and gradually extend them; not, however, to the limit they formerly reached, but to that degree which, whilst they will add to his reputation as a man of learning, will not exhaust the organ which it is so essential for his objects to preserve in a condition of unimpaired vigor.

2*d*. *Those positions of the body which tend to impede the flow of blood from the brain, and at the same time do not obstruct its passage through the arteries, whilst causing hyperæmia, also produce insomnia.*

Several cases have come under my observation in which the influence of position as affecting the disposition to sleep was well marked. It is very evident that the recumbent posture is more favorable to a state of congestion of the brain than the erect, or semi-erect. Individuals who, by excessive mental exertion, have lessened the contractility of the cerebral vessels, almost always experience great difficulty in getting to sleep after lying down, even though previous to so doing they may have been very drowsy. A gentleman, who was a patient of mine a few weeks since, informed me that several years ago he had an attack of wakefulness which lasted for three or four months, and which was particularly characterized by inability to sleep whilst lying in bed. Whilst sitting in his office he would often fall asleep in his chair, and previous to going to bed he would be overcome by drowsiness. The moment, however, that he lay down, his mind was aroused into activity, and all sleepiness disappeared. He left off work, traveled, and in a short time recovered perfectly. It will be recollected that in the other cases I have cited in this memoir, the phenomena were always more strongly marked after the persons affected lay down; and I have always insisted upon the avoidance of the recumbent posture as one of the most important means to be employed in the cure of insomnia.

Dr. Handfield Jones* relates a case in which the influence of position was strongly marked. "A gentleman, aged 24, after

* Clinical Observations on Functional Nervous Disorders. London, 1864, p. 284.

considerable mental strain experienced the following symptoms: He was thoroughly weary and drowsy at the close of the day, and felt, as well he might, the need of nature's restorer; scarcely, however, had he laid down his head, when the cerebral arteries began to throb forcibly, and soon all inclination for sleep was banished, and for hours he lay wide awake, but deadly weary. The *causa mali* here was evidently deficient tonicity in the cerebral arteries, or more exactly paresis of their vasa motor nerves. As the arteries relaxed they admitted an undue flow of blood to the brain, which goaded the weary tissue into abnormal action."

Wakefulness is nothing more than an exaggeration of the normal functions of the brain. For this organ to act with vigor, an increased flow of blood is necessary. If this flow is continued, without proper periods of repose, a state of erethism and insomnia is produced. Instances have been recorded in which persons have found it necessary to assume the recumbent position whenever they had any severe mental labor to perform. The following extract, bearing upon this point from a work* already quoted, is interesting:

"The posture of supination will unavoidably induce that increased flow of blood to the brain which, under certain states of this fluid, is so essential to the production of brilliant waking thoughts; and are indeed attained so often by another mode—the swallowing of opium.

"A gentleman of high attainment was constantly haunted by a spectre when he retired to rest, which seemed to attempt his life. When he raised himself in bed *the phantom vanished, but reappeared* as he resumed the recumbent posture.

"Some persons always retire to bed when they wish to think; and it is well known that Pope was often wont to ring for pens, ink and paper in the night, at Lord Bolingbroke's, that he might record, ere it was lost, that most sublime or fanciful poesy which flashed through his mind as he lay in bed. Such, also, was the propensity of Margaret, Duchess of Newcastle, who (according to Cibber, or rather Sheil, the *real* author of the 'Lives of the Poets') kept a great many young ladies about her person, who

* The Philosophy of Mystery. By Walter Cooper Dendy. London, 1841, page 290.

occasionally wrote what she dictated. Some of them slept in a room contiguous to that in which her grace lay, and were ready at the call of her bell to rise any hour of the night to write down her conceptions, lest they should escape her memory.

"Henricus ab Heeres, (in his 'Obs. Med.,') says that when he was a professor he used to rise in the night, open his desk, compose much, shut his desk, and again to bed. On his waking, he was conscious of nothing but the happy result of his compositions.

"The engineer Brindly even retired to bed for a *day or two*, when he was reflecting on a grand or scientific project.

"I deny not that the darkness or stillness of night may have had some influence during this inspiration. I may also allow that some individuals compose best whilst they are walking, but this *peripatectic* exertion is calculated itself to produce what we term determination of blood to the head. I have heard of a most remarkable instance of the power of position in influencing mental energy in a German student who was accustomed to study and compose with his head on the ground, and his feet elevated and resting against the wall.

And this is a fragment of a passage from Tissot, on the subject of monomania.

"——'Nous avons vu étudier dans cette académie il n'y a pas long temps, un jeune homme de mérite qui *s'étant mis dans la tete*, de découvrir la quadrature du circle, est mort, fou à la hôtel Dieu à Paris.'*

"You will smile when I tell you that the tints of the landscape are brighter to our eyes if we *reverse the position of the head*."

---

* It is perhaps scarcely necessary to call attention to the fact that Mr. Dendy has altogether mistaken the signification of the words in the above quotation from Tissot, printed in italics. He appears to think they mean *being put on his head*, a translation which would make very great nonsense out of the whole extract. The words will be found in Tissot's *Avis aux Gens de Lettres et aux Personnes sedentaires sur leur santé*. Paris, 1768, p. 28; and in English, in a translation entitled "*A Treatise on the Diseases of Literary and Sedentary Persons, Edinburgh*," 1772, p. 26. The work is well worthy of attention even at this day, as containing many most interesting facts and important suggestions.

Tissot, in the work to which reference has just been made, cites an instance in which position was taken advantage of to solve a problem in mathematics. A gentleman, remarkable for his accuracy in calculation, for a wager, *lay down on a bed* and wrought by mere strength of memory a question in geometrical progression, while another person, in another apartment, performed the same operation with pen and ink. When both had finished, the one who had worked mentally repeated his product, which amounted to sixteen figures, and, insisting that the other gentleman was wrong, desired him to read over his different products. On this being done he pointed out the place where the first mistake lay, and which had run through the whole. He paid very dearly, however, for gaining his wager, as for a considerable time he had a swimming in his head, pains in his eyes, and severe headaches upon attempting any mathematical labor.

Sir Walter Scott has said somewhere, that the half hour *passed in bed*, after waking in the morning, was the part of the day during which he conceived his best thoughts.

3*d*. *An increased amount of blood is determined to the brain, and insomnia is produced by certain substances used as food or medicine.*

Daily experience assures us of the truth of this proposition. In general terms it may be said, that all those substances which, when injected into the system, increase the force and frequency of the heart's action, cause also a hyperæmic condition of the brain and tend to the supervention of wakefulness.

Chief among these agents are to be placed alcohol, opium, belladonna, stramonium, Indian hemp, tea and coffee. It is true that the first two of these, when taken in large quantities, sometimes give rise to a comatose condition. This, however, as will be more fully shown hereafter in another memoir, is not a consequence of an increased amount of blood in the brain, but results from the circulation in that organ of blood which has not been duly oxygenated. My experiments on this head have been many, and show conclusively that neither alcohol nor opium possess any narcotic effect, if means be taken to ensure the full æration of the blood. If these substances be administered beyond a certain limit they so act upon the nerves

which supply the respiratory muscles as to interfere with the process of respiration, and hence the blood is not sufficiently subjected to the action of the atmosphere. Un-ærated blood therefore circulates in the brain, and coma—not sleep—is produced.

No substance is capable of acting as a direct hypnotic, except that which lessens the amount of blood in the brain. In small doses alcohol and opium may do this indirectly, through their stimulating properties exerted upon over-distended blood-vessels, as has been shown in regard to the first named, in a case already cited; but they never so act upon the healthy brain. In the normal state of this organ their action in small doses is always that of excitants. The word "small" is of course used in a relative sense. What is a small dose for one person may be a large one for another, and *vice versa*.

In this connection it is scarcely necessary to dwell at any length upon the insomnia produced by delirium tremens from the excessive ingestion of alcohol or opium. In the *post-mortem* examinations—four only—which I have made of individuals dying from this affection as the result of the immediate use of alcohol, the brain was invariably found congested. Either hyperæmia, or its consequence, effusion of serum, is the ordinary pathological condition discovered in such cases.

In regard to opium, most practitioners have doubtless noticed the effect which it and its preparations frequently produce in preventing sleep. I have known one dose of half a grain of opium keep a patient awake for three consecutive days and nights, during the whole of which period intense mental excitement was present. As is well known the Malays, when they wish to run *a muck*, bring on the necessary degree of cerebral stimulation by the use of opium. During the condition thus produced insomnia is always present.

Belladonna, stramonium, and Indian hemp likewise produce congestion of the brain and wakefulness. The latter, under the name of *hashish*,* is still used in the East to bring on a

* The word *assassin* is derived from the word *hashish*, from the fact that a sect in the East called *assassins* made use of *hashish* to induce the temporary insanity, during which their crimes were perpetrated. See *History of the Assassins*, by the Chevalier Joseph, von Hammer, translated from the German, by O. C. Wood, M.D., London, 1835, p. 233, note.

state of delirium, and if rumor is to be credited has its votaries in this country. Tea and coffee act in a similar but far less powerful manner. As one of the results of experiments with these substances instituted upon myself, I found that the circulation of the blood was rendered more active.* Their influence in preventing sleep is well known to the generality of people.

*Treatment.*—The principles which should prevail in the treatment of insomnia are sufficiently indicated by the remarks which have already been made. If the view which I have given of the pathology of the affection is correct, there can be no doubt as to the means of cure. Happily theory and practice are in perfect accord in regard to the therapeutical measures to be adopted. These may be arranged into two classes.

1st. Those which, by their tendency to soothe the nervous system or to distract the attention, diminish the action of the heart and blood-vessels, and thus lessen the amount of blood in the brain. 2d. Those which directly, either mechanically or through a specific effect upon the heart and blood-vessels, produce a similar effect.

Under the first head are embraced many agencies which from time immemorial have been known to cause sleep. Among them are music, monotonous sounds, gentle frictions of the surface of the body, soft undulatory movements, the repetition by the insomnolent of a series of words till the attention is diverted from the exciting emotion which engages it. and many others of similar character which individuals have devised for themselves. In slight cases the measures belonging to this class often prove effectual, but in persistent insomnia they are generally altogether nugatory.

Under the second head we shall find comprehended the means which are chiefly to be relied on in the treatment of cases of morbid wakefulness.

*Bromide of potassium* can almost always be used with advantage to diminish the amount of blood in the brain, and to allay any excitement of the nervous system that may be present in the sthenic form of insomnia. That the first named of

* Physiological Memoirs, 1863, p. 24, *et.* seq.

these effects follows its use, I have recently ascertained by experiments upon living animals, the details of which will be given hereafter. Suffice it now to say, that I have administered it to dogs whose brains had been exposed to view by trephining the skull, and that I have invariably found it to lessen the quantity of blood circulating within the cranium, and to produce a shrinking of the brain from this cause. Moreover, we have only to observe its effects upon the human subject to be convinced that this is one of the most important results of its employment. The flushed face, the throbbing of the carotids and temporals, the suffusion of the eyes, the feeling of fullness in the head, all disappear as if by magic under its use. It may be given in doses of from ten to thirty grains—the latter quantity is seldom required, but may be taken with perfect safety in severe cases.

*Alcoholic liquors* are highly useful in asthenic insomnia, though in the sthenic variety they are of course altogether inadmissible. The principles upon which they are indicated have already been pointed out. A short time since Dr. Van Buren, of this city, mentioned to me an interesting case of asthenic insomnia, in which he had used them with perfect success. They should be given to the extent of producing gentle and continued stimulation for a few hours before bed time.

The *warm bath* is also a very valuable means of determining blood from the head, and calming nervous irritability. Frequently, especially in children, I have found that simply putting the feet in water of the temperature of 100° F. has been sufficient to induce a sound and healthy sleep, when laudanum and other means have failed.

*Cold water* applied directly to the scalp is often of great effect in diminishing the amount of blood in the brain. It is not admissible in the asthenic form of wakefulness. When the individual is strong, the heart beating with force and frequency, and the mental excitement great, its influence is almost invariably good. The exact temperature is a matter for the judgment of the physician. I have often used it as cold as ice could make it—32° F. or thereabouts.

In the action of cold water, applied to the head in cases of insomnia, we have another proof of the real nature of this af-

fection. It is known that in Thibet mothers place their wakeful children in such positions as will admit of a small stream of cold water falling from a slight elevation upon the head. I have in some work—on which I cannot now lay my hands—read a very full account of this custom, and seen a cut representing the process. The children very soon fall into a quiet sleep. I have often seen the application of the cold *douche* to the heads of refractory prisoners bring on a deep sleep.

The effects of *position* in aid of other remedies have also been alluded to. I make use of its advantages in all severe cases of insomnia which come under my charge, and we have, in its efficacy, additional confirmation of the correctness of the theory that the condition of the brain in such cases is one of hyperæmia.

The *diet* of individuals affected with morbid wakefulness must be regulated upon those principles of common sense with which every intelligent physician is acquainted. *Physical exercise* should be moderate and regular.

But all means will fail in those cases dependent upon severe and long continued mental exertion, unless the affected individual consents to use his brain in a rational manner. The disposition of the age seems to be to ignore the fact that the nervous system can exhaust itself by excessive intellectual labor. Even as these last lines are being written, intelligence is received from abroad that one of the most distinguished men of Great Britain has committed suicide, in consequence of insanity produced by over-exertion of his mind. Thus one more victim is added to the long list of those who have disregarded the laws of their being; and again we are reminded that there is a limit to the exercise of our intellectual powers, beyond which we cannot pass with safety.*

---

* The instance alluded to, that of Admiral Fitzroy, is thus commented upon by the *Spectator* of May 6th, 1865:

"Admiral Fitzroy, the well-known meteorologist, committed suicide on Monday morning at his own house. He had over-worked himself of late; found that he was losing his memory; became sleepless, and resorted to opium to obtain ease, which aggravated his symptoms. His doctor had warned him that he ran great risk of paralysis, but from a false tenderness did not at once compel him to give up labor."

The *London Review* of the same date says: "He (Admiral Fitzroy) ac-

## *On the Treatment of Dysmenorrhœa and Sterility, resulting from Anteflexion of the Uterus.* By Thomas Addis Emmet, M.D., Surgeon to the State Woman's Hospital, New York.

[Read before the New York Obstetrical Society, May 16, 1865.]

Experience demonstrates that the normal position of the uterus is a part of the individuality of each female. With the unmarried, the organ is frequently found in health, with some deviation toward the pubes from the ideal point accepted by the profession as its natural position, yet unappreciated, unless some inflammatory condition be added.

Anteflexions are to be regarded as resulting from a malformation of the neck, or from some obstruction in the circulation of the organs. Dysmenorrhœa, so far as it depends on the uterine condition under consideration, is the result of an encroachment on the canal, of inflammation, or of atrophy of the body.

In the same connection, sterility is a sequence of obstruction and its progressive results.

A long, narrow and pointed, or snout-shaped condition of the cervix is to be regarded as a deformity. At an early period of life, the balance is lost between the relative growth of the body and the neck. With the body acting as a lever, the neck, yielding to pressure, gradually becomes flexed in conformity to the curve of the posterior wall of the vagina, while it has a tendency to be pressed forward toward the outlet, from the weight of the viscera above. From the first menstrual period, with an obstruction existing, the organ is not relieved; in fact, a chordee condition results from the obstructed state of the circulation, on the side of the flexure, at each menstrual period, while the circulation is unimpaired on the opposite one.

Just previous to and during the catamenia, a flexure always becomes greatly increased, and continues for several days after the flow has ceased before an approximation to the original con-

---

quired that terrible inability to sleep, which is one of the most dreadful of those means by which nature avenges the abuse of the mental powers, and he was forced to take opium at night; at one time to an extent which threatened serious consequences."

dition is reached, just in proportion to the readiness with which the organ has been able to relieve itself. By a gradual process, chronic, congested hypertrophy of the body is brought about, or else by the sudden arrest of the menstrual flow, from cold or any other accidental cause, an inflammatory condition becomes superadded, and either condition by its undue weight mechanically increases the version.

Although the flow is usually scanty at first, in many cases it becomes for a time more than natural, lasting often from six to eight days. During a series of years, however, the period becomes gradually shortened to a few hours in duration, and to a mere show in quantity. Finally, nature desists from her fruitless efforts, and a permanent change of life takes place at an earlier period than natural.

The usual age is about thirty, although I have seen it occur at twenty-five, and in a few cases the time was extended to thirty-five or forty, always bearing an exact ratio to the degree of flexure. A previous deposit of miliary tubercles having taken place at this period, rapidly soften, and in a large number of cases the mistake of cause and effect is often made by the profession.

Every physician who has turned his attention to uterine disease can recall a variety of cases, presenting each phase of progression. A limited number pass the ordeal and enjoy good health in after life, but how many fall by the way side? As a result of my experience, I am positive that it is the most frequent cause known of phthisis in the young, as well as of sterility, a cause of unhappiness to the married female.

Long before nature desists from her efforts, atrophy of the organs takes place, with fatty degeneration at the seat of flexure. An absorption of tissue in the anterior wall of the uterus at the point in question has been brought about by pressure, and the relative position of the body and neck becomes permanent, as, in the breaking down of the spongy portion of the spinal column, the mechanical result is the same, the curvature being in proportion to the loss of structure. So frequently is an obstruction of the canal a cause of sterility, that it may be accepted as the rule, and all the other known causes as the exception.

Occasionally, where the flexure is slight, and confined to the

neek, a fortunate pregnaney takes place, but, as a rule, marriage aggravates every symptom, for, in obedienee to nature's law, a shattered nervous system is the tribute exacted of every childless female in the marriage state. Fortunately, the progressive stages are gradual, and can be relieved, if attempted, before the reparative powers have been destroyed.

Our attention must be directed to relieving the dysmenorrhœa, and to removing the cause of sterility, for pregnancy will bring about a more radical change in repairing the injury done than can be accomplished by art. All remedies applicable are but palliatives, and cannot remove a mechanical cause. Dilatation is unphilosophical, and can only succeed when the flexure is so slight that local treatment could relieve the difficulty with less risk. The uterine canal exists in its integrity so far as regards its caliber; the condition may be compared to a lead pipe, forcibly bent on itself, where its diameter is occluded mechanically. An inter-uterine stem is objectionable; he who would force a straight instrument into the organ under the circumstances, assumes a responsibility, according to my experience, not to be repeated. If the stem to be tolerated is bent to the curve of the organ, the result is negative. Neither is the end to be gained by a gradual change of curve, even if an attack of pelvic cellulitis has not been a result of the undertaking; so long as the primary cause exercises its influence, the organ will immediately assume its wonted position on the removal of the same. The condition may be compared to a crooked tree which has attained its growth; the fact is well known, that, except at the expense of the integrity of its fibres, it will immediately assume its original condition, as soon as the opposing force restraining it in an opposite direction has been removed

A large hospital experience led Dr. Sims, some years ago, to abandon all methods as unsafe and negative in result, for the relief of this condition, except the incision of the neck, as proposed by Prof. Simpson. My experience since has fully corroborated his teaching; we agree perfectly in principle, and only differ in the method by which it should be done. His ingenuity suggested an incision of the posterior lip backward, directly in the median line. But after a few operations he abandoned this method as unsatisfactory. Cases which have

since come under my observation have proved that they could not have been permanently relieved by either. He has since, I believe, practised Simpson's method entirely, although, judging from some of his late contributions to the London Lancet, he has not been uniformly successful, but still regards that operation as promising the best results.

I am satisfied that neither operation will permanently relieve any case, unless the flexure is confined to the neck and is below the vaginal junction; while the backward operation as proposed would relieve a moderate flexure, the lateral one, however, even if extended on each side to the vaginal junction, could not accomplish so much, unless the posterior one, in the process of healing retracted sufficiently to clear the seat of stricture, which it could not do. The dysmenorrhœa would return after a few months, although the sound might be readily passed.

The explanation to be offered is, that the posterior lip, lying on the floor of the pelvis, with the weight of the viscera above pressing downward, would keep the two surfaces so closely in contact that the menstrual fluid would be retarded in its escape.

The representation repeated by all works on anatomy, in locating the uterus on a line of the superior strait, is not strictly correct. Some approximation is reached, it is true, yet, in a woman who has borne children or who has suffered from uterine disease, (unless the organ is retroverted,) the cervix is found resting either on the rectal septum or on the floor of the pelvis. The objection, therefore, to the lateral operation by pressure on the posterior lip, is tenable.

The position of the uterus is not appreciated by the use of the ordinary speculum, as its length in conformity with the accepted position must push the organ before it.

If a female is placed on the back, with the extremities flexed, and the perinæum firmly pressed back as far as possible by the thumb, the cervix will be brought into view in almost all who have borne children; the length of the perinæum is the only obstacle in cases where it cannot be readily demonstrated.

In cases seeking relief, a change has been going on for years with every deviation of flexure from a simple version, until

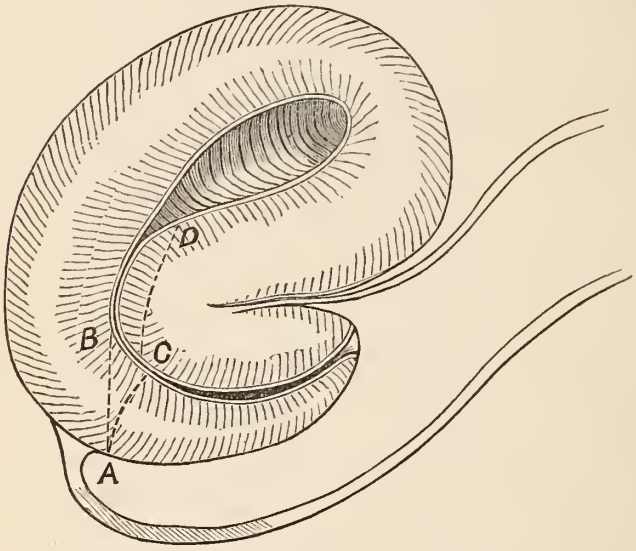
a condition has at length been reached approximating to that represented in the diagram. In this case complete atrophy of the body has not yet taken place, except on the anterior wall at the seat of flexure. The canal is also shown above the flexure as dilated in consequence of the menstrual accumulation. This dilatation at times takes place to such an extent as to give an idea of hypertrophy of the uterus, while in fact the walls are thinner than natural. As soon as menstruation ceases the organ collapses, and we recognize a state of atrophy. On carefully introducing a uterine probe which has been bent to the curve of the organ, the passing of the point of constriction will immediately be recognized, for the resistance to the instrument will cease so suddenly as to convey the impression of perforation. When this dilatation exists there is always a greater or less degree of retention of the secretions, which are retained long enough to act as an irritant on the lining membrane along its course of escape, causing pruritus on coming in contact with the atmospheric air at the outlet of the vagina.

By referring to the diagram, it will be seen at a glance that a simple division of the posterior lip, extended backward even to the vaginal junction, could not relieve the difficulty, as the seat of constriction is still above the point reached by the incision.

In such cases, for the purpose of straightening the canal, I have found it necessary, in addition, for their relief, to freely divide the angle formed by the doubling of the anterior wall of the uterus upon itself; without this step no permanent relief can be obtained. It must be done boldly, with the view of opening the canal perfectly; but at the same time it should be borne in mind that, without a due realization of the danger, with the parts in a state of fatty degeneration and the uterine walls so thin at this point, a perforation is possible. The danger, as in any other operation, however simple, has only to be appreciated by the careful operator for its occurrence to be avoided; and to take place, I can only comprehend it as the result of the greatest carelessness. I can fully corroborate Dr. Sims' testimony as to the degree of risk in a simple division of the cervix. During the past six or seven years we have performed the operation several hundred times for various purposes, in hos-

pital and private practice. As a result of this experience, it may be stated that, whenever there has been no previous pelvic cellulitis, and the after treatment has been conducted with the necessary care, no minor operation of surgery is attended with less pain or risk to the patient.

The proper time to perform the operation presented is directly after the cessation of the catamenia. The patient having been prepared by an evacuation of the bowels the night before, is placed on the left side for the operation, and the neck of the uterus is brought into view by Sims' speculum. The anterior




lip is firmly seized by a tenaculum, and the posterior one divided in the median line to the proper point by a single cut of the scissors. A small sound, properly flexed, is then passed to the fundus, and the blade of the uteritome is introduced, with its cutting edge backward, to divide the triangular space, A, B, C, formed by the inner blade of the scissors moving in an arc of a circle. The sound is still retained in situ, and, on reversing the blade, it is passed alongside as a guide, cutting from the constricted point from C to D, and enlarging the passage, if necessary, as it is withdrawn. This completes the operation.

The immediate danger is from hemorrhage, if, by accident, the circular artery lying in the loose cellular tissue around the neck of the vaginal junction has been wounded. From the position of the uterus elevating that portion of the cervix in the vagina, the cellular tissue immediately behind is somewhat relaxed. When the neck is drawn forward for the operation, this tissue assumes a triangular shape, with its apex in the line of traction, terminating just at the junction of the vaginal tissue with the neck. The rule is to incise in this direction as far as is necessary, but never beyond it. Short of this point is a valuable guide to avoid the wounding of the artery, and one seldom absent.

I have for several years in this, as in all other operations of obstetrical surgery, substituted, as far as possible, the use of the scissors for the knife. Although it may be deemed less surgical, I have satisfied myself that I can operate more rapidly, and certainly have experienced less hemorrhage. The scissors that I have been in the habit of using for this operation are flat on the face, but have the blades curved at an angle from the handles, so as to conform somewhat to the direction of the uterine canal. Simpson's uteritome is not applicable to this operation, and cannot be used except where the canal is straight. Dr. Sims introduced a narrow, cimeter-shaped blade, about an inch and a half in length, which answered admirably for the purpose; but, having a single joint, the blade can only move in the one plane; and to cut in the opposite direction it is necessary to have a second instrument with the reverse. This difficulty led me several years ago to have an instrument made with the same shaped blade, but terminating in a ball at the seat of the joint and separate from the instrument. The handle, being contrived like a pair of forceps, grasps the blade firmly at the required angle. It being, in fact, a universal or ball and socket joint, the blade may be used in any direction, and it is a valuable instrument for other purposes.

Having completed the operation so that a sound passes freely, a portion of lint saturated with glycerine is introduced well up between the cut edges; over this is laid a pledget, wet with a solution of alum, and the vagina is thoroughly tamponed with damp cotton, as if a hemorrhage actually existed. This

is the only safeguard against its occurrence, which should be anticipated in every case. Before this lesson was taught by experience I have seen secondary hemorrhage occur, (even days after the operation,) which persisted for hours in spite of all means to arrest it, and in which the patient's life was saved only with the greatest difficulty. The patient should be lifted into bed, and should not be allowed to assume the sitting position for some ten or twelve days. Opium should be used if necessary, and the bladder evacuated either with a catheter, or on a bed pan in the horizontal position. After a few hours, if too much pressure is exerted by the tampon, so as to cause restlessness, a small portion may be removed with the patient lying on the back. On the second day, with the patient on the left side, and Sims' speculum introduced, the entire tampon may be removed, with the exception of the portion between the cut surfaces. This will become free, and be thrown out in a few days, but must not be disturbed beforehand. Daily afterward, while steadying the organ with a tenaculum, a sound must be passed to the fundus, drawing the point through the cut in the anterior wall, and pressing the instrument firmly backward in the division of the posterior lip on its withdrawal. This must be done without force, but more thoroughly each succeeding day, for the purpose of preventing the surfaces from closing by granulation. A glycerine dressing is to be introduced afterward, and the tampon carefully replaced. After a few days, if the edges are healing satisfactorily, without any undue bleeding, the tampon may be daily diminished in bulk, and discontinued entirely after ten or twelve days. Should hemorrhage of a serious character occur, it is to be arrested in the following manner: The neck is drawn well into view, and on the instant of the removal of the blood by a probang sponge, in the hands of an assistant, the operator should freely cauterize the surfaces with a stick of nitrate of silver, then with a number of small pieces of sponge pack the canal until filled, and secure the whole by a compact vaginal tampon. The sponge tampon is to be left until loosened by suppuration. The operation should never be attempted without one or more assistants in readiness to meet this emergency.

After discontinuing the tampon, the sound should be passed

every other day. As long as the discharge continues, large vaginal injections of tepid water are useful.

The first menstrual period is frequently (although not always) more painful than usual, consequent upon the engorgement resulting after the operation, from which there has not yet been time fully to react. The period should be spent in the recumbent position, and every effort should be made to assist nature in properly performing the function.

After its cessation, a most important part of the treatment has to be instituted.

Follicular disease throughout the lining membrane of the canal has existed for years, with various inflammatory changes, involving other portions of the organ, and resulting in hypertrophy, atrophy, and induration. Although a most powerful stimulus has been given to the reparative process by the operation, and one without which nothing could be accomplished, we must now treat the case as an original condition.

My mode of treatment is to apply chromic acid, (in a solution of water of equal parts,) once or twice a month, to the entire uterine canal. This is applied on a bit of cotton, twisted around a thin, flat, silver probe, which I have had made for the purpose. A small sound is first carefully introduced, and the curve altered until the exact sweep of the canal is obtained; the probe is then bent to correspond, and the application made. The cotton should be merely saturated, without there being any excess of fluid. An important point in making the application, is to steady the uterus by means of a tenaculum, which seizes the cervix. This facilitates the operation, and gives less pain. The patient should be immediately placed in bed, and kept confined for some ten days. As long as any discharge continues, (not the result of treatment,) the application should be repeated after each menstrual period. After the thin film produced by the application has been thrown off, which is usually in from a week to ten days, Churchill's saturated tincture of iodine may be used every four or five days, applied in the same manner. Daily dressings to the vagina, of a portion of cotton saturated with glycerine, are useful. A string should be attached, so that the patient may remove them after eight or ten hours, when she feels any inconvenience from their presence.

The value of pure glycerine as a disinfectant, and for its local depleting effect on the capillary circulation, in consequence of its affinity for moisture, is not yet fully appreciated by the profession in the treatment of uterine diseases. Throughout, daily injections of tepid water are valuable; the quantity should be large, and the temperature increased with the degree of heat and soreness complained of. A bed pan must be used in the horizontal position, and the patient would be better off without them, than to attempt to administer them herself.

A few words should be said in relation to the use of chromic acid. It is a most valuable agent; and for its introduction into use for the treatment of uterine diseases we are indebted, I believe, to Dr. Sims. A solution of the strength I have mentioned is far more efficacious than nitrate of silver, while, unlike the latter, and all other remedies in use as local agents, it does not produce induration of the tissue by continued use. It is productive of less pain than any means that we have at command; its action is limited and gradual, and only attacks diseased tissue. In a concentrated form, it is more powerful than nitric acid; but, from its ready solubility in water, solutions of various strength are applicable to an extended field of usefulness in the treatment of uterine diseases. In some ten years' experience of its use in Dr. Sims' practice and my own, I have seen but one attack of metritis follow its use, where it was applied with a camel's hair brush freely to a dilated canal, through mistake, for the tincture of iodine. What the effect might be in ordinary use, and with less care, I am unable to state, as I never apply it without placing the patient immediately in bed, and keeping her there for several days, until its active effects have passed.

I have performed this operation for the relief of dysmenorrhœa and sterility from anteflexion, between forty and fifty times. To the best of my knowledge, not a single bad consequence has followed its performance, and in every case which has since passed under my observation I have felt every reason to be gratified with the result. I have been able to ascertain that nine of the number shortly afterward conceived, and passed through their first pregnancy in a satisfactory manner. In one instance the first pregnancy (four months from the operation)

took place eleven years after marriage, and went to a successful termination. Two members of this Society, at least, have attended, to my knowledge, in the delivery of two of these cases, and can bear witness how far the operation exercised an influence on the progress of labor.

I will give an outline of the history of these cases, together with that of several others of a different type, but in brief, as I have already entered so fully into the detail, both of the operation and the treatment.

Mrs. I., aged 20, came under Dr. Sims' care in April, 1862, a short time before his removal to Europe. From the history of her case, she had at that time been married about a year, and was sterile. She had always suffered from dysmenorrhœa, and from menorrhagia about three years. The uterus was stated to be enlarged, and anteverted, with a moderate degree of flexure. She came under my observation in the fall of 1862, with all her previous symptoms aggravated, and the uterus completely anteflexed. Late in November I operated, and gave her a chromic acid application a few weeks afterward. She greatly improved, and in the following January became pregnant. Dr. Elliot attended her, and since her delivery she has been, I believe, in excellent health.

He informed me that the labor was perfectly natural, the dilatation of the cervix was unusually prompt, and the progress of the labor more rapid than he had anticipated.

Miss N., aged 18, placed herself under my care in April, 1863. She menstruated for the first time at 10 years of age. She remained in good health and free from dysmenorrhœa for five years. In 1860 she was exposed to cold during the catamenia, which suddenly arrested the flow, and was followed by an attack of illness, which confined her to the house for several weeks. Since this time the flow had been exceedingly painful, and always accompanied with violent hysterical attacks, which were regarded by her physicians as being epileptic. The length of the flow had been increased from four days to six and seven in duration, but scanty in quantity, irregular in time, and painful throughout. Her depression of spirits had become so great as to make her fearful at times that she would become insane. During the previous year she had been confined almost entirely

to her bed, in consequence of an inability to stand, from pressure on the bladder, and had, to a great extent, lost the use of her lower limbs. There had been but little vaginal discharge, except for a few days after the menstrual period, although she suffered constantly from pruritus. On making a vaginal examination, the uterus was found larger than natural, with a well-marked anteflexion, its seat being above the vaginal junction. The sound could only be passed with the greatest difficulty, and after frequently altering its curve. On passing the seat of constriction, the canal was found very much dilated. There was no increase of pain from pressure, except when the finger was passed along the base of the bladder, so as to make pressure on the anterior wall of the uterus, and the whole organ was less movable than natural. The diagram given as a type, was copied from the one that I made at the time, in my case book, as representing her condition.

May 3d, 1863, I operated (as shown by the diagram) two days after the cessation of menstruation. May 29th, the period came on naturally, free from pain, and lasted five days. June 6th I applied chromic acid, and repeated it on the 20th inst. July 12th she returned home, entirely free from all nervous symptoms. April 26th, 1865, she called on me, and had so entirely changed in her appearance that I did not recognize her. I found, on examination, the canal perfectly straight, but the uterus slightly anteverted, and of a normal size and condition. She stated that she was in perfect health, the catamenia was natural and lasted five days, and she had increased fifteen pounds in weight since her return home—now nearly two years ago.

Mrs. S., aged 26, consulted me January 3d, 1864. Menstruated for the first time at the age of ten. From the beginning, dysmenorrhœa had existed for the first day or two of the flow. She had been married about six years, and was sterile. Since marriage, her health had become greatly impaired, menstruation more painful and scanty, and withal, she was exceedingly nervous. In consequence of a visit to a warm climate, she had contracted chronic diarrhœa, which enfeebled her general health very much. She had returned to this country almost a year before consulting me, and had then recovered her health. No improvement, however, had taken place in the

menstrual function, and she was still as nervous. On making an examination, the cervix uteri was found to be long, and very much flattened transversely; I could make no better comparison than that of the shape of a scoop. The flexure was entirely within the vagina, just below the junction; the body was rather smaller than natural, and but slightly anteverted. The relation of the body to the neck was nearly at a right angle. The seat of constriction was about midway, making the cervical portion about equal in length to the body. The neck was soft; its lining membrane within the os of a deeper color than natural, with but little cervical discharge. I divided the posterior portion of the lip backward to the seat of flexure, which at once opened the canal, making its course perfectly straight. Three weeks afterward she menstruated for the first time in her life, free from pain. As the organ seemed otherwise in a healthy condition, I gave her no further treatment. She conceived within two months afterward; went to full term, and was delivered, after a natural labor, by Dr. Hensehel. Up to the present time she has continued in perfect health.

The case referred to, as having become pregnant after being eleven years sterile, was a case similar in every respect to the one just stated. The seat of stricture was a limited point, and the only cause of sterility. With the exception of being very nervous, she was in good health. As is always the case when the seat of flexure is below the junction, and does not obstruct the circulation, except during the menstrual period, little or no structural change existed in the body. This form of sterility, with the length of neck varying in each case, is exceedingly common, and is readily relieved.

Drs. Thomas, Winston and Perry can also add the weight of their testimony in favor of the operation. The former gentleman, having operated, has at the present time a lady under his charge who is three months advanced in her first pregnancy—a case, I am told, that at first was far from being a promising one, having suffered from dysmenorrhœa all her menstrual life, which had resulted in complete prostration of the nervous system. The operation at first did not relieve the dysmenorrhœa, but the subsequent treatment was successful, two years after marriage.

Mrs. G., aged 22, menstruated for the first time at 14. The flow was always scanty, and excessively painful during the first day. Her health was not perfect, but she was never confined to the house until after her marriage, at 19 years of age. Immediately after this time the menstrual flow became lengthened from four to eight days, but the quantity was, in fact, rather lessened, and it was more painful. She became a confirmed invalid, and was confined to her couch. She stated that the anticipation of suffering, in advance of each period, destroyed all her happiness, and made death seem a blessing to her. In addition to an excessive degree of nervousness for two years past, she had suffered from constant pain over the left ovary, increased in the upright position, with irritability of the bladder. I found her case the most extreme one of flexure that I had ever met with; the body hypertrophied, and the neck small and pointed. I operated, and within twenty-four hours there was a marked improvement in the condition of her nervous system. I made two applications of the acid, and several of iodine, and attended to the improvement of her general health; late in November she returned home, having menstruated more freely, but without being entirely relieved from pain. She continued to improve without further treatment, and in the February following became pregnant. She has since been delivered; at the present time is in perfect health, and is, I believe, again pregnant.

It is unnecessary to offer the history of a greater number of cases as types of illustration. In those already presented, the object has been accomplished. As I have dwelt with so much stress on the necessary after-treatment, without which little could be accomplished, the operation may be regarded as unnecessary. I have never had a fact more fully demonstrated to the contrary by experience, and without it a large class of cases can never receive any benefit from treatment. The most feasible objection to be made to the operation is its apparent mutilation of the neck; this, however, is only a temporary result. Just in proportion as the inflammation of the body is lessened, after the dysmenorrhœa has been relieved by the operation, the body will return to its natural position in health, and the neck will become shorter and broader. By the same result, the long incision becomes nearly circular, and contracts; so that, after

a few months, the os presents but little change from a normal state. This is not the result of contraction from cicatrized tissue, and offers no obstacle to the progress of labor; the parts merely retract, the tension having been removed.

---

## PROCEEDINGS OF SOCIETIES.

### NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, Jan.* 25, 1865,

Dr. Gurdon Buck, President, in the Chair.

ŒDEMA GLOTTIDIS.—DR. L. A. SAYRE.

Dr. Sayre presented a specimen of œdema glottidis, and gave the following history:

Yesterday morning I was requested to visit a gentleman in 22d Street, whom I had, up to a few weeks ago, been treating for a disease of the foot. The messenger asked me to come as early as possible, as the patient feared that he had diphtheria. I called to see him about noon. The patient was 45 years of age, a large, stout, muscular built man, and had been in the enjoyment of fine health. He was lying at the time I saw him upon the sofa by the fire. I noticed nothing about him that was peculiar, except in his voice, which had a strange roughness in it, that made me feel anxious about him. It was not exactly croupy, nor was it husky, but had an indescribable something about it which attracted my attention. I examined his throat carefully, but found nothing to justify my suspicion of any serious trouble. His wife and mother were very much alarmed about him; but I thought I was warranted in giving a favorable prognosis, notwithstanding that his character of voice made me still very uneasy as to the result of the case. I staid some time, and made a second examination of his throat with great care. I passed my finger far back upon the tongue, to see if I could find any swelling upon the sides of the epiglottis, and failing to discover anything in the shape of œdema, I quieted my fears. I directed him to breathe the vapor of steam, which gave him great relief. The evening before the patient had a party at his house; and, his bed room being warm and uncomfortable, he had opened the window to purify the air before he went to sleep. In that way he must have taken cold. In the middle of the night he experienced some difficulty about his throat, and he found himself

growing worse and worse until morning. Upon leaving the house the patient spoke to me, and the peculiar character of the voice was still so striking to me that I told his wife that I would call again in the afternoon and see how he was getting on. There was no difficulty in respiration, and the pulse was 72. I requested his wife also to send for me at once if anything should happen before my next call. I then went to the hospital, and, suspecting that some sudden emergency might arise, I staid there an hour and a half. During all this time I heard nothing of the case, and when I called in the afternoon, about four o'clock, I found the patient dead. It seemed that after breathing the steam for some time he felt so much better that he laid upon the sofa reading his paper; his wife sat by him for about an hour, when he remarked to her that he felt his breathing getting worse, and thought that she had better send for me. Shortly after this he was so much worse that he urged the sending of a messenger immediately. She arose, rang the bell for the servant, and, while delivering the message to the girl, the patient jumped from the sofa, threw his arms up, gave a gasp, turned purple in the face, and instantly expired.

*Autopsy.* The trachea, tongue and posterior wall of the fauces was removed. The epiglottis was found standing up stiff and erect, and the entire space between it and the walls of the pharynx on each side was filled with two bags of effusion, which looked exactly like the fleshy parts of two large oysters. The effusion took place underneath the epithelial covering and the lateral folds of the epiglottis. Dr. S. stated that the specimen was interesting in connection with the rapid development of the disease toward a fatal termination. There was no particular difficulty in the respiration; in fact there could be no suspicion of any trouble in the shape of œdema glottidis, save that which was given to Dr. S. in the peculiar character of the voice.

Dr. Buck remarked that he had seen a much less degree of œdema cause the same sort of instantaneous death. He recollected one case in which the œdema was only confined to one side of the entrance of the larynx.

In answer to a question from Dr. Sayre he stated, that the progress of such cases was generally very rapid, and this very rapidity in its development was one of the most prominent symptoms of the disease, inasmuch as nothing else, save the introduction of a foreign body into the larynx, could develop such a condition.

Dr. Conant remarked that, in making an autopsy in a case of typhoid fever, he had found œdema glottidis present, though during life there were no symptoms which leaned toward the suspicion of its existence.

The patient, after raising himself in bed to get a drink, fell back and died instantly. In that instance the effusion was upon both sides.

Dr. Buck stated that, in former years, when we had an unusual number of cases of typhoid fever, œdema glottidis occurred as a sequel to that disease in the advanced stage and during early convalescence. There were one or more cases at that time of sudden death due to the difficulty in the larynx, and in which, during life, there was nothing to direct attention to the complication. He further remarked, that the erect position of the epiglottis in Dr. Sayre's case was that which was commonly assumed, and was due to the swelling which took place under the lax membrane upon the lingual side of the organ.

Dr. Sands thought that it was a question in such cases whether it was not better to resort to an operation early in the disease, with a view of anticipating the probability of a more urgent necessity. Laryngotomy, for instance, was an operation easily performed, simple in character, and one which under such circumstances could be resorted to with benefit. In this connection he called to mind a case in the New York Hospital. The patient, an adult male, came into the institution under the care of Dr. Draper, with the diagnosis of asthma; at all events the disease with which he entered was chronic in character. After a time acute disease of the larynx was engrafted upon the original trouble. He had no particular symptom which looked towards œdema glottidis, except difficult respiration, which, however, was not alarming. In consultation with Dr. Draper it became a serious question as to whether it was best to leave the man in that condition over night, when it was finally decided to perform laryngotomy. Dr. Sands accordingly did the operation, and immediately after introducing the tube the relief was instantaneous and complete. The patient was able to have the tube removed in two weeks. Two or three examinations with the laryngoscope were made after this, but failed to detect any organic disease; there being nothing abnormal save a slight swelling of the vocal cords. Dr. Sands presumed that the case had been one of œdema glottidis, but that the disease existed below the point that could be reached by the finger.

### TRACHESTASIS IN A DUCK.—DR. ROBERT NEWMAN.

Dr. Newman presented a specimen of trachestasis removed from a duck, and gave the following history:

The pathological interest of the specimen consists in a large dilatation of the trachea, (trachestasis,) just above the bifurcation on the left side, which was entirely ossified. This ossified tumor was semi-

translucent, and presented the same appearance as an aneurismal tumor, having only one cavity. The trachea near this tumor was partly ossified. The two bronchi presented a state of bronchestasis without any ossification. The subject from which this specimen was taken had an unusual quantity of adipose tissue, the heart was hypertrophied, and had partly a fatty degeneration; the liver was large, with a small cystic duct. The subject appeared to be rather young.

From analogy it is fair to suppose that similar conditions must appear in the human subject, but which, however, are seldom noticed during life. The questions arise, how can such a disease be diagnosticated? and what is the course of the pathological change? To answer the latter question the following theory may be advanced: Frequent catarrhs deprive the mucous lining of the trachea of its epithelium; accumulation of mucous secretion, and powerful inspiration during paroxysm of cough, cause pressure and hypertrophy of the mucous membrane. During this hypertrophy the transverse muscular fibres become thickened and increase, while, on the other hand, the elastic, longitudinal fibres alternate and disappear. Dilatation is, under such circumstances, very natural, and a hernial protrusion of the mucous membrane the next consequence. The tracheal rings are involved in this process, and add materially to the final ossification. Such tumors probably press against the recurrent laryngeal nerve, and explain some forms of aphonia.

ABSENCE OF GALL-BLADDER.—DR. H. B. SANDS.

Dr. Sands exhibited an anatomical curiosity in the shape of a liver without a gall-bladder, which was removed by Dr. Mason from an emaciated male phthisical dissecting-room subject, aged about twenty years. On examining the abdominal organs, the liver was found without a gall-bladder, and without the fissure for its lodgment. The liver was very small, and weighed but a pound and three quarters; the lobus quadratus was also wanting—at least, the fissure for the gall-bladder being absent, there was no line of demarcation for it. The hepatic duct was present, and of considerable size, which fact has been noticed under other similar circumstances. In conclusion, Dr. Sands remarked, that the absence of a gall-bladder had been observed in the acephalous fœtus.

Dr. Clark remarked, that he had a specimen of what would seem to be almost equivalent to the one just shown, in which the communication between the gall-bladder and ductus communis was entirely occluded, and the gall-bladder shrivelled to very little more than a

mass of connective tissue. In that instance the liver had attained an enormous size, and was considerably blackened by a pigmentary deposit, evidently the result of the existence of a previous hyperæmia. He stated his surprise that in Dr. Sands' case the liver should be less than the normal size.

Dr. Flint presented a specimen of a heart and its surroundings, merely with reference to an incidental point. The patient was 40 or 50 years of age, and was admitted into Bellevue Hospital 10 days before death, in a state of great prostration. On examination of the chest, there was found the physical evidence of circumscribed solidification about the centre of the left lung, with a somewhat fœtid expectoration, so that gangrene of the lung was suspected. No further developments, however, took place, except that the patient continued to lose flesh, became dull in his mind, and inclined to somnolency. The day before his death attention was directed to a cardiac murmur, which had not existed previously. This was a double murmur, having the well-marked characters of the cardiac friction sound. Dr. Flint was led to suspect that sound was not produced from within the pericardial sac, from the fact that it was limited to a small area which was confined to the border of the precordia above, and to the left between the second and fourth ribs. And, besides, there were no other evidences of pericarditis present. Taking into account the situation of the sound, together with evident disease of the left lung, it was thought to be a cardiac pleural friction murmur. On post mortem examination an opportunity was afforded for verifying the diagnosis thus made. It was then found that an abscess of the lung, gangrenous in character, existed just outside of the pericardium, and bearing such a relation to that membrane, as that one wall of the cavity was formed by it. The murmur was evidently caused by the friction of the pericardium against the pleural surface in front, which also formed one of the walls of the sac. In conclusion, Dr. Flint stated that he had met with two other similar instances within the last three or four years.

### DEATH DURING ANÆSTHESIA, CAUSED BY IMPACTION OF VOMITED FOOD IN THE TRACHEA.—DR. C. B. BRIDDON.

Dr. Briddon presented a very instructive specimen of a larynx removed from the body of a child 8 years old, who was the patient of a medical friend. He then read the following history of the case, which had been communicated to him:

"Elizabeth G., in whom death followed the inhalation of sulphuric ether, was eight years old, of fair complexion, fine intellect, spare in

habit, active, and of a highly nervous temperament. Though she might be called rather delicate, she had never suffered from any serious illness. Her highly nervous temperament rendered her keenly susceptible to the sensations of pleasure and pain, and it was on this account that her mother desired me to administer ether to her child for the purpose of having some teeth extracted. Accordingly, I accompanied her to a neighboring dentist, and administered ether in the usual way. There were present two dentists and an aunt of the child, with a lady friend. Nothing of particular interest took place until the lapse of twenty minutes or more, when vomiting took place. As soon as her mouth had been wiped I resumed the ether, as she was not yet unconscious. In a few moments she vomited again, and at that instant she suddenly became very livid in the face. My apprehensions were immediately excited by so unusual an occurrence, and I immediately hoisted the window near which I was standing, and then endeavored to clear her mouth and throat of vomited matter. By this time, to use a common expression, she was 'black in the face.' I then placed her upon the floor, and gave her the rolling movements familiar to all, as the 'ready method,' of Marshall Hall, drawing the tongue forward, and making every effort to keep up artificial respiration. It was all in vain, however, for after a few gasps of feeble respiratory efforts, she ceased to breathe, though efforts were made for some time after death towards resuscitation.

"In looking back at this sad case, I have the consciousness of having used every care and precaution in the administration of the ether. A due admixture of air was constantly allowed; both the pulse and respiration were watched, and at no time was complete anæsthesia produced. Twenty minutes at least, in the judgment of those who were present, had elapsed before the stage of excitement was reached, after which the vomiting occurred. There were present two experienced dentists, who have had a large experience in the administration of ether, and they have testified to the care observed.

"That the child had no organic disease I had every opportunity of knowing, having lived in the same house with her for two years, and having attended her during an attack of febrile tonsillitis, and afterwards of measles.

"That the ether was pure there can be no question, as some of the same had been used previously to etherize a patient. Even the vomiting, which has never been considered dangerous in these cases, was not looked for, as the ether was administered at 11 o'clock in the forenoon,

and the child usually took her breakfast soon after 7 o'clock in the morning."

At the autopsy a mass of undigested liver was found firmly impacted in the rim glottidis, and completely plugging up the entire cavity of the larynx. Death then occurred as the result of suffocation.

Dr. Sands remarked, that death from an anæsthetic was most generally preceded by syncope. He thought that the occurrence of asphyxia under such circumstances would naturally suggest the cause of the trouble, and the application of the immediate remedy in the opening of the air-tube.

Dr. Briddon stated that the physician in attendance was so struck with the suddenness of the occurrence, that he had not time to arrange any plan for relief. He further remarked in this connection, that Simonia, as a result of a series of observations which extended over a space of 15 or 16 years, had stated that all portions of the body were not affected alike by the administration of an anæsthetic, but that the temporal and frontal region were the first to be acted upon, and that the perfect loss of sensation in those parts was an indication that the patient was fairly insensible, and in a fit condition for the performance of any ordinary surgical operation. If the anæsthesia was carried further, the levators of the jaw, and particularly the masseter, became relaxed. Now, as the masseter muscle was supplied by the 5th pair, and this nerve had its origin in the medulla oblongata, which was also the nervous centre for the respiratory and circulatory systems, it proved that when the required state of anæsthesia was reached, to produce the effect referred to, that there was imminent danger to the functions of the lungs and heart. In dental operations, which, by the way, furnished the greatest number of deaths from anæsthesia, it was necessary to have the levators of the jaw more or less relaxed, and hence the explanation for the disproportionate number of fatal issues. This fact went further to show that the greatest care should be exercised for the patient while in that condition.

Dr. Buck stated that, in his opinion, the cause of death in the patient from whom the specimen was removed, could only be indirectly referred to the ether, which gave rise to the vomiting of the contents of a full stomach; and that the result should teach us to be careful in having the stomach empty before administering an anæsthetic. The peculiar circumstances attending the fatal issue were also such as to teach us to think of the immediate performance of an operation for tracheotomy.

Dr. Krackowizer alluded to the fact, that in the history of the case

it was not stated that the clothes had been loosened before the ether was given. This he thought was not probably done, as it was very common among dentists to neglect the performance of such a duty. He, however, thought, that in the case reported, the ether was only the indirect cause of death.

Dr. Newman remarked, that the introduction of carbonic acid very frequently overcame such obstructions.

Dr. Buck referred to a case of asphyxia in the practice of Dr. Sabine, where a person who was eating voraciously engorged some meat firmly in the larynx.

### EPITHELIOMA OF THE LARYNX.—DR. GURDON BUCK.

Dr. Buck presented a larynx removed from a patient, 47 years of age, a clerk in a bank, who was of regular habits, and in the enjoyment of good health up to the sickness which terminated his life. When Dr. Buck first saw him he was suffering from impeded respiration, was up and dressed, and was walking about the room. His breathing was attended with a reverberating sound, in inspiration, like a loud snore. The expiration was noiseless. His voice, though weak, was not hoarse. His respiration was 18, and was not accompanied with any heaving movement of the chest, nor was his complexion changed. He swallowed with very great difficulty, and each attempt to perform the act would excite suffocative attacks, and distress him very much. He had no power to inhale through the nostril, nor to blow his nose. It was represented to Dr. B. that the patient had no fever up to the day that he saw him; then his pulse was 112. He had taken no nourishment for several successive days. His physician had prescribed for a sore throat, which the patient had suffered from for months previous, and during the treatment the tip of the uvula was removed. For a fortnight before Dr. B. saw him, he had suffered from difficulty in swallowing, which had been increasing in degree, and accompanied with difficulty in breathing. His physician was fully impressed with the idea that he had been growing steadily worse notwithstanding the treatment he had employed, and the patient himself was very anxious for relief. The inhalation of the vapor of warm water was tried, but failed of any good effect. Tracheotomy was performed in the usual way shortly after, and produced an immediate and complete relief to his breathing, and very much facilitated his deglutition, so that there was no complaint made after that, in his attempts to swallow. Dr. Buck did not come to any satisfactory conclusion with regard to the nature of the disease. By a careful consideration of his

antecedents, œdema glottidis and syphilitic and tubercnlous diseases of the larynx were excluded, and the opinion leaned toward the existence of membranous laryngitis. An inspection of the throat discovered a reddened condition of the pharynx, and exploration with the finger showed the epiglottis in a healthy condition.

On the second day, on removing the double tube to supply its place with a single fenestrated one, Dr. B. discovered, on placing the patient before a bright light, that the salient portion of the larynx which protruded through the opening presented a white shining appearance. Subsequently, portions of membrane were discharged through the opening occupied by the tube, and during the progress of the case, and within a week or ten days, the whole surface of the membrane which had been in view became entirely clean, and assumed its healthy florid appearance. The patient continued to improve to a certain extent for a time, and then his condition began to deteriorate, as was evinced by progressive emaciation, sallowness of his complexion, and unhealthy aspect of the wound.

On the first of January the patient's wife became greatly alarmed by a copious discharge through the tube; within an hour five or six towels were necessary to absorb the expectorated matter. He had some cough before this, but it was not much remarked on by the wife. There was no recurrence of this copious discharge, but, such as there was, would often be reported as offensive. The freedom of discharge through the larynx was not so free as was expected, and during the last ten days of his life there seemed to be an actual diminution of this freedom. He gradually sank, and died January 23d.

Previous to the occurrence of the copious discharge referred to, percussion disclosed marked dullness in the right side, posteriorly from the spine of the scapula downwards, and auscultation made out a feeble respiratory murmur.

At the autopsy the cavity of the thorax was exposed in the usual way. The left lung was free from adhesions throughout, the right lung was found adherent posteriorly, especially in the neighborhood of its middle and lower lobes. In the attempt to break up the adhesions, which, at the points just referred to, were very firm, a cavity was opened into, which gave vent to an offensive discharge, having a gangrenous odor.

The contents of the thorax were removed, in connection with the trachea, larynx, œsophagus and tongue. On tracing down the right bronchus through several of its ramifications the gangrenous cavity was again opened into. On laying open the œsophagus posteriorly

the anterior and lateral walls of the pharynx were brought into view, and were found covered with a patch of membrane, which in some places presented elevation, while the rest of the surface had a roughened appearance. Precisely over the middle of this surface was a bare blackened spot, which showed that a necrosed condition of the cricoid cartilage existed. The perichrondium on either side of this dead cartilage could easily be peeled off. From the right side of this patch referred to, there was an opening down between the cricoid and thyroid cartilages, which was continuous, with a fistulous tract which could be traced round from the side of the larynx through the thyroid body, communicating with the opening through which the tube was introduced through the trachea. In the course of this tract was a cell which has the character of an abscess. The arytenoid cartilages and investing coverings were found thickened and rigid. The right arytenoid seemed to be anchylosed with the cricoid cartilage. The upper orifice of the larynx was narrow, and it required a considerable amount of force to pass the blunt end of an intestine scissors through the rima. The inner surface of the larynx was normal. There was no appearance of any abrasion or any undue injury done to the trachea by the presence of the tube. The patchy appearance was evidently an epithelial growth.

In conclusion, Dr. Buck said: In aiming to interpret this case it would seem very probable that the sore throat, of which the patient had complained since the summer, was the result of the development of this growth, and that the obstruction of the larynx for which the operation was performed was dependant, certainly in part, upon the coarcted condition of the orifice resulting from the extension of the disease, while the shining membranous exudation seen through the tube was evidently the result of a previous exposure to cold, to which indeed the acute symptoms could be referred.

Dr. Clark, who, in company with Mr. Haws, examined the specimen of morbid growth, stated that it presented, under the microscope, all the characteristics of epithelioma. The epithetral scales were in great abundance, were arranged in layers, and a few presented large nuclei.

Dr. Krackowizer called attention to the rather remarkable fact that, notwithstanding the young age of the patient, both the thyroid and cricoid cartilages were ossified.

The Society then adjourned.

# REVIEWS AND BIBLIOGRAPHICAL NOTICES.

1.—*Archiv Für Ohrenheilkunde.* Herausgegeben von Prof. Von Tröltsch, *in Würzburg*, Dr. Adam Politzer, *in Wien, and* Dr. Hermann Schwarze, *in Halle.* Band 1, Heft 1 e 2, 1864.

2.—*Praktische Beiträge zùr Ohrenheilkunde*, von Dr. Hermann Schwarze, Prakt Arzt, and Privat Docent, in Halle, 1864, pp. 48.

1.—*Archives of Aural Surgery.* Conducted by Prof. Von Tröltsch, of Würzburg, Dr. Politzer, of Vienna, and Dr. Schwarze, of Halle. Vol. 1, parts 1st and 2d.

2.—*Practical Contributions to Aural Surgery.* By Dr. H. Schwarze, of Halle.

The advent of a Quarterly devoted to the advancement of that branch of our Science and Art comprehended by the name Aural Surgery, is something very gratifying to that part of the profession which entertains the hope that this neglected field will yet be properly and thoroughly cultivated. The conductors represent the scientific German Aurists, who follow in the footsteps, but enlarge the path of Wilde and Toynbee, while they reject the purely theoretical teachings which were, until lately, almost the only labors of German Aurists. Clinical study and pathological investigation are the premises from which they reason, and their conclusions are of immense importance for the scientific treatment of diseases of the ear.

The other work, whose title we have placed at the head of this article, is a brochure of but 48 pages, but it is of great practical value, as being an analysis of 250 ear cases, which have come under the observation of the author. We propose to glance hastily at some of the contents of the archives, and then pass on to a notice of Dr. Schwarze's book.

The opening article in each number of the Archives is a paper from Dr. Schwarze, entitled, "The Scientific Progress of Aural Surgery in the past ten years." The article is divided into three sections, as follows:

I. Anatomy and Physiology.

II Diagnosis and Methods of Examination.

III. Pathology and Therapeutics.

These articles were thought to be necessary to bring the general reader up to the position of the aural surgery of the present day. The author has carefully collated from the writings of Wilde, Toyn-

bee, Delau, Itard, Meniere, Gerlach, Müller, Kramer, Tröltsch, Politzer, and others, all that is of assistance to show the present state of knowledge as respects the first and second parts of his paper; the third is to be issued in the next number of the Archives.

The author justly commends the method of examining the drum, by means of a concave glass mirror, and diffused daylight, as introduced by Tröltsch, in these words: "The most striking proof of the excellence of this method of examination, is not only that in the course of a few years, it has found many friends, by reason of its great simplicity, and the striking clearness of the view of the membrana tympani presented by it, but also from the fact that, by its help, quite a considerable number of morbid changes in this membrane have been recognized, which, with the previously practised methods, have passed entirely unobserved."

As aids to diagnosis in diseases of the middle ear, the author considers rhinoscopy, Politzer's procedure for keeping pervious the eustachian tube, auscultation by means of the otoscope, (Toynbee,) together with the examination of the tube by means of bougies.

Delau's classification of the sounds heard through the catheter is given:

1. A near dry sound.

(Knocking sound of Tröltsch.)

2. A near and remote mucous sound.
3. A remote fluttering sound.

(Bruit de Pavillon.)

4. A remote dry sound.

The fear of English authors in the use of the bougie or catheter in the examination and treatment of the eustachian tube and middle ear, is exclaimed against. In the course of our practice we come more and more to the frequent use of the catheter, as an adjuvant in aural therapeutics, although at first our American prejudices, derived from our English cousins, with their tradition of two patients killed by its employment, were very greatly against it. Professor Tröltsch contributes an article on "The anatomical and physiological importance of the muscles of the tube and soft palate." There is also an article from the same author on the so-called Politzer's method of rendering pervious the eustachian tube. The modus operandi of this procedure is as follows: A portion of flexible tubing attached to an India rubber bottle or bag is introduced into one nostril, which, with the other, is closed air-tight by the finger of the patient or surgeon. The patient, who has previously moistened his mouth with water, is told to

swallow, and at the same time the bottle is compressed by the hand of the surgeon. A distinct sensation of air pressing upon the membrana tympani will be felt, when there is communication between the pharyngeal extremity of the tube and the middle ear, and the pressure of the current of air will often restore the communication, if it has been interrupted, and instantaneously improve the hearing. It's greatest benefit, however, is perceived in the treatment of purulent inflammation of the cavity of the tympanum, (otorrhœa interna,) where it is necessary to apply astringents to the walls of this cavity: these agents are, of course, only of avail when the accumulated pus and mucus have been first removed. This can be effectually done by this procedure, much more so than with the well known Valsalian method, and it materially expedites the restraining of a long continuing discharge. We join with Dr. Tröltsch, who considers this an "epoch making" discovery in aural surgery, and commend it to those who have the English prejudice against the use of the catheter, as well as to all interested in the treatment of diseases of the ear, as a means by which the patient will be able to assist materially in his own treatment, using the method of inflating the middle ear, in the intervals of his visits to the consulting room. It has added to our means of *local treatment*, and this is what is very much needed by the profession in America. Kramer, of Berlin, goes so far, in his regard for local treatment, as to scout the idea of constitutional agents. This is one extreme; the drugging with blue mass, corrosive sublimate, iodide of potassium, to the exclusion of all local interference, is the other; and here, as in other matters, the middle course will be found the better one. There is, it is to be feared, an element of the marvellous in many of the tales of cures said to have been effected by constitutional agents. We know, moreover, the credulity of ear patients, their willingness to believe they hear better for the first few weeks of any treatment. The only proper method is to take the hearing distance with the watch at the beginning and end of the treatment, in a given case, and thus ascertain by an unmistakable test the curative or remedial value of any line of treatment.

Passing over the two remaining articles of the first number of the Archives, we go on to notice the second, being the last which has reached this side of the ocean.

*A. Lucae,* in an article entitled "The respiratory movements of the membrana tympani," shows that in some cases, in an unperforated membrana tympani, there is movement outwards of this membrane during inspiration, and inwards during expiration. The paper gives two very interesting cases, which, as far as they go, tend to show that a move-

ment of the upper segment of the membrana tympani, synchronous with respiration, is a normal condition of things. In connection with the movement of the drum, there was a rising upwards of the uvula during inspiration, and downwards during expiration. At a time when there was catarrhal inflammation of the throat, and when the respiratory action was impeded, no motion of the drum took place. Dr. Lucae remarks, "It is not improbable that all affections, which have as a consequence, any interference with the respiratory function, also indirectly hinder each respiratory action of the ear, and thereby may provoke certain diseases of that organ."

Dr. Lucae confirmed this opinion by examinations of patients with lung affections, in the Charity Hospital in Berlin. He also promises us further investigations as to the latter point.

Dr. Von Conta presents a new method of measuring the hearing power, which consists essentially in the use of a tuning fork, the number of seconds in which the vibrations continue to be heard being the measure of the hearing power.

Toynbee presents interesting cases of necrosis of the internal ear, (translated into German by Dr. Moos, of Heidelberg,) and Dr. Tröltsch adds thereto Dr. Agnew's case, taken from the American translation of Tröltsch's Diseases of the Ear. Dr. Moos presents two cases of the use of Toynbee's artificial drum, in which the hearing was improved, but only to a slight degree—for the watch, one inch—and then proceeds to argue against Toynbee's theory of the method of action of the artificial membrane, with which our readers are familiar, and believes that he has shown "that the artificial drum improves the hearing by an increase of the intra-auricular pressure, (whatever this may be,) and that the effect of this pressure and the improvement in the hearing may last a short time after the removal of the little instrument."

The profession is as yet undecided as to the practical value of Toynbee's artificial drum, but we are sometimes astonished to find what an amount of hearing power may be retained, with the drum nearly swept away, if the incus and stapes remain, and the cavity of the tympanum be kept free from accumulations of mucus and pus, and this without any artificial membrane. Twelve inches with a watch (heard by a normal hearing person forty-eight inches) is not an unusual amount of hearing power in such cases.

Dr. Auspitz, a former first assistant to Professor Hebra, furnishes a very interesting article on "Eczema of the External Ear," of which we feel bound to give our readers something of an idea, as giving the

views of the most distinguished dermatologist of the present day. The characteristics of eczema occurring in this region are as follows:

1. Swelling of a high degree.
2. A considerable secretion of serous fluid.
3. The common appearance of fissures (rhagades) in the integument.
4. The closure of the external auditory canal and the deafness.

Therapeutically it is remarked that the most commonly used inward remedies, that is the so-called solvents and blood purifying decoctions, have no influence upon the eczema itself, although it is not denied that continued obstruction of the intestinal canal may affect the general health, and therewith render worse the condition of the skin.

Of all the internal remedies in common use, arsenic is most highly esteemed, either in the form of Fowler's or Pearson's solution, or the Asiatic pills. "The principal rule in the treatment of eczema is to do as little as possible. The affected portion must be protected from the air; many cases are cured simply by this means alone. I once saw an extensive eczema of a lower limb completely cured by the use of a plaster of Paris bandage."

The following prescription (which is a favorite one of one of our most skillful physicians in New York) is given as a good application to be applied very often, by means of a camel's hair brush, and which will generally relieve the itching and burning of the part; sometimes, however, it will not be borne in excoriated portions, and then cold lotions or mild astringents may be applied:

℞. Flor. Zinc, ʒij.
Alum Pulv.
Amyli puri., *aa* ʒi.—M.
F. Pulv.

It is recommended to fill the external auditory canal with oil, and close the orifice with cotton, doing this several times a day. We must dissent, *in toto*, from this last recommended procedure. We believe that the use of warm water, allowing it to remain in the ear a very few minutes at a time, will be found equally efficacious, and it is not open to the objection of so stuffing up the canal as materially to increase the deafness. Eczema of the auricle will be found most hard to manage.

The formula for Hebra's celebrated unguentum diachylon is given as follows:

℞. Ol. Oliv. Op., ʒxv.
Lithargyri, ʒvi. et ʒvi.
Coq. in unge. molle dein adde, Ol. Lavand. ʒij.—M.
F. Ung.

Apply this salve to the affected part, then cover it with cotton.

We must barely notice the remaining contents, as we hasten on to Dr. Schwarze's valuable little book. Dr. Schwarze contributes a number of interesting cases, and Dr. Voltolini an article on the removal of foreign bodies from the external auditory canal. The doctor finds syringing, with the position of the head adapted to the situation of the foreign body in the meatus, an adequate means for the removal of most of them. Dr. Politzer, of Vienna, concludes a "physiological sketch," on the existence of the triangular light spot on the membrane of the tympanum, with the following words: "From what has been said we conclude, that the origin, the position and shape of the triangular light spot (lichtkegel) depend upon the angle of the membrana tympani in relation to the auditory canal, together with the situation of the anterior and lower portion of the drum in relation to the axis of the canal, which position occurs as the result of the traction of the handle of malleus."

There can be no doubt that the careful study of the triangular light spot, or "speck of bright light," seen in a normal drum just below the extremity of the handle of the malleus, is of great importance in the diagnosis of aural disease. If the conclusions of Dr. Politzer be correct, they will assist us materially in our deductions.

To those who wish to keep pace with the scientific progress in aural surgery, we can but commend this new Journal, and we hope some of the more important papers will be reproduced for the benefit of the profession in America.

As we have already said, Dr. Schwarze's book, "Contributions to Practical Aural Surgery," contains a table of 250 cases, taken without choice from his practice.

We present this table for the sake of the nomenclature, which we hope may displace the unscientific system, which now so generally obtains, in the classification of aural disease.

It will be remarked here that "Chronic Myringitis" does not play the important part which is given it in Wilde's generally excellent text-book. There is scarcely any doubt but that Sir William Wilde understands by chronic myringitis a condition of things exactly identical with that of the later writers, who name it chronic catarrhal inflammation of the middle ear; but the former writer seems to have supposed that the morbid process *began* in the membrana tympani instead of *ending* there, although he states,* "The whole train of symptoms are evidently the result of slow chronic inflammation, affect-

*Page 282, Diseases of the Ear, English Edition.

ing, in all probability, the lining of the cavity as well as the membrane of the drum, like repeated attacks of choroido-iritis in the eye."

Our own statistics as to the frequency of *primary* myringitis, acute or chronic, fully corroborate those of Dr. Schwarze. It seems one of the more rare of aural affections, instead of ranking so high as "one in six," (Wilde.)

A TABLE OF 250 CASES OF DISEASES OF THE EAR.

| | Whole No. | Cured. | Improved. | Unimproved. | Died. | Not Treated. |
|---|---|---|---|---|---|---|
| Eczema Auriculæ Chronica | 5 | 3 | 1 | 1 | .. | .. |
| Seborrhoe Meatus Ext. | 2 | 2 | .. | .. | .. | .. |
| Inspissated Cerumen | 31 | 23 | 8 | .. | .. | .. |
| Furunculus Meat. Ext | 9 | 9 | .. | .. | .. | .. |
| Otitis Externa Diffusa | 13 | 12 | 1 | .. | .. | .. |
| Myringitis Acuta | 8 | 8 | .. | .. | .. | .. |
| Myringitis Chronica. | 5 | .... | 5 | .. | .. | .. |
| Ruptura Membran. Tympani | 2 | 1 | .. | 1 | .. | .. |
| Catarrh, aur. Media, *Simple Acute* | 4 | 4 | .. | .. | .. | .. |
| " " *Simple Chronic* | 73 | 7 | 32 | 8 | .. | 26 |
| Otitis med. Acuta, (with inflammation of mastoid process, 3.) | 14 | 11 | 1 | .. | 2 | 18 |
| Otitis med. Chronica, (with caries, 3; with formation of polypi, 7.) | 59 | 13 | 25 | 3 | .. | .. |
| Periostitis ext. processus mastodei | 1 | 1 | .. | .. | .. | .. |
| Neuralgia plex. tympanica | 2 | 2 | .. | .. | .. | .. |
| Effusion of blood in the middle ear | 1 | 1 | .. | .. | .. | .. |
| Cophosis Nervosa | 21 | 4 | 3 | 9 | .. | 5 |
| | 250 | 101 | 76 | 22 | 2 | 49 |

Dr. Schwarze has followed Toynbee in rejecting the term *Otorrhœa*. We may thank him for this; even with its explaining affix, *externa* or *interna*, it is a vague and unscientific name for the affection comprehended by it, and we are glad to see it banished. Let us also designate what was formerly classified as otorrhœa externa, as external purulent otitis, or myringitis purulenta, as the case may be; and otorrhœa interna as purulent inflammation of the middle ear. The various complications, fungous or polypoid growths, caries, etc., can be simply enough indicated, in the way of addenda. The importance of a right system of nomenclature in any science cannot well be overestimated, and as we go deeper in our investigations our classification is sure to become simpler and more expressive. Nowhere is the truth of these statements more fully illustrated than in aural surgery.

We heartily commend to our readers Dr. Schwarze's little book, which we cannot at this time more fully notice, while we anticipate much in the future from the labors of himself and the distinguished German Aurists, who are associated together in the good work of increasing our scientific knowledge in this branch of our profession.

*Influence de la Physiologie Moderne Sur le Médecine Pratique.* Par A. Berne et X. Delore. Paris: Victor Masson et Fils, 1864, pp. 460.

We are told in the preface to this book that, in 1861, the Imperial Academy of Sciences of Toulouse proposed the following question for consideration: "What are the positive results which experimental physiology has contributed to clinical medicine since the commencement of the nineteenth century?" and that the prize was awarded to the essay before us, as the best which had been offered.

Coming thus into the world under very favorable circumstances—being in a position analogous to that of those favored individuals who are said to be "born with silver spoons in their mouths"—we have a right to expect that the volume, which is the product of MM. Berne and Delore's joint investigations, should fully and fairly set forth the advantages which practical medicine and surgery have derived from the labors of physiologists in all parts of the world. That it is a lamentable failure in this respect will be apparent to any person who, knowing what has been done by English, German, Italian and American physiologists, looks through it pages for the evidence that the authors have even a tolerable knowledge of the progress of physiological science outside of that limited portion of the earth's surface known as the Empire of France.

In support of this assertion, it is only necessary to state that MM. Berne and Delore, in their remarks on the modern discoveries relative to the physiology of the liver, omit all mention of Pavy, Reichert, E. H. Weber, Lehmann, Kölliker, Moleschott, Frerichs, or Flint, Jr.; that, when speaking of the applications of chemistry to the knowledge of urinary calculi, the excellent monograph of Thudichum is not even referred to; that under the head of the spleen nothing is said of Gray, Crisp or Bilroth; that, when considering the urine, the contributions of Harley, Hassal, Houghton, and all the German physiologists, with the exception of Schiff, Valentine, Moleschott and Frerichs, (spelt Frerisch by the authors,) are overlooked, and that not a single American physiologist is mentioned in this connection; and that, when treating of the applications of electricity to the treatment of medical and surgical diseases, nothing whatever is said of Matteucci or Middeldorpf.

MM. Berne and Delore are certainly not very familiar with either the English or German language, or they would not make so many absurd mistakes in the spelling of the names of authors from whom they quote. Thus: Wells is *Wels;* Remak, *Remack;* Wharton, *Warthon;* Todd, *Todde;* Shaw, *Schaw;* Steenstrup, *Stemstrup;* Lindmann, *Liedmann,* &c., &c.

The work before us is not, therefore, what it ought to be, and our readers will find a far more complete and satisfactory account of what modern physiology has contributed to practical medicine and surgery in the last editions of either Carpenter's or Dalton's treatises, than in the pretentious, but shallow attempt of MM. Berne and Delore.

---

*The Functions and Disorders of the Reproductive Organs in Childhood, Youth, Adult Age and Advanced Life, Considered in their Philosophical, Social and Moral Relations.* By William Acton, M.R.C.S., etc. From the last London Edition. Philadelphia: Lindsay & Blackiston, 1865.

The subject upon which Mr. Acton has chosen to write is one of undoubted importance to the whole human family, but one which has, by no means, received that careful and conscientious attention from scientific physicians which its gravity demands. To treat such a subject properly requires not only scientific ability, but also no small amount of Christian charity, gentlemanly delicacy, and moral force. We took up Mr. Acton's volume, therefore, with many forebodings, having in mind the failures which others had made in their attempts to enlighten mankind in this direction; how either their ideas were concealed under mysterious forms of expressions which no one but experts could understand, or else set forth with all the embellishments which a prurient imagination, or an utter disregard for truth, could give to them. But having given it a careful perusal, we are free to admit that he has performed his allotted task with a degree of thoroughness, simplicity and forbearance which are truly admirable. It is not a book to be put into the hands of young girls or boys, any more than we would give them treatises on obstetrics or surgery to read. It is one, however, which thoughtful men and women may study to advantage, and to such we most heartily commend it, if not for their own benefit, at least for the advantage of those who may be dependent upon them for their moral and physical training.

We are aware that a great outcry is made by some members of the profession whenever a physician writes a medical book for the public. It is to this hesitation of competent medical men to enlighten the people upon matters which they are fully capable of understanding that the hold which charlatanism has upon the popular mind is, in a great measure, to be ascribed. The medical profession has nothing to

fear from the most thorough instruction of the people upon those matters of every-day life which concern their health. The more complete the knowledge they may obtain on such points, the more fully will they appreciate the labors of those whose special duty it is to care for them when they are ill. As it is now, nearly the whole of the popular medical literature of the world has emanated from ignorant and heartless quacks, whose only objects are such as tend to their own aggrandisement. We hope the day is not far distant when all this will be change; and, regarding it as a step in the right direction, we extend a cordial welcome to Dr. Acton's treatise.

---

# PROGRESS OF THE MEDICAL SCIENCE.

## I.—HYGIENE.

1. From an interesting paper on the *Medical History of England*, by Dr. B. W. Richardson, we make the following extracts. The *Medical History of Birmingham* is under consideration. At present, when the sanitary condition of our own city is attracting much interest, the researches and experience of Dr. Richardson will doubtless be read with attention.

### Streets and Dwellings of the Poor.

The streets of Birmingham are very irregular; but as a rule they are wide, well paved, and clean. The houses are dingy, I presume, from deposit of carbon, and the town consequently has a gloomy appearance when compared with towns free from the manufactory and workshop. In the dwellings of the poor overcrowding does not present itself in a marked degree; for of late years large numbers of small houses, giving a rental of from 3s. 6d to 5s. per week, have been erected, to the great advantage and comfort of the artisan classes.

From the results of the last census, it appears that in Birmingham every hundred persons possess 1.25 acres for space; and that the average number of persons to each house is 5.01.

### Drainage.

The drainage of Birmingham is as yet very defective. Prior to 1851 a system of sewers was carried out, and since then up to 1861 further advances have been made. I find by a map which the town surveyor has been so good as to lend me, and in which the system of sewerage, actual and projected, is very perfectly marked out, that the central part of the town is thoroughly intersected with sewers, and that, in fact, there is no district in which there are no sewers. But still, if the town is ultimately to be placed on a complete system, there remains a vast network of sewers to be constructed. At the close of the year 1863 the length of the sewers completed was 74½ miles, and the length remaining to be completed was 51½ miles. In the absence of

sewers, cesspools are made to suffice, and while the whole question of disposal and utilization of the debris of this immense population is under consideration, there are, I understand, many advocates for an improved method of cesspit convenience as against the extension of sewer. Amongst these Mr. Edwin Chesshire is foremost. He, as is well known, has devised an intercepting tank or catch-pit for the reception of the solid portions of sewers.

Mr. Chesshire's "catch-pit," or intercepting tank, is so constructed that it may be applied either to a common privy, in lieu of an ash pit, or to a water closet at some point intermediate between the seat and the sewer, catching the excreta of the household, and retaining the solid or valuable portion in a portable form, while the liquid passes away into the sewers.

The plan or form at present preferred is that of an iron box, large enough to hold the solid part of the excreta of an average household for from eight to twelve months, and yet, when full, within the power of two strong men to lift. The pipe from the privy, or closet, passes into the top of the box, by preference, at the opposite corner to the outlet or waste pipe, which, placed at the bottom of the box, is divided from the main part by a perforated grating extending across the corner, and the whole height of the box. Except as to the inlet and outlet pipes, the box is hermetically sealed, though the lid can be readily removed when it is desirable to empty it. The connection of the inlet and outlet pipes to the box can also readily be separated and remade. The boxes are all made to particular gauges. A full one can be removed and an empty one put in its place in five or ten minutes, and this, if necessary, may be done in the day-time, without any annoyance to the household, neighbors, or passers-by.

Mr. Chesshire has set up in his own house, or rather immediately outside of it, one of these intercepting tanks, and he was kind enough to explain to me its action. It unquestionably works well, and with infinitely less of trouble than would at first be assumed. If his system were generally adopted, it would follow that a system of sewers would still be required for the conveyance away of the liquid part of the sewage. But it is urged very forcibly that the construction of sewers for this intention would be comparatively simple and inexpensive; that as the quantity of water that passes out of a town, where there is no flooding from rivers or marshes, cannot be much greater than the supply of water into the town, a system of efferent pipes like to those that bring in water would suffice; and that fluid sewage thus carried away might easily be caught and afterwards utilized. But I must not trespass further on this ground; suffice, that if the "Chesshire" tank were adopted on a general scale, there seems to be no town in which it could be applied with better chance of success than Birmingham.

### Diet of the People.—Dining Halls.

I find amongst my medical brethren an unanimous expression of opinion that the whole population of Birmingham is well fed. The lowest classes obtain animal food at least once a day. Pork is the staple article of animal food amongst the lower classes. Drunkenness is not so marked a vice as in many other towns. There is no comparison between Birmingham and London in this respect. I made a night survey twice in Birmingham to see the worst of it, and was most agreeably surprised at the quiet and sobriety that prevailed. Of course, drunken men and drunken women, too, were met with, but I could go into one particular street in London, I think, at any hour

between sunset and midnight, and could find more helplessly drunken wretches there than I saw in many hours of night peregrination in all Birmingham.

The dining-hall movement, commenced so happily and continued so successfully in Glasgow, has been followed up in Birmingham with equal satisfaction. The halls are fitted up with great taste and comfort, the waiting is excellent, and the provisions all that could be desired. You enter the hall and find a ticket keeper at hand, who tells you the bill of fare. Soup, 1d. a dish; haricot mutton, or roast beef, or boiled mutton, or other similar dish, 1d.; vegetables, 1d.; bread and cheese, 1d. Fourpence for a good dinner. Daniel Lambert himself could hardly spend a shilling over one meal. I paid a visit to one of the halls for luncheon, and had soup for a penny that was perfect of its kind, and saw a hundred people dining as neatly as at a London club, and more comfortably than in the majority of eating-houses. The capital of the company that has started the dining-halls is £5,000, in 250 shares of £20 each. The calls are £1 a share, and never exceed £2, an interval of three months occurring between each call.

Small as these sums appear, and small as the profits would appear, the experiment in Birmingham succeeds. The business done is enormous. School boys dine in the halls, artisans dine there, workwomen dine there, clerks and others lunch or dine there, and many send at luncheon hours for a fourpenny meal, which answers for a dinner. And the best of all is, that the people are well fed. If in London a number of companies were formed, and the movement were more actively carried out than it has been so far, establishments as useful as profitable would soon rise in every thickly-peopled locality, where good food, ready cooked, is asked for at the cheapest possible rate.—*Medical Times and Gazette.*

## SURGERY.

2. *Abstract of a Paper on the Difference of the Sensibility of Joints.* By James W. Bell, M. D. Rochester.

The author pointed out the difficulty of foreseeing the amount of mischief that may ensue upon any injury of joint, in consequence of difference in the susceptibility of joints. This difference is due to the following causes: *a*, anatomical and physiological; *b*, diathetic; *c*, morbid state of system present at the period of injury; *d*, accidental.

The author recommended the removal of dead portions of bone from the cavity of joints, in the place of excision, in selected cases, and at a medium period, viz., neither too hastily nor too tardily.

Dr. Bell narrated the heads of several cases.

Case I. A publican sustained a compound comminuted fracture of the patella by a fall from a cart. The recovery was perfect. The treatment consisted in the application of twelve leeches within the first twenty-four hours; and in the use of tartarated antimony, digitalis and opium, for a fortnight, and of iodide of potassium subsequently.

Case II. A man met with compound comminuted fracture of the olecranon. Unhealthy inflammation of the soft parts supervened on the fourth day; the joint became disorganized; pyæmia occurred; and death was the result.

Case III. A man received a lacerated wound of the knee-joint without injury of the bones. Traumatic delirium set in on the fifth day; and death occurred about the tenth day.

Case IV. was that of a youth whose knee-joint was twice injected with iodine without the supervention of much local inflammation or general disturbance.—*British Medical Journal.*

3. *Case of Excision of Portion of the Lower Jaw.* By Glascott R. Symes, one of the Surgeons of Steevens' Hospital.

E. McG., aged 45, was admitted into hospital May 13, 1864, under my care. For some four months previous to admission he had observed a swelling on the right side of the lower jaw, from the outer incisor to the first molar tooth. This gradually increased, until eventually he was obliged to apply for relief. He experienced very little pain, except when it was subjected to rough treatment by those examining it.

On admission, the tumor was about one inch and a half in its horizontal diameter, and three-quarters of an inch in its vertical. The appearance presented externally was not likely to attract much attention, as the skin was not discolored nor engaged in any way; altogether he seemed to be suffering from an ordinary gum-boil. The bicuspid and all the molar teeth were decayed. The mucous membrane covering the tumor was not attached to it so closely but that it might be moved over it, nor was it discolored. The sense of touch revealed that the growth was not osseous, though of a resisting nature, still a certain amount of elasticity could be discerned. I inserted a grooved needle into the mass, and in the direction of the centre of the bone. It passed in for a considerable depth, so far, that I was expecting to see the point appearing beneath the tongue. Nothing followed the introduction of the needle but a few drops of blood. The mass was not movable on the bone, nor was it pedunculated.

On the 21st of May I proceeded to remove the portion of the jaw which was engaged in the disease. My friend, Dr. Grimshaw, Jr., assisted me materially by first extracting the incisor on the left side, and the stump of the second molar on the right side. The patient was placed in the sitting posture, and as he did not wish for chloroform it was not administered. With a sharp-pointed scalpel I transfixed the lower lip below the red border, and carried the incision down about half an inch below the prominent edge of the lower jaw; the saw was now applied, when the symphysis was rapidly divided. The knife was now carried along the horizontal ramus of the jaw to a point opposite the second molar tooth. A vertical incision was made perpendicular to the extremity of the horizontal one; it extended below the border of the bone. The three incisions were in the form of the letter H. The saw was again applied, and the bone quickly sawn through, an assistant having held it steady by grasping it firmly with a strong crow-billed forceps. The intervening piece of bone, including the disease, was removed by a few touches of the knife. The facial was the principal artery requiring ligature. The inferior dental was considerably enlarged, and spouted freely. The hemorrhage from it was restrained by inserting a small wooden plug into the dental canal. The wound was drawn together by points of hare-lip suture. The greater portion of the wound healed by the first intention; but at the posterior inferior angle, where the sub-maxillary gland was implicated

in the necessary incisions, a considerable time elapsed before union took place; the saliva and thick mucus, along with much of the fluid which he attempted to drink, passed through the opening. However, in the course of time this also healed up, and he left the hospital in about four weeks after the operation. I have seen him within the last three weeks. There is no return of the disease. He is very slightly marked, so little that none but an experienced eye could detect the line of the incision. He has allowed his whisker to grow down, so as to cover the spot, which took some time in healing, where the skin is slightly puckered. The substance by which the gap between the ends of the bone have been filled up is of cartilaginous consistence, and, except in the matter of articulation, he is as well as before the appearance of the disease.

A great number of cases of excision of various portions of the lower jaw have from time to time occurred in Steevens' Hospital, especially in the time of the late Mr. Cusack. Many happy suggestions were made from them by that experienced surgeon in reference to important points in the operation. It was his habit, if possible, not to cut through the red border of the lips; thus there was very little deformity afterwards, and not only that, but the undivided lip served far better than any sutures in keeping the edges of the wound in apposition. I have heard that this was proposed to him by the late Mr. Maclean, the celebrated dentist; and, indeed, many important improvements, especially in the matter of instruments and surgical appliances, have emanated from the gentlemen of this profession. It is always well to have an assistant at hand to draw any teeth that may be in the way. Although a simple operation, yet nothing is so likely to discompose an operator as when he is baffled by a tight tooth and generally, especially if the disease has lasted for a long time, the teeth are much longer and more tightly set in the alveolar process than what is usual. I find the best saw to use is Weiss' small straight tennon saw; it cuts through very rapidly, it can be used in any situation, and is much more manageable than the chain saw. One of the most important points of the operation consists in the situation of the horizontal incision; it should be made high up on the lower jaw, on a level with the teeth. In this way the facial artery does not retract much; but if the incision be made too low down the artery retracts into the substance of the sub-maxillary gland, and the surgeon will experience the greatest difficulty in securing the vessel. I know of a case where this mistake was made, and the patient had lost an alarming quantity of blood, when the greater portion of the gland had to be included in a ligature before the hemorrhage ceased. As to the occurrence of salivary fistula, we have found that it is only likely to occur where the parotid gland or its duct have been divided. Such an unfortunate *contre temps* does not usually take place when the sub-maxillary and its duct have been crossed by the line of incision.

On examining the tumor, I found it to be one of the myloid variety which has been so ably described by Mr. Paget. The outer table of the bone had been completely absorbed, the mass was lying immediately beneath the periosteum. This could readily be dissected off, at once showing that the tumor was not malignant. When a section was made, the disease was found to have commenced in the interior of the bone, probably at the dental canal, which could still be traced. The whole thickness of the bone had been absorbed, with the exception of a thin layer at the inner side. The cut surface presented a homogeneous appearance of the consistence of an apple. It had a

lightly purplish hue of a mottled character, which, at the time, I thought to have been caused by the introduction of a grooved needle into it; but since I have ascertained that this is a frequent appearance presented by myloid tumors. The microscope revealed the existence of the characteristic many-nucleated corpuscles.—*Dublin Medical Press.*

4. *Laceration of Foot.—Tetanus.—Recovery, after removal of a Splinter of Bone.* By C. F. Broadbent, Esq., Surgeon to the Lincoln County Hospital.

W. C., aged 32, was admitted at midnight on June 13th, 1863, under the care of Mr. Broadbent. About an hour previously to his admission his right foot was injured, being run over by the wheel of a traction-engine. The foot was severely crushed; a large flap of integument on the dorsum of the foot was torn up, exposing the metatarsal bone of the great toe, which was fractured. The other metatarsal bones were not fractured. The sole of the foot was also severely lacerated, and felt pulpy and disorganized. A moderate amount of blood had been lost; and there was still some hemorrhage, which appeared to come mostly from the sole of the foot. The heel and ankle-joint were not injured. The limb was dressed with wet lint; and a sedative draught was given.

June 16th. On removing the dressings this morning the foot presented a sloughy appearance; the great toe was gangrenous. A consultation was called; and it was not thought advisable to interfere, as the vitality of the posterior part of the foot was good, and the man of strong constitution. The sloughy and disorganized portions were slit up with a bistoury, and a charcoal poultice was applied.

June 17th. The gangrene was not extending. A line of demarcation was apparently forming round the sole and dorsum of the foot.

June 29th. Since the last report, the gangrenous toe had separated; the fractured portion of metatarsal bone had been removed; the sloughs had all separated; and now the foot presented a healthy granulating surface; but on the previous night he complained of sore-throat, and this morning he could open his mouth only sufficiently wide to admit one finger. The muscles of the neck were very hard. He was ordered to have extract of cannabis Indica, beef-tea, and brandy. At 6 P. M. he was suddenly seized with great dyspnœa and sense of suffocation; he could only breathe in the upright position, and was not altogether conscious.

July 2d. He had continued much in the same state; but the jaw was becoming faster every day, and now it was with much difficulty that any beef-tea or brandy could be administered. The wound looked healthy; and a small splinter of bone was projecting through the granulations. A few incisions were made, and the piece of bone (a portion of the metatarsal bone of the great toe) was removed.

July 5th. Since the removal of the bone the jaw had been gradually loosening; and he could now open his mouth, and eat and drink well.

From this date he gradually improved; the wound, under stimulating applications, gradually healed; and on October 10th he was discharged.—*British Medical Journal.*

5. *Case of Strangulated Hernia: treated by Inflation of the Bowels and by Shaking the Patient while in an Inverted Position.* By Richard Griffin, Esq., Weymouth.

Case I. A short time since I visited, in consultation, a female, with symptoms of strangulated femoral hernia, which had existed for a couple of days. In consequence of several attempts at reduction, the hernia, about the size of a walnut, had become very painful, and there was some tenderness of the abdomen; vomiting was frequent, and there was no action of the bowels, although several large aperient doses and enemata had been administered. I procured a pair of bellows and passed the nozzle into the anus, an assistant holding the nates well together, so as to prevent, as much as possible, the escape of air from the bowels. The patient complained of the distension giving her pain; but the inflation was continued for about a quarter of an hour, much of the air escaping either through the bellows or by the side of the nozzle; but it was, apparently, of no benefit.

A fresh consultation was then held, when it was deemed advisable to recommend an operation. This, however, was postponed for a short time, but fortunately was not needed, In about an hour after inflation the bowels acted freely, and all symptoms of strangulation ceased; the distension having caused the forcible withdrawal of the strangulated knuckle of intestine which had prevented the peristaltic action of the bowels. The patient recovered.

Case II. In another case, to which I was called in consultation, the old woman had stercoraceous vomiting for three or four days, with constipation. The hernia was femoral and irreducible. The bellows were used in this case, as in the last; and, although they appeared at the time to have been of no avail, yet, in about an hour, a free action of the bowels took place. Unfortunately, however, there was no stopping the diarrhœa which ensued, arising from the drastic purgatives which had been administered; and the old lady died in forty-eight hours. The inflation, however, reduced the hernia; and so far was a success.

Case III. I was called in consultation to a man who had a strangulated inguinal hernia, which could not be reduced by the taxis. Purgatives and enemata had been freely administered during the preceding three days. I at once tried the bellows, which had not been used many minutes before the man called out, "You are blowing up my purse!" Such was, indeed, the fact; the scrotum having become largely distended with air, owing to a laceration in the rectum having been made with the pipe of the enema-syringe, which, I subsequently ascertained, had been so roughly used, that the man called out when the enema was being administered, and blood followed the withdrawal of the pipe. The bellows were removed, and the man immediately went to the night-stool; and a copious evacuation followed. I did not see the patient again; but I subsequently heard that he got well, and the air in the scrotum was soon absorbed.

Case IV. A fourth case has been related in one of my poor-law pamphlets, in which a strangulated hernia was reduced by the bellows; the taxis, enemas, and purgatives having previously failed.

These cases prove that, before the operation for strangulated hernia is performed, it would be well to try the effects of inflation; although this, like everything else, is sometimes liable to fail, as the following cases will prove; superadded to which, shaking the patient whilst in the inverted position also failed.

Case V. A man with scrotal hernia, to whom I was called in consultation, had all the usual remedies tried, including inflation of the bowels, but in vain. He was then hoisted with his knees over my medical friend's shoulders, and lifted in that position until only his head touched the bed, and had a thorough good shaking. The intestine, however, was too tightly held to be dragged from its position by this procedure; he was, therefore, obliged to submit to an operation, by which he was cured.

Case VI. A lady, very stout, about 50 years of age, who had suffered for years with an irreducible umbilical hernia, for which she wore a supporting abdominal-belt, having one day used a little extra exertion, came home fatigued, and complained of pain in the bowels, followed by sickness and constipation. Enemata, salines in a state of effervescence, then opium, and finally purgatives, with inflation of the bowels, were tried, together with the taxis; but the hernia could not be reduced. A former medical attendant of the lady was then summoned from a distance; and, on his arrival, he suggested that shaking in the inverted position should be tried. Accordingly, the patient's knees were placed over his shoulders, with her legs hanging down his back, and, with the assistance of several persons present, he gradually raised himself into an upright position, the patient's head only touching the bed. He then gave her two or three good shakings, which did not occupy more than a minute or two; but, on looking at the patient's face, I discovered that breathing had ceased, and she was pulseless. We instantly placed her in the recumbent position; the window was thrown open; and a napkin, with the end dipped in water, was very freely applied to the face and chest, the slaps from it being anything but gentle. In a few minutes there was a slight sigh; and, after a short time, we had the pleasure of having our patient in no worse a state than before the attempt at reduction by shaking; but it was felt to be a painfully narrow escape by all present, and may serve as a warning, not to be disregarded by medical men, that they ought to be careful how they turn stout people topsy-turvy. A medical gentleman from Bath was telegraphed for; but, in spite of the efforts of four surgeons, our patient gradually became worse, and died. As we were not permitted to have a *post mortem* examination, the precise cause of death was not ascertained.—*British Medical Journal.*

6. *Forcible Dilatation in Painful Spasmodic Affections of the Urethra and Bladder.*

Dr. Adolphe Richard, of Paris, has recently brought before the "Société de Médicine de la Seine" this plan of treatment, which he has imagined, and considers somewhat empirical. He states that whenever neuralgia is not evident, the seat of pain must be looked for in the muscles, as in uterine colic, stone in the bladder, fissura in ano, etc., and it is produced by reflex action, originated in a manner not as yet well ascertained. Dr. Richard says, that forcible dilatation will cure the severe pain in spasmodic contraction of the neck of the bladder. He has successfully performed lithotomy, when there were violent pain and constant incontinence of urine, with increasing exhaustion of the subject, without any evidence, however, of stone in the

bladder. He performed the operation with a perfect knowledge of this latter circumstance, expecting to improve the condition of the patient, who was immediately relieved and got completely well. Dr. Richard has likewise applied forcible dilatation to cure spermatorrhœa. Looking upon this disease as frequently the hallucination of hypochondriac or nervous subjects, he only considers fit for his treatment those who are in the habit of experiencing a daily loss of semen. The plan has been tried in about twelve cases with a variable result, sometimes giving great relief, and in others producing a complete cure.

It is strange that Dr. Richard should call empirical the treatment he advocates, when it naturally suggests itself from what physiology proves to be the source of those reflex actions, which seem, to the French surgeon, not well known. Matteucci and Du Bois Reymond have demonstrated that a change in the galvanic state of the muscle, causing excitation of the nerve, is the cause of pain in the muscles, referred to by Richard. The first of these eminent physiologists states that a galvanic discharge and the muscular contraction always accompany each other; whilst the second thinks that a diminution takes place in the current of the muscle when it contracts; the electric change determining in either theories the irritation of the nerve and pain. In addition, Brown-Séquard proves that it is sufficient that a muscle tend to contract, to produce galvanic excitation of the nerves. Hereupon it is easy to perceive how forcible dilatation, or tenotomy, is so effectual to make pain disappear after destroying the resistance of the muscles—the true efficient cause of the reflex actions producing it. Neither should Dr. Richard be considered as the first to apply this important physiological fact to the practice of surgery. Professor William H. Van Buren, of the University of this city, has insisted, in a very interesting paper read before the New York Academy of Medicine, on the advantages of forcible dilatation in the treatment of painful affections of the rectum. He is, perhaps, the first to demonstrate practically, and to bring forward, that such means is an important element of cure in many affections of the rectum; and that in all the cases it immediately removes the pain, being the simplest and most effectual remedy for fissure and irritative ulcer of the rectum: facts which perfectly agree with the rational and broader application of this treatment made by Richard, to the painful spasmodic affections of the urethra and bladder.

---

## EDITORIAL.

— We perceive, from an advertisement in the New York *Evening Post* of March 21st, 1865, published by order of Maj.-Gen. Gillmore, commanding the Department of the South, that one of the leaders of the

conspiracy which resulted in the removal of Dr. William A. Hammond from the office of Surgeon General, has met with the retribution he so justly deserves. This individual, Silas H. Swetland, being at the time an agent for one of the States at Washington, importuned Dr. Hammond to give him the appointment of Inspector of Liquors for the Medical Department, alleging that the Medical Purveyors knew nothing about this part of their duty. His application was enforced by a document signed by several members of Congress.

Dr. Hammond refused to do so for the reasons that no such office was known to the law, and that a system was already in operation, by which all liquors purchased by orders from his office were examined chemically; and that as regarded the others, the Medical Purveyors were as competent to judge of the good quality of all their supplies as was Mr. Swetland.

Swetland then went to the Secretary of War with his complaints, and the next that is heard of him is as an agent of the infamous Reeder Commission, searching the hospitals for specimens of bad liquors and medicines. After he had performed what was expected of him in this capacity, he was appointed by Mr. Stanton a captain in the Commissary Department, and ordered to the Department of the South.

As was to have been anticipated, the man who perverted facts and fabricated falsehoods, to accomplish the downfall of an innocent person, has gone so far in his course of iniquity that he has at length destroyed himself. By virtue of special orders from the head-quarters of the District of Florida, he has been tried upon the charge of "Fraud," in support of which sixteen specifications were adduced, all alleging the appropriation of public supplies and funds to his own use. The sixteenth was dropped by the prosecution, but of the remaining fifteen specifications and of the charge he was found guilty. The following is the sentence of the court martial:

"And the court do therefore sentence him, Captain Silas H. Swetland, Commissary of Subsistence Volunteers, to be cashiered, with the loss of all pay and allowances now due, or to become due; to be fined ($5,000) five thousand dollars; to be imprisoned for one year in such prison or penitentiary as the proper authorities may direct; and the sentence to be published as provided in the 85th Article of War."

General Gillmore's orders in the case are as follows:

"The proceedings, findings, and sentence in the foregoing case having been approved by the officer appointing the court, and submitted to the Major General commanding the Department, the same are hereby approved and confirmed. Captain Swetland ceases to be an officer of the United States from the date of the publication of this order. He

will be confined under charge of the Provost Marshal of the District of Florida, until authority is received from the Secretary of War to send him to the penitentiary at Albany, New York, which is designated as the place of his punishment.

"By command of Major-General Q. A. Gillmore.

"W. S. M. Burger,

"Assistant Adjutant General."

The 85th Article of War referred to in the foregoing sentence is as follows:

"In all cases where a commissioned officer is cashiered for cowardice or fraud, it shall be added in the sentence that the crime, name, and place of abode, and punishment of the delinquent be published in the newspapers in and about the camp, and of the particular State from which the offender came, or where he usually resides; after which it shall be deemed scandalous for an officer to associate with him."

Further comment is reserved for the present.

— The next session of the American Ophthalmological Society will take place at the New York Eye and Ear Infirmary, commencing Tuesday, June 13th, 1865. The subject for discussion proposed at the last meeting, is "The Morbid Conditions, Functional and Organic, included under the name of Asthenopia; their pathology and treatment."

The wonderful studies and discoveries of Donders, Graefe and others relative to the disturbances of accommodation have so important a bearing on this subject that the discussion cannot fail to be very interesting.

Papers and communications on all Ophthalmological subjects will be presented.

— Dr. J. Foster Jenkins has resigned the Secretaryship of the United States Sanitary Commission, which office he has held with honor to himself and benefit to the Army and Navy for nearly two years past. In resuming the practice of his profession, Dr. Jenkins takes with him the sincere regard and esteem of all with whom he has been associated in his late important office.

— The Medical Department of the University of Michigan is in a highly prosperous condition. The last class was the largest (over 400) ever assembled west of the Alleghany Mountains.

—Dr. J. Marion Sims has received the order of the Legion of Honor from the Emperor of France.

# NEW YORK
# MEDICAL JOURNAL,

A MONTHLY RECORD OF MEDICINE AND THE COLLATERAL SCIENCES.

JULY, 1865.


## ORIGINAL COMMUNICATIONS.

### *On the Sympathy between the Ovaries and the Pharynx.* By M. Gonzalez Echeverria, M.D.

[Read before the New York Obstetrical Society, April 4, 1865.]

The facts I am about to bring before the attention of the Society seem to have escaped notice, notwithstanding their frequent occurrence, and point out the relation between ovarian derangements and inflammation of the pharynx. We are all familiar with the influence of gestation on the thyroid gland, producing an enlargement, in some cases extensive enough to prove fatal to life. The same enlargement may attend menstruation; while a constriction in the throat, or rather a sensation of thirst, is frequently present in diseases of the womb, although the mouth or pharnyx be not parched or dry. Diseases of the rectum may likewise be the origin of distant affections of the throat and lungs. But, as far as I have been able to ascertain, no special reference has ever been made by authors to the metastatic sympathy between the ovaries and the pharynx, excepting in an article published by Dr. James, in the *London Medical Times and Gazette, September* 3, 1859, in which the author states that he has observed several cases

of cynanche tonsillaris attended with symptoms of ovarian trouble, and reports one instance of the former existing along with ovaritis, but supervening upon exposure of the patient to sudden cold during the menstrual period. It appears, indeed, that the similarity between the physiological functions of the testicles and ovaries continues with their morbid derangements, for besides the acknowledged relation of parotitis and orchitis, it has been shown by Dr. A. Verneuil, of Paris, *(Gazette Hebdomadaire de Médecine et Chirurgie, Tome V.*, 1858, *p.* 462,) that effusion into the tunica vaginalis of the testicle and inflammation of the throat frequently accompany each other.

For a long time I have studied the phenomena of metastasis to ascertain in what manner and degree they were subject to the influence of the nervous system, and I will here allude briefly to the examples afforded by utero-ovarian disease as directly inducing those of the throat. Let it be, however, remembered, that I leave aside those instances in which, the patient being under the influence of a general morbid cause, the ovaries and pharynx give evidence of co-existing symptoms. Neither shall I consider cases of sore mouth or throat attendant upon protracted lactation, for in these, as in the above instances, the source of the two distant troubles may be as much ascribed to the debilitating general cause, as to the sympathy between the pharynx and the utero-ovarian organs. Nor, again, shall I include cases of pharyngitis causing a consecutive affection of the ovaries, for they are usually the result of a tuberculous diathesis, perhaps showing its first effects on the pharynx; and also, because I have not as yet met with any instance of an inflammatory affection of the throat and consecutive ovarian trouble—a fact the possibility of which, however, I should not doubt. My observations, therefore, shall be on pharyngitis depending on utero-ovarian derangements, free from any influence of a manifest general cause bearing on the simultaneous existence of both diseases.

Case I.—A lady aged 28, the mother of four children, had two successive miscarriages before her last confinement, five years ago, which was very tedious, and required instrumental interference. She has not been pregnant since, but has been very much troubled with dysmenorrhœa. She has likewise

suffered from leucorrhœa, not unfrequently accompanied with considerable loss of blood. Pain in the loins and lower part of the back has existed all the time, and over the region of the ovaries, particularly on the right side, and extending itself to the thigh and knee. She cannot walk, nor stand on her feet without getting soon fatigued. Appetite is gone, and the bowels are habitually constipated. She is subject to sore throat, and, for the last two years, the tonsils have been ulcerated, and more inflamed at every menstrual period, experiencing besides a very uncomfortable feeling of constriction in the throat, with hoarseness and troublesome coughing. A vaginal examination, with Sim's speculum, showed the uterus retroflexed and enlarged, the neck dilated and filled with a polypus the size of a hazel nut, and a large ulceration around the external orifice. Both ovaries were very sensitive to abdominal pressure. Examination of the chest did not reveal any abnormal condition of the respiratory and circulatory organs. The tonsils were inflamed, and the whole surface of the pharynx exhibited a follicular inflammation. The treatment consisted in the removal of the polypus, followed with local applications of chromic acid and of tincture of iodine to the uterine cavity and ulcer, alkaline sitzbaths, vaginal injections with the chlorate of potash, and the internal exhibition of the muriate of iron and acetate of ammonia, together with an occasional use of bitter-water, to keep the bowels regular. With these means, the uterine ulceration healed, the leucorrhœa was a good deal lessened, but the dysmenorrhœa continued, less painful, it is true, and still accompanied with the periodical inflammation of the throat. No special treatment had, in the meantime, been employed for this latter. Blisters were kept running alternately over the region of the ovaries, with a decided improvement in the dysmenorrhœa and the condition of the throat. In order to produce a more effective counter-irritation, a seton was substituted for the blisters, and kept on for nearly four months. The painful menstruation, the enlargement of the womb, leucorrhœa, and the chronic pharyngitis gradually disappeared, the patient considering herself at last completely cured.

Case II.—A young girl, epileptic since the age of 15, from

imperfect development of the uterus at the onset of the menstrual function, has been under my care now over two years. The epileptic attacks, always occurring at night, commenced with the first signs of amenorrhœa, and took place at the time of the month corresponding with the dates of the three or four evidences of menstruation which she exhibited. The disease progressing, the epileptic seizures increased in frequency, preserving their nocturnal character, and the girl became subject to repeated fits of *petit-mal*, with very injurious influence on her mind. I had recourse to Dr. Thomas A. Emmet's valuable assistance in the management of this case, and we at once determined to employ the uterine tent to invite the blood to the atrophied organ, and thus increase its nutrition. The sponge tent was applied every fourth or fifth day, and kept in only eight or ten hours, to avoid inducing any great irritation of the womb. This treatment suggested itself, not only from the evident influence of the uterine derangement on the production of epilepsy, but mainly upon uterine examination, which showed the uterus hardly larger than that of a child four or five years old, reduced mostly to the neck and movable in every direction. The vagina and external genitals were normally developed, but the patient's whole figure was that of a girl of nine or ten years. In addition to the local treatment, skillfully carried through by Dr. Emmet, the patient was put under the use of the bromide of potassium and belladonna, alternately, combined with quinine or ergotine. She also had for some weeks an induced electric current—the extra-current of Ruhmkorff's medical apparatus—applied to the spine at bed-time, was directed to have a nutritious diet, cold bathing, and other means proper to improve her feeble general condition. Menstruation reappeared in the course of seven weeks from the beginning of the treatment, and has continued since. The frequency of the epileptic attacks gradually decreased with the improvement of the uterine function, and it is now a year since she had her last seizure. It was necessary to continue with the sponge tent for nearly four months, during the last part of this time being only employed at the approach of the menstrual period. This local treatment, besides renewing the suspended function of the uterus, determined a general develop-

ment, the mammæ growing larger, and the girl assuming altogether the characters of puberty. Although the menses have been regular, and the mind has regained its former brightness, the girl still remains subject to uterine and ovarian irritation, and to slight attacks of epileptic *aura*, always increasing in frequency about the menstrual period, but no longer having any marked influence on her mind, and exhibiting very much the appearance of hysterical paroxysms. What I, however, desired to call attention to regarding this curious case is, that seven months ago, with every symptom of ovarian irritation, the patient was taken with painful enlargement of the parotid tonsil, and submaxillary gland on the right side. I thought at first this was possibly due to the bromide of potassium, which the girl was at the time using in thirty grains doses, repeated three times a day, but soon I rejected this idea, since nothing similar was observed in the glands of the opposite side. Upon closer investigation, I found that the swelling commenced with the menses, and that the right ovary was exceedingly sensitive to abdominal pressure, and the seat of a severe pain which the patient principally referred to the lower part of the back and loins. The glandular enlargement passed off with menstruation, and did not require any local treatment. Two months after, the same ovarian symptoms occurred during the menstrual period, and the girl was attacked with tonsillitis. Finally, last January, the menses being retarded, the girl had a third attack of tonsillitis. It is true that, on this occasion, the patient exposed herself to cold, which she supposed to be the cause of her complaint.

Case III.—A married lady, aged 26, the mother of two children, and of a nervous temperament, was last August, at the time of her menses, taken with diarrhœa, soon followed with pain in the back, stomach and limbs, and a profuse flow of blood from the uterus, which lasted for a couple of days. Quietness, with astringents and tonics, relieved her until the next period, when hemorrhage was renewed more profusely with the above symptoms, and a great deal of pain over the iliac region, and irritability of the stomach. Alum, ergot, sulphuric and benzoic acids, stimulants, tamponing, and ice to the abdomen, were tried with only temporary relief. On exami-

nation the uterus was found with a healthy appearance, slightly ante-flexed, and with the os rather dilated. It was also ascertained that the patient was not pregnant. Upon consultation with Dr. T. G. Thomas, the solution of persulphate of iron was applied to the uterine cavity, after previous dilatation with a large tent of laminaria digitata. The hemorrhage ceased for two days, when, the uterus bleeding again, made a second application of the persulphate of iron necessary, and the flow stopped. The patient, who had been kept all the time on her back, complained of great tenderness over the region of the right ovary, with pain extending over the same side of the chest, the lower part of the spine, and the right limb. Hypodermic injection of morphine and other nervines, together with tonics and quietness, relieved these symptoms. The ovarian derangement did not subside, when the patient complained of inconvenience in her throat, and an abscess was found on the right tonsil. It was opened and readily healed. At the next period there were again symptoms of dysmenorrhœa and ovarian irritation, the right tonsil becoming the seat of inflammation and ulcerations, which did not last beyond the menstrual time.

Case IV.—A married lady, aged 31, came under my care in July, 1864. She was then affected with follicular pharyngitis, and had just had both tonsils removed, and nitrate of silver freely applied to the pharynx and larynx, to relieve her from the trouble of constant coughing. She had been married for twelve years, and was never pregnant. I shall not enter into the details of her case, which was, indeed, very interesting. The uterus was exceedingly retroflexed, and, on examination per rectum, a tumefaction was detected around its fundus, directly lying against the sacrum. This tumefaction was certainly the result of previous peri-metritis. There was no ulceration of the uterine cervix, nor great enlargement of the organ; the vagina was healthy, and, with the exception of the extreme retroflexion of the womb, the whole trouble seemed to exist in its annexes. She positively stated that the chronic affection of the throat began with a severe attack of uterine inflammation, which occurred two years before, and that it had persisted since, increasing at every menstruation, which has been very deficient

and painful. In consultation with Dr. Thomas A. Emmet, we could not discover any positive sign of pulmonary disease. It was observed, besides the above symptoms, that the introduction of a sound into the uterus was immediately attended with coughing; the same phenomenon, but less marked, was observed upon pressure of the womb and ovaries. The patient's condition was somewhat improved by her stay in the country, and the throat became comfortable as soon as all local treatment to it was discontinued. She, however, returned to the city in October, complaining very much of pain in the womb and ovaries, and a good deal troubled with dysmenorrhœa. To relieve this, Dr. Emmet dilated the neck of the womb. The operation benefited her condition for a few days, but the inflammatory symptoms previously existing assumed a severer character, and were attended with constant hiccough and obstinate vomiting. Inflammation extended to the whole pelvic cellular tissue, and, in spite of all treatment, ended in suppuration; the patient dying with pyæmia. The pus made its exit, not only through the rectum, but specially through a large abscess formed at the level of the insertion of the external obturator muscle in the trochanter. Dr. T. G. Thomas, who saw this patient along with me, examined also this rare example of the course of peri-uterine suppuration. I regret not having been able to perform a post-mortem examination of the case.

Case V.—A young lady had for many years been troubled with dysmenorrhœa and pharyngitis. She had unsuccessfully tried various remedies for the latter, the pharyngeal inflammation being always exacerbated at the catamenial period. Uterine examination showed a slight catarrhal irritation of the neck, attendant upon nervous dysmenorrhœa. When I first saw her both tonsils were considerably enlarged and ulcerated, the inflammation reaching the posterior part of the nasal fossæ. I removed the tonsils, assisted by my friend Dr. G. S. Winston. The throat's condition improved with the operation, and gargles of chlorate of potash and perchloride of iron; but the inflammation did not entirely disappear until the dysmenorrhœa ceased upon local application of the tincture of iodine to the womb, counter-irritation over the region of the ovaries and to

the back, alkaline baths, and a general treatment directed against the ovarian irritation.

Finally, I will mention that a woman recently successfully operated upon for ovariotomy, by Dr. Thomas A. Emmet, was, at the very beginning of her disease, troubled a great deal with inflammation of the throat, and a choking sensation, which disappeared as soon as the ovarian tumor was considerably grown.*

I learn from Prof. George T. Elliot and Dr. Emmet that they have met in their practice with instances in which the pharyngeal inflammation and the uterine derangement were evidently connected with each other. The latter gentleman remarks, that granular pharyngitis is of frequent occurrence among the numerous females coming under his special observation. Were I to draw any conclusion from the cases I have carefully followed out, I should feel inclined to look upon the metastatic inflammation of the throat as a result of ovarian, more than of uterine influence. It would carry me too much from my subject to bring out evidences proving the fact that the ovaries are usually the starting point of uterine diseases, that really they are the first affected; but it is manifest that the morbid

*Since this paper was read before the Obstetrical Society, I have observed the following case, which may be added to the above: A girl from Rome, N. Y., aged 19, consulted me for epilepsy, which she had had since the very commencement of the menstrual function at the age of 15. She is well developed, but her intellectual faculties have failed with the continuance of the epileptic attacks, generally occurring at night. The fits have, from the beginning, existed periodically, in direct connection with the catamenial discharge, and increasing in frequency and severity whenever this has been absent. There has been constant pain and soreness over the region of the right, and sometimes over that of the left ovary. At every menstrual period the lymphatic ganglia of the right side of the neck become enlarged and painful, the ganglionitis is occasionally, also, on the left side of the neck, though in a much lesser degree. The girl has been, for the last month, subject to sore throat during menstruation, or at the period of the month corresponding to its interrupted apparition. The convulsions of epilepsy have constantly occurred on the right side of the body. It being evident that the source of the epilepsy was in the uterine derangement, I availed myself of Dr. Emmet's kindness, who admitted the patient into his private institution, and submitted her to a treatment for ulceration and catarrhal discharge discovered in the womb. The epileptic fits have ceased upon the direct medication to the womb, and to its efficacy both the ovarian symptoms and the cervical ganglionitis are gradually yielding, thus evincing their respective connections.

condition of these organs, and not that of the womb itself, was the main cause of pharyngitis in the above reported cases. It is interesting to notice that with most of these, and as it often occurs in cases of ovarian derangement generally, the pain in the lower part of the back was not only indicative of, but concealed in a great degree, the pain in the ovaries. Assuredly, troubles of menstruation in unmarried females are most frequently due to derangement in the ovarian functions, although we find ovaritis succeed to miscarriage or complicated labor. It is, however, strange that, with all this clinical evidence of the important share which the ovary has in uterine pathology, morbid anatomy has thus far disclosed but few of the structural changes undergone by the diseased ovary. The fact ceases to be surprising, when we think that the very normal structure of the organ has been ignored, until Pflueger, Gröhe and Aeby, in Germany, and more recently Sappey, in France, proved that the parenchyma of the ovary resembles that of the testicle, and that each gland secretes and contains more than three hundred thousand ova, instead of the reduced few admitted by authors. Perhaps many unnoticed alterations are still to be discovered, which will better account for the true share of the ovary in the production of those several uterine diseases attended with an apparently normal cadaveric state of that organ.

I will not dwell upon the treatment to be followed in the cases referred to, for it is obvious that it must be in accordance with the utero-ovarian troubles. My only purpose has been to direct attention to one efficient source of pharyngitis with females, and to the necessity of inquiring into the condition of the ovaries; for they may at an early stage give little evidence of their derangement, and still be one cause of the obstinacy of chronic pharyngitis. The late Aran, of Paris, was one of the first to indicate that pulmonary tuberculosis was induced by peri-uterine inflammation, and to show the manner in which these diseases alternate with each other, the one abating whilst the other increases. This morbid influence of the ovary and uterus reaches, indeed, the whole respiratory apparatus; for although the pharynx was the principal seat of the inflammation in the cases here mentioned, it was easy to ascertain that the larynx

was more or less implicated, and that the sympathy even extended itself to the lungs, as proved by the hoarseness, coughing, etc., of the patients. As to the larynx, it is more frequently affected than the pharynx by the distant influence of the ovaries. I should feel disposed to think, upon personal observation, that pulmonary tuberculosis, consequent on uterine disease, often commences in the pharynx and larynx, the lungs being second in their exhibition of tuberculous signs. Furthermore, I have observed that, in hysterical women dying with rapid pulmonary consumption, the pharynx, larynx and lungs generally present a morbid change corresponding with the so-called tuberculous granulations.

As regards the manner in which the metastatic influence takes place, could it be conveyed through the blood, already subject to a modification during every menstrual period? The constant elective nature of the metastatic effect, its greater evidence on the same side of the more diseased ovary, and our knowledge on the production of reflex actions, altogether exclude such an admission. I would merely remark, that in the ganglionic system alone we could find the source of that morbid reflex action starting from the ovary to disturb the pharynx, and originate in it derangements which cease with the cure of the ovarian disease.

---

*Remarkable Case of Intus-susception.* By E. R. Peaslee, M.D., LL.D.

In the following paper I propose to give a more extended account of the case of intus-susception presented by me before the New York Obstetrical Society, at the meeting of March 7, 1865. It occurred in the practice of Dr. Carl A. Volk, of Claremont, N. H., who, I hope, will report it still more minutely.

Miss F. B., aged 17 years, first had an attack of "menstrual colic" in May, 1863, which continued five or six hours, when the menses appeared. The attack was repeated in June and July of the same year, rendering her too feeble for several months to continue her studies. In January, 1864, she had a

still severer attack, which was accompanied by griping and vomiting. It was, however, relieved in twelve hours, and she became as well as usual. Another occurring at the end of the same month was relieved in twenty hours; but after still another, before the first of March, which was relieved in forty-eight hours, she never recovered her usual health.

In May, 1864, she had another attack of the colic, accompanied by vomiting; but this time it did not commence with the menstrual period, but eight days after it had ceased. For five or six days she had a daily hemorrhage from the bowels, but no alvine evacuation. She also vomited many times each day. Then large enemata of warm water and molasses were repeated thrice daily for two days, (another hemorrhage having occurred meanwhile,) when a large amount of *well-formed fæces* passed, with a little blood, and she became better again, and so continued for ten days. At this time, (or eighteen days after the beginning of the attack,) after she had taken the enema and had the bowels relieved one morning as usual, she still felt the presence of something unusual in the rectum, and which at last protruded. Her mother, on having her attention called to it, found, by pinching the protruding mass, that it was not sensitive, and cut it off with shears and removed it. It resembled nearly five feet of small intestine, with the mesentery (two inches wide) attached. The patient felt relieved after its removal, and the next day passed about a foot more of the same kind of substance. Seven days afterward another attack of vomiting occurred; and from this time to her death, over four months afterwards, she would have pretty comfortable intervals of from one to ten days, and then vomit from one to four days in succession, having some griping and flatulence *all* the time. She usually vomited about three hours after eating, and the vomitus consisted to the end of life of (1) food; (2) bilious matter; (3) greenish matter presenting a fæcal odor.

After the attack in May, and the hemorrhage, the bowels were never moved, except by the enemata as above specified; the discharge coming away in fifteen or twenty minutes, and always having a natural color; except that on two occasions they were for eight to nine days of a slate color, and then more tinged with bile than usual. During the first eight or

ten weeks after it they were well formed; then they became more fluid, and during the last three weeks of life there was diarrhœa—two or three and finally six to eight discharges a day. She gradually became emaciated to the last degree, and died in September, 1864, in one hour after being suddenly seized with coma.

What was the character of the masses expelled in May? When shown to me in August, (the patient still living,) I did not hesitate to pronounce them—*not* tubular exudations from the alimentary canal—but portions of *small intestine;* though, as I had not access at the time to a microscope, I could not decide whether it was human intestine or that of some lower animal. If the former, it must have been about one-sixth of her own alimentary canal, detached after intus-susception; but the fact that she was still living, and that it came away *right side out,* (i. e., *not inverted,*) inclined me to consider it the small intestine of some lower animal, surreptitiously obtained and deposited, and subsequently expelled. Subsequent investigation, however, showed that the young lady was of a very frank and ingenuous nature, and incapable, it was believed, of deception; and the question was left to be decided, if possible, by the *post-mortem* appearances, of which Dr. Volk gives the following particulars, so far as the alimentary canal is concerned:

1st. The *small intestine* was but sixteen feet long. The duodenum and the upper five feet of the jejunum were very much hypertrophied, and at the lowest point much dilated. At the middle point of this hypertrophied portion (or three feet below the stomach) was a polypus as large as a pigeon's egg, and next below the dilatation was a stricture half an inch in length, and only large enough to admit a small goose quill. The remaining ten feet of small intestine presented nothing abnormal except a slight degree of atrophy.

2d. The *large intestine,* five feet ten inches long, was extremely atrophied—half to three-quarters of an inch only in diameter.

3d. The *mesentery* was smooth and apparently intact; it was, however, hyperæmic, and its glands were hypertrophied.

*Remarks.*—I think that, with the facts just mentioned to guide us, the case must be regarded as one of intus-susception; and it must be admitted that the patient lived over four months

after losing nearly six feet of her own small intestine; that the attacks of vomiting, previous to the severe one in May, were excited by the presence of the polypus, and that during that attack the intus-susception took place *from below upwards;* that the hemorrhage depended on the strangulation and sloughing of the portions expelled; that the subsequent recurring attacks of vomiting and the atrophy of the large intestine were due to the stricture preventing the passage of food in any considerable quantity; though enough passed to produce some natural fæces, till, the stricture gradually becoming smaller, only fluid (diarrhœa) passed per rectum at last.

If doubt still remains as to the masses being actual intestine, and not a mere exudation, I would add that the microscope demonstrated the structure of intestine. The fact that the small intestine was only sixteen feet long, does not alone prove a previous loss of some portion, since all pathological anatomists assert its great variation in length in different individuals. But its average is just about the length found after death, increased by that of the masses discharged; and a minute examination of the stricture, and the mesentery in its neighborhood, left no doubt that a portion of the latter also had been removed.

---

*Difficult Obstetric Cases.** By GEORGE T. ELLIOT, JR., M.D., Professor of Obstetrics and the Diseases of Women and Children in the Bellevue Hospital Medical College; Obstetric Physician to Bellevue Hospital and the N. Y. Lying-in Asylum; Consulting Physician to the Nursery and Child's Hospital.

CASE CXXV. *Version—Peritonitis—Still-born Child—Recovery of Mother—Chloroform.* Drs. J. B. Luce and D. S. Wadsworth, Reporters, Bellevue Hospital.

"Eliza Toole, æt. 26, in her fourth pregnancy, was admitted into the waiting wards of Bellevue Hospital, November 28th, 1863. She stated that her last menstrual period terminated on the 20th of April, and that she consequently expected to be confined in about two months.

---

* Continued from Am. Med. Times, Aug. 20th, 1864.

At six P. M. of the same day, after a hearty supper, she was suddenly attacked with severe labor pains, and the membranes were ruptured before she could be removed to the lying-in wards. My attention was first called to her at about seven P. M., when, finding the left arm in the cavity of the vagina, I immediately sent for Dr. Elliot, who arrived at eight P. M., and found the arm protruding from the vagina and hanging between the thighs.

By external manipulation Dr. Elliot recognized the head in the right iliac fossa, body across the brim, and breech on the left side. *On auscultation he could not recognize any fœtal heart.* He immediately decided on version, and after the patient had been brought profoundly under the influence of chloroform, introduced his left hand into the uterus in search of the (upper) right leg. While introducing his hand in utero he recognized the placenta, passed it, and reaching the left leg first, drew it down, preferring to do this rather than to waste time in searching for the right. After bringing the left leg down he had no trouble in finding the right, and bringing it down also, and the arm receded as the legs came down. He then carefully proceeded to deliver the body and head, while I followed down the uterus with my hand to ensure contraction and prevent hemorrhage. After delivering the child the doctor removed the placenta without trouble, and left the woman doing well.

Dr. Elliot made an autopsy of the child, but could find no lesion whatever to account for its death.

"*November 29th*, 1863, 9 *A. M.*—Patient doing well; slept very well last night; pulse 90; respiration 20; lochia free. 6 *P. M.*—Chills; complains of exquisite pain over region of uterus; pulse 120; respiration 36, and thoracic."

The patient was now transferred from the lying-in wards to the medical, and came under the care of Dr. Loomis, when the following history of the case was kept by Dr. S. D. Wadsworth, house physician in charge, who devoted himself to the case, and made the following notes personally:

"*November 29th*, 6 *P. M.*—Abdomen begins to be tympanitic, and there is a good deal of pain and tenderness all over the hypogastric region, especially over the ovaries. Face

flushed, skin hot, tongue moist, and thinly covered on its central portion with a light fur.

The treatment was recommended by Dr. Alonzo Clark. Morphine was given not only to relieve the patient from pain, but also to reduce the number of respirations per minute; and the tincture of the veratrum viride was administered to control the frequency of the pulse. After the first day, quinine was given at the rate of three grains every four hours throughout the duration of the disease, and vaginal injections, composed of one part of Labaracque's solution of the chlorinate of soda to eight parts of tepid water, were given twice a day. The diet consisted of beef-tea, milk and eggs, with half an ounce of whiskey every two hours.

The whole amount of morphine required for the six days was 162 grains. The greatest quantity given in one day was 47 grains, while the average amount was 27 grains a day.

The following is the record as made at each visit:

| *Date.* | *Hour.* | *Pulse.* | *Respiration.* | *Majendie's Sol. of Morphia. Minims.* | *Tincture Verat. Viride, drops* | Remarks. |
|---|---|---|---|---|---|---|
| Nov. 29 | 8 P. M. | 120 | 36 | 12 | .. | Tarpentine stupe applied. |
| | 9 | 118 | 30 | .. | 4 | No discharge. |
| | 10 | 110 | 28 | 12 | .. | |
| | 11 | 120 | 34 | 30 | 4 | |
| | 12 | 124 | 30 | 30 | 8 | |
| Nov. 30 | 1 A. M | 120 | 28 | 45 | .. | |
| | 2 | 132 | 20 | 60 | 8 | |
| | 3 | 128 | 28 | 90 | 10 | No pain. |
| | 4 | 120 | 13 | 30 | 5 | |
| | 5 | 136 | 18 | 60 | 10 | |
| | 7 | 136 | 10 | 45 | 5 | |
| | 9 | 120 | 16 | 60 | 5 | Does not sleep. |
| | 11 | 126 | 18 | 90 | 8 | |
| | 1 P. M. | 128 | 20 | 120 | 8 | Slight fœtid discharge. |
| | 3 | 128 | 20 | 120 | 5 | |
| | 5 | 140 | 14 | 90 | 10 | Spinach vomit. |
| | 7 | 130 | 18 | 120 | 10 | Vomiting. |
| | 9 | 126 | 16 | 90 | 8 | |
| | 11 | 124 | 18 | 60 | 5 | Vomiting. |
| Dec. 1. | 1 A. M. | 118 | 20 | 60 | 10 | |
| | 3 | 128 | 18 | 90 | 10 | Vomiting. |
| | 5 | 124 | 16 | 90 | 10 | Nausea. |
| | 7 | 116 | 16 | 90 | 10 | |
| | 9 | 124 | 17 | 90 | 10 | |
| | 11 | 128 | 21 | 120 | 10 | |
| | 1 P. M. | 120 | 21 | 120 | 10 | |
| | 3 | 120 | 17 | 120 | 10 | |
| | 5 | 110 | 16 | 120 | 10 | |
| | 7 | 116 | 16 | 120 | 10 | |
| | 9 | 100 | 19 | 120 | 10 | |
| | 11 | 70 | 18 | 120 | .. | Mild delirium. |
| Dec. 2. | 1 A. M. | 87 | 16 | 90 | 5 | |
| | 3 | 100 | 20 | 90 | 5 | |
| | 5 | 88 | 16 | 90 | 5 | Delirious, and escaped from ward to balcony; mind restored by cold douche to head. |
| | 7 | 100 | 22 | 120 | 5 | |
| | 9 | 96 | 20 | 60 | 5 | |
| | 11 | 100 | 15 | 90 | 5 | |

| Date. | Hour. | Pulse. | Respiration. | M. jendie's Sol. of Morphia. Minims | Tincture Veral Viride, drops | Remarks. |
|---|---|---|---|---|---|---|
| Dec. 2 | 1 P. M. | 80 | 19 | 90 | 5 | Vomiting. |
| | 3 | 84 | 15 | 90 | .. | |
| | 5 | 74 | 17 | 90 | .. | |
| | 7 | 92 | 13 | 90 | 5 | |
| | 9 | 86 | 15 | 90 | .. | |
| | 11 | 83 | 18 | 90 | .. | |
| Dec. 3. | 1 A. M. | 116 | 17 | 90 | 5 | Does not sleep. |
| | 3 | 106 | 18 | 90 | 5 | |
| | 5 | 104 | 19 | 90 | 5 | |
| | 7 | 90 | 19 | 90 | 5 | |
| | 9 | 90 | 16 | 60 | 5 | |
| | 11 | 74 | 16 | 60 | .. | Vomiting. |
| | 1 P. M. | 78 | 15 | 60 | .. | |
| | 3 | 84 | 12 | 60 | .. | Deep-seated inflammation in calf of right leg. |
| | 5 | 104 | 22 | 120 | 10 | |
| | 7 | 96 | 19 | 60 | .. | |
| | 9 | 104 | 19 | 30 | 10 | |
| | 11 | 108 | 26 | 60 | 10 | No lochial discharge. |
| Dec. 4. | 1 A. M. | 88 | 14 | 45 | 5 | Delirium. |
| | 3 | 80 | 20 | 45 | .. | Restlessness and jactitation. |
| | 5 | 78 | 16 | 30 | .. | Mind restored, and says she feels well, but when left to herself talks incoherently. |
| | 7 | 84 | 17 | 30 | .. | |
| | 9 | 84 | 18 | 30 | .. | Doing well. |
| | 11 | 84 | 18 | 20 | .. | |
| | 1 P. M. | 92 | 18 | 20 | 5 | |
| | 3 | 88 | 24 | 30 | .. | |
| | 5 | 104 | 20 | 30 | .. | |
| | 7 | 96 | 21 | 30 | .. | |
| | 9 | 104 | 20 | 20 | .. | Comfortable, with moist tongue. |
| | 11 | 120 | 20 | 20 | .. | |
| Dec. 5. | 1 A. M. | 105 | 20 | 20 | .. | First sound sleep. |
| | 3 | 100 | 24 | 20 | .. | Delirious, and obliged to be confined to the bed |
| | 5 | 112 | 16 | 20 | 5 | Delirium; is restored by cold water. |
| | 7 | 108 | 20 | 20 | 5 | |
| | 9 | 96 | 20 | 20 | .. | No discharge. |
| | 11 | 80 | 20 | 10 | .. | |
| | 1 P. M. | 96 | 16 | 10 | .. | Inflammation subsiding in right leg, |
| | 3 | 98 | 18 | 10 | .. | |
| | 5 | 96 | 20 | 10 | .. | |
| | 7 | 100 | 20 | 10 | .. | |

During December 6, 7, 8, and 9 respectively, were given $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{6}$, $\frac{1}{8}$ grains of morphine every two hours. The patient recovered entirely, and was discharged from the hospital.

*Remarks.*—This record may serve as a type of the way in which such cases are treated in Bellevue Hospital. The general indications are the same, although in the same ward there may be illustrations of great variations in the amount of morphia, veratrum viride, quinine, whiskey and counter-irritation, needed by individual patients. The indications to be fulfilled are: To keep the patient free from pain; to quiet the pulse; slow the respiration; support the strength; cleanse offensive discharges. For this result the physician should strive to use as little medicine and stimulus as possible, while never hesitating to administer whatever amount of opium or stimulus may be

found necessary. It may possibly be necessary to suspend or relinquish the veratrum viride; its place may be supplied in such a contingency by other arterial sedatives. I do not know of any case in which bleeding from the arm has been resorted to, though leeches have been sometimes, but very rarely, used. Mercury is never given internally, though I have formerly directed mercurial ointment to be applied to a blistered surface in some cases. The method is not new in the hospital, and will be recognized at once by many who have not visited the wards for years. That such a method of treatment affords the best chance for recovery from peritonitis, whether puerperal or due to any other course, will, I think, be readily admitted by all who have given the method a fair trial.

The principal remedy is, beyond all doubt, OPIUM, and the merit of proving its especial value and formulating its use in Bellevue is due to Prof. Alonzo Clark, M.D., one of the physicians of the hospital.

This fact is well known to all in the hospital, and to most of the profession in this city; but, if I am to judge by letters that I have received from gentlemen elsewhere, and from the medical journals lately received from abroad, neither the treatment nor the credit due to Dr. Clark have generally received the attention that they merit. Prof. Fordyce Barker, M.D., one of the obstetric physicians of the hospital, has been chiefly instrumental in incorporating the tincture of the veratrum viride with the treatment for peritonitis.

But, alas, while we all approach peritonitis with such high hope, we are obliged to dread the influence of the other pathological lesions which may or may not be complicated with the peritonitis.

Those who have grappled with such cases can appreciate the value of such incessant watchfulness as was displayed by Dr. Wadsworth; nor indeed can the treatment be carried out without constant supervision.

CASE CXXVI.—*Bright's Disease—Convulsions in a Multipara in the sixth month of Pregnancy—Chloroform—Barnes's Dilators—Subsequent death of mother.*

Dr. C. L. Mitchell sent for me on the 26th of April, 1863, to visit Mrs. ——, aged forty years, the mother of two children,

who had suffered from albuminuria and puerperal convulsions in her last confinement, five years ago, on which occasion Dr. Mitchell had carried her safely through with chloroform. She habitually suffered from a very aggravated form of dyspepsia, but no observations had been made of the urine in the interval, nor had there been any symptoms of disturbances of that character. During the present pregnancy she was very desponding, nervous and apprehensive and refused to make any preparations for the care of the child. For the last three weeks she had suffered from amaurotic symptoms, and for the last two weeks from intense pain in the head at intervals. The urine had been repeatedly tested during this period of time for albumen, but had only presented that ingredient on the 25th. During the night of the 25th she had suffered intensely from headache, which was relieved by chloroform and morphia. To-day (26th) she had passed a comfortable morning, but in the afternoon awakened from a nap in a restless and nervous state, soon culminating in a violent convulsion, during which the tongue was bitten, and which was followed by coma. She is now, according to her calculation, just at the close of the sixth month of pregnancy. Dr. Mitchell had kept her moderately under the influence of chloroform, and she was sleeping quietly when I reached the house. The skin was cool and natural, pulse equable and good; there was no œdema, unless possibly some slight fulness of the lower lids. Some uterine contractions had occurred at intervals of fifteen minutes. Careful examination through the abdominal walls allowed us to detect a thigh near the fundus uteri on the right side, and subsequently the head on the left side. No fœtal movement could be provoked by manipulation. The fœtal heart, which had been distinctly audible before the convulsion, could not now be heard by either of us. The vagina was relaxed and moist, the os uteri admitted a finger freely, as it generally does in multiparæ, but was neither dilated by labor nor dilatable.

Under these circumstances we had to deal with some of the most dangerous complications of albuminuria in pregnancy. It has long been my conviction that multiparæ, who again present albuminuria and convulsions after a long interval since

the occurrence of similar dangers, have the worst chances for recovery. It was probable that labor had commenced. Should we endeavor to arrest it, to let it take its course, or should we accelerate it? It was evident that the vital force of the child had been impaired by the convulsion. It could scarcely be considered as fitted for extra-uterine life. Still, if gestation were to go on, would not its life be in all probability compromised by the probable contingencies of the case? We carefully weighed these grave questions, and decided that the labor should be terminated as rapidly as possible, that the danger to the mother's life overshadowed all other considerations, and that Barnes's dilators should be introduced. Accordingly at 11, P.M., of the 26th, Dr. Mitchell, with some difficulty, succeeded in introducing the smallest sized of the three which I had brought with me, and filled it with water. In fifteen minutes this had slipped in the vagina, when the doctor introduced the second size, and we distended that in its turn. At 12, P.M., the uterine contractions had acquired sufficient force to expel this into the vagina. We then agreed that the doctor should rupture the membranes, when the ribs and abdomen were found to be the presenting part. Presently the cord prolapsed so as to quite fill the vagina, and was found to pulsate feebly—so feebly that each of us on examination hesitated a moment in our recognition of the beats. We also now recognized that the child was very puny. We could not succeed in replacing this funis by manipulation, while the maternal cerebral symptoms made us unwilling to place the mother in Thomas's position. Nor was there sufficient dilatability of the cervix to make us willing to turn the child. Accordingly, without reference to the feeble funis beats, the largest-sized dilator was introduced, and allowed to remain three-quarters of an hour, by which time the uterine contractions were quite good, and the cervix fully dilated. At this time, by request of the doctor, I sought for the thigh on the right side of the uterus, and terminated the labor by the delivery of a puny child, which did not appear to have reached more than the sixth month. The doctor withdrew the placenta without difficulty, the uterus contracted nicely, the binder was applied, and a small dose of ergot given, and she was allowed to come out from the influence

of the chloroform—the effects of which had been very happy indeed in restraining tendencies to excitement, which would, doubtless, have otherwise culminated in convulsions. Her consciousness promptly returned. An hour or so afterwards there was some rather free uterine hemorrhage, which was promptly checked by ice and some ergot; nor did any more recur.

*Urine.*—A specimen of Mrs. ——'s urine, which had stood for twenty-four hours, was then examined by Dr. Mitchell and myself. It gave a sediment of albumen, which was estimated to be about one-fifteenth of its bulk. Under the microscope numerous small-sized casts and fragments of casts were found, of which the great majority were pale, devoid of epithelium, and sprinkled over with oil globules. Some were waxy. There were also a few crystals of the urate of soda.

The subsequent history of the case is contained in the following extract from a letter of Dr. Mitchell to me:

"At 11, A. M., (27th,) vomiting commenced, and in nine hours terminated life by exhaustion. There had been no flowing since that which occurred early in the morning. The matters vomited were an abundant green viscid mucus. There was no response to stimulants." No post-mortem.

*Remarks.*—The dilators in this instance, as in the many in which I have used them, acted with great promptness, in a manner which thoroughly satisfied both of us. It struck me at the time, that in a case of prolapse of the funis, where the cord had been returned, they might be invaluable, either in completing dilation of the cervix, *or in affording a soft cushion to prevent further prolapse.*

Case cxxvii.—*Labor in a Multipara, in whom one mamma had been amputated after her previous confinement.*

In the spring of 1864 I was consulted by Mrs. ——, the mother of several children, who had come to this city from the southwest, for her approaching confinement. She gave the history of enormous distension of her left breast after her last labor. No abscess had formed. She endeavored to have the breast *drawn* by the little negroes on her plantation, and by puppies. The secretion sickened the former, and, as she states, caused the death of several of the latter. Finally, when, ac-

cording to her husband's account, the breast was as large as one of the spittoons to be seen in the halls of our hotels, it was amputated by Dr. McDowel. No accurate statement of what was believed to be the pathological condition could be obtained. Lately the cicatrix has changed its color, and is redder. Her health is good, although much inconvenienced mentally and physically by her pregnancy. Her labor came on of itself, when advanced to the eighth month, and a vigorous boy was born after a short time, while the mother was under the influence of chloroform.

I advised that she should not attempt to nurse, and, in consequence of the mother's refusal to employ a wet nurse, the child was brought up by hand, and thrived, so long as it was under my observation. The supply of milk was very profuse in the remaining breast, and in the neighborhood of the cicatrix left by the amputation there was some knotty swelling, as though a small portion of the gland had been left. The application of belladonna extract and camphor caused this swelling to disappear. It was very difficult to check the supply of milk in the remaining breast. I kept the whole breast to the nipple covered with extract of belladonna, rubbed up with glycerine, with about a scruple of camphor to the ounce mixture. Salines and twenty grains per diem of the iodide of potassium were also prescribed, with occasional doses of sweet spirits of nitre. Breast drawn with a pump, and sponged four or five times in the twenty-four hours with cool water. For a couple of days I tried cool lotions of hop tea, but the belladonna was evidently more effectual. At last the secretion came readily under control, though when she left the city, (at about the third week after her confinement,) she still had to draw the breast four or five times in the twenty-four hours, and continue treatment.

*Remarks.*—In this case I had arranged to have induced the labor at the time when it occurred spontaneously. My reasons for doing so were my uncertainty regarding the pathological condition of the amputated breast, and the changes then commencing in the cicatrix.

The remedies that were employed to check the secretion of milk are the most effectual with which I am familiar; although I have sometimes found lotions of the spirits of camphor alone

very satisfactory. It was originally recommended that the extract of belladonna should be applied over the areola and not elsewhere, but, after a thorough trial of that plan, I have for a number of years preferred the method used in this case. In some instances the result has been delightfully prompt, but, as a rule, time and great attention may be necessary. It is important to guard against accumulation in the ducts, by the use of the pump; the occasional application of an infant; or, what is better, the mouth of an adult. The physiological influence of the child on the secretion of milk should not be forgotten, and in difficult cases the mothers should be cautioned against indulging in such acts and thoughts as are well recognized as influencing the "montée" of the milk. Should the breast be drawn by the mouth of an adult, instructions should be given that suction should be made on the areola and breast, surrounding the nipple, and that the nipple itself should be excited as little as possible, while at the same time the ducts should be gently rubbed in the direction of the nipple.

When these precautions have been neglected, and the nipple alone taken in the mouth, the act may be attended either with too much pain or by too much excitement; and I have seen violent hysterical convulsions thus produced in a case where a well-meaning, but inexperienced, nurse attempted to draw the breast of one of my patients, while no discomfort followed the proper method. In private practice I often employ a colored woman, Mrs. Johnson, of No. 120 West 20th Street, who, by attention to these rules, really draws breasts "in a soothing manner," as set forth on her card.

In the great majority of cases I never open abscesses of the breast, believing that they and simple buboes do better, as a rule, when allowed to open spontaneously, or at least to point just beneath the skin; and if possible, when the patient's condition will justify the attempt, and when there are no evidences of marked deterioration of the milk, acidity, or presence of pus in the secretion itself, I strive to keep the child to the affected breast, or at least to maintain the secretion of milk for its future use; and I have thus succeeded even when there have been three and four openings in the breast.

In bad cases, when the abscess has been a large one, and

where there has been much loss of skin or other tissues, there is no treatment that can compare with the use of compressed sponge—the good effects of which have been pointed out by me in many cases in Bellevue, for many years.

Lately, in one of these cases, I directed a counter opening at the depending part, and the use of compressed sponge, to quite a bad case in the lying-in wards, and the treatment was carried out by Dr. Lockwood, house surgeon in charge, with a strikingly rapid and successful result.

In private practice I order enough fine, clean, compressed sponge for two applications, and request that what women call "a body" shall be made of muslin, and arranged to lace. Having then so applied the sponges as to make the desired pressure, the "body" is partially laced, the sponges wet, and then all drawn tight. The lacing should always be such as to maintain the pressure as tightly as possible, but at any moment can easily be graduated. Sometimes I have oiled silk sewed in the "body" over the breasts. The sponges should be changed morning and evening, washed, and then spread out between flat pieces of wood, and placed beneath some heavy piece of furniture until needed again.

This treatment is also most effectual in dissipating the hard swellings left after the abscess has healed, as well as in removing inflammatory swellings around tumors of the breast, and thus aiding the diagnosis.

---

PIROGOFF.—*Outlines of General Military Surgery.*—From Reminiscences of the Crimean and Caucasian Wars, and of Hospital Practice. Vol. II. By G. A. QUINBY, M.D., Attending Surgeon St. Luke's Hospital, N. Y.

[Continued from page 136, No. 2.]

VI. *Consecutive Traumatic Phenomena. Symptoms due to irritation. Hectic. Toxæmia.*—1*st. Local phenomena of irritation.*—Pirogoff appears to have an aversion to the term inflammation, and avoids its use as much as possible, in order, as he says, not to lead to the adoption of a false or routine practice.

Rapidly occurring serous infiltration, (acute œdema,) as a consecutive phenomenon of irritation, is much more important in a practical point of view than hyperæmia. Pure serous infiltration may run imperceptibly into the purulent form (acute purulent œdema.) The most constant and obvious textural change after all kinds of traumatic lesion is the infiltration of the connective (cellular) framework of the region: it is the chief cause of tension, tumefaction, and of the determination of destructive action. It may be observed under two principal forms, one accurately defined and localized, the other diffuse. He who succeeds in detecting these two forms in their very incipiency, is, in the estimation of the author, the best practical surgeon. Their extremes are presented by *phlegmonous abscess* and acute *purulent œdema*. The most common form of traumatic acute œdema is, in a one-sided way, designated by Rust, Dupuytren and others, as phlegmonous erysipelas-phlegmone diffusa.

The use of direct antiphlogistic means is only to be resorted to with any prospect of benefit in combating acute serous infiltration under particular circumstances; as for instance, at the very commencement of a war, and in hospitals where the most favorable hygienic conditions exist. Should it appear that, under the more expectant treatment of gun-shot wounds, suppuration tends to limit itself to the track of the wound, a judiciously applied dressing is all that is requisite; *i. e.*, the dressing should be calculated to protect the wound and surrounding parts from all external irritation, and not to become of itself a source of irritation. In the normal course of wounds, if these cardinal points be borne in mind, it is almost a matter of indifference as to the material selected for covering them; it may be common lint, raw cotton, tissue paper, sheet India-rubber, or charpie, spread with some unctuous substance, or simply moistened with warm water. Still, it is always desirable that the material selected should possess capillary or absorbing power to a considerable degree. Pirogoff was in the habit of ordering tepid water or chamomile tea, as a dressing in recent wounds, having discarded the use of cerates more than twenty years ago. A solution of nitrate of silver, of variable strength, he found to be of greatest service as a wash

for nearly all suppurating wounds, and the best substitute for cerates and emollient salves was found to be thick flax-seed tea, with the addition of a few drops of laudanum, solution of chloride of soda, with spirits of camphor, (1:16,) according to indications. Painting the surrounding surface with tincture of iodine was also of an apparent service in excessive serous infiltration and suppuration of wounds. Pirogoff attributed the infrequency of real (diptheritic) nosocomial gangrene, in the hospitals under his care, to the total disuse of sponges in cleansing wounds; a stream of water poured from a tin vessel with a spout was found to answer this purpose perfectly well. Whenever serous infiltration rapidly assumed a phlegmonous character, the best substitute for the warm poultice was found to be the capaplasma acetatis plumbi (linseed meal with lead water.) In spotted and lymphatic erysipelas, painting the surface with tincture of iodine or a strong solution of nitrate of silver, and the use of inunction where the erysipelas extended superficially, was practiced. For this purpose camphorated cerate (1:16) was rubbed in four or five times daily, then the entire extremity covered thickly with lard and enveloped in wadding. When there was great tension, dilute mercurial ointment was used, or the part sprinkled with starch powder, lycopodium or powdered chalk. Quinine was administered in erysipelas according to the form, often associated with camphor, with greater or less freedom. Traumatic erysipelas may often be prevented from running into acute purulent œdema by timely incisions, and through them, in its later stages injections of chlorinated washes may be made. Pus burrows for the most part, not according to the laws of gravitation, but in the direction of the preceding infiltration; the forcing of pus from infiltrated tissues in the neighborhood of a wound does but little good, and much harm if done too often and not gently. The general treatment in profuse suppuration consists in the allowance of a generous diet, fresh air, quinine, sulphuric and phosphoric acids, etc., general bathing in mineral and sea waters, and mucilaginous liquids.

In the treatment of diffused acute gangrenous infiltration, every effort of the surgeon should be directed to effect, as soon as possible, the mumification of the moist slough, and thereby

deprive it of its deleterious influence upon contiguous parts, and upon the system generally. For this purpose the slough should be incised, and charcoal (from soft wood.) with powdered barks, tannin, camphor, creasote, etc., employed. Secondary amputation cannot be undertaken with any prospect of success, until the fibrinous exudation at the line of demarcation is completed.

*2d. Symptoms of general irritation. Influence of constitutional diseases upon wounds. Hectic. Special local symptoms.*—In scrofulous subjects wounds often assume peculiar characters, which only improve under anti-scrofulous treatment, such as the internal use of cod-liver oil, iodide of potassium, and iodide of iron, and the application to the wound of a solution of iodide of potassium in tincture of iodine and water, with the addition of laudanum, or sprinkling the surface with dry red precipitate. Two kinds of hospital scurvy are recognizable; *one local* in its nature—such, for instance, as is seen in a limb after long confinement, and seclusion from light and air in an immovable apparatus; the other *general:* both have a great influence upon the course of wounds. The author uses for these conditions from ʒ ij.—iij. of brewer's yeast daily; also tincture of cantharides, gtt. ij.—x., and Fowler's solution, with anti-scorbutic diet; as a dressing, fresh carrot poultices and yeast—no caustics.

Cholera ranks foremost among the acute diseases which exercise an unfavorable influence upon the course of wounds. Among the constitutional diseases which in a qualified way modify the condition and course of wounds, must be mentioned syphilis, typhus, and the typhoid form of masked intermittent. The causes leading to the development of constitutional trouble in persons suffering from wounds are of three kinds. 1st. The vapor or volatile ingredients of pus and purulent secretions, furnishing an infecting material. 2d. The increased susceptibility to somatic and psychical influences, owing to the traumatic shock, etc. 3d. Enfeebled state of the body from loss of fluids and residence in hospitals. An entire series of the various forms of disease which owe their origin to the first, are really cases of traumatic blood-poisoning. All these causes, however, conduce to the development of acute tuberculosis, diarrhœa, albuminuria, anemia, and hectic or traumatic phthisis. The development of acute tuberculosis, without latent and

hereditary predisposition from nosocomial causes alone, is of very rare occurrence. The author here expresses the opinion, that the three great wars of modern times have completely overthrown old notions as to the indispensability of rigid (reduced) regimen in the treatment of wounded, and that the majority of military surgeons of all nations are inclined to give preference to the opposite plan. He is well convinced, not only of the innocence, but of the positive necessity of generous diet and stimulants, (alcoholic, vinous and malt liquors,) provided they do not induce more or less anorexia, and other disturbance of the digestive functions. To those who have but little appetite during the period of reaction, a cup of warm tea, with, perhaps, bread and milk, will prove more salutary than the watery, insipid gruels and tisanes, formerly so much used in public and private practice.

As *special local accidents*, exuberant granulations, white or ash-colored patchy exudation on the surface, re-ulceration of the cicatrices, worms and larvæ in wounds, receive attention. For these last spirits of turpentine, guaiac mixture, and creosote are favorably spoken of; while pediculi, which are particularly apt to be troublesome when gypsum and other immovable dressings are used, are best gotten rid of by the infusion of sabadilla.

3d. *Nervous phenomena arising from traumatic irritation.*—Pirogoff, throughout the entire Crimean War, met with but five cases of tetanus, and his entire experience extends to but eight cases. He thinks the most plausible explanation of its nature is to assume a toxæmic state.

4th. *Accidents from traumatic infection and blood-poisoning.* (a) *Pyæmia.*—The mechanical origin of this disease from thrombosis is very rare; it is a toxæmic disease, in the widest sense of the word, and by no means peculiar to wounded. The substance of the author's investigations on the origin of pyæmia are embodied in the following principles, as enunciated by himself. The chief source of pyæmia must be sought for in the purulent miasm. The connection of it, probably, is best explained in the same way that Pasteur did that of spornles, in the so-called generatio aequivoca. Its vehicles will probably be found, like the germs of fermentative material, floating in

the air. In some cases pus itself may become the vehicle of its own infecting properties. The injection of pus from a common phlegmonous abscess does not induce pyæmic symptoms until repeated several times. Cases of pyæmia, developed in consequence of an abscess opening into a vein, show that the contact of of pus with air is not an essential element in its production. This view is strongly corroborated by those cases in which, after a small cicatrizing ulcer, pus is found in large quantities in peripheral veins not occluded by thrombi, and in hepatic abscesses. It is also an undeniable fact that pus, in its unaltered condition, when it enters rapidly and in considerable quantity into the circulation, is a substance that can give rise to pyæmia; whether it effects this by inducing coagulation of the blood and the formation of emboli, or directly as pus, does not practically alter the question. Pus, on the other hand, when gradually absorbed may not be productive of the slightest injurious effect on the system. The harmlessness of the entrance of pus into the blood in such instances may be better accounted for, perhaps, by the slow course of absorption, than by the hypothesis of its conversion into an emulsion. We know, also, that pyæmia is not always developed from suppurating wounds, even when the secretion is enormous, and when the mechanical conditions are most favorable for the entrance of pus into the veins. There is still another element which appears to be almost a sine quâ non in its production; this is to be sought for in the contaminated media, in the midst of which the patient is placed. It may be assumed, moreover, that the miasm infects the system as well by inhalation as by the contagion or secretions of wounds. Certain pathological processes, especially suppuration in various organs and tissues, are peculiar to all forms of pyæmia so soon as they have attained their full development.

Pirogoff gives in this place an account of two attacks of illness which he suffered from in the years 1841–55, the causes of which he could only trace to the constant inhalation of purulent exhalations in hospital wards and in the dead house. Other persons employed in the hospital also suffered some in a similar, others in a much more severe manner than himself.

After an experience acquired during twenty years' practice,

and from frequent necropsies, the author enumerates the following forms of pyæmia as an evidence of their extraordinary variety: 1st. *The common classical acute pyæmia, coming on in consequence of wounds or after parturition.* The most frequent pathological conditions are abscesses of the liver, both with and without thrombosis of the hepatic veins. 2d. *The Hunterian phlebitis or thrombosis of a large peripheral vein of modern pathologists.* Pyæmia, even in Hunterian phlebitis, whether it appears after a traumatic lesion of the venous trunk, after parturition, or spontaneously, seems for the most part to be the consequence of an infection, and the primary cause of the pyæmic thrombosis should not be sought for exclusively in the local conditions. 3d. *Spontaneous Pyæmia.* Under this form must be included (a,) those cases in which during various epidemics the perfect type of classical pyæmia presents itself, supervening from seemingly the most trifling and even almost completely cicatrized wounds; (b,) those cases in which peracute pyæmia attacks apparently healthy persons, without the slightest extrinsic cause, under the form of purulent œdema, furuncle, or anthrax; (c,) pustules and diptheric exudations scattered over the entire surface of the body, which likewise appear sporadically in apparently healthy persons, and terminate fatally from persistent suppuration; or, again, abscesses disseminated through the most remote organs, which are observed in malarious regions, in connection with pernicious intermittent fever and symptoms of typhus. 4th. *In traumatic pyæmia, without any rigors whatever, or at most with but one, or instead of these phenomena a single general perspiration.* Pyæmia from the entrance of pus into the circulation, either from inhalation of purulent exhalations, or from contact of pus with the wound. 5th. *Pyæmia occurring under the form of acute and chronic diseases.* All morbid actions which involve softening, suppuration, and sphacelation of tissues, may also be brought within the sphere of pyæmic processes, when subjected to the modifying influence of a purulent miasm.

(b.) *Septæmia.*—The lines of demarcation between septæmia and pyæmia, so clearly defined by the advocates of the mechanical theory of the latter, gradually disappear as our observations extend to a larger series of cases, and we find numerous

transition forms between them, just as is the case with the infecting material itself, which varies from laudable phlegmonous pus to gangrenous ichor. Pirogoff divides septæmia, which is very manifold as regards its intensity, into seven different series. 1st. A transient form, corresponding to the period of union of the wound. 2d. A form also mild in its beginning, coming on during the cleansing of wound or in its suppurative stage, running into pyæmia, metastatic abscesses, or terminating at once in death. 3d. Septæmia supervening suddenly upon the suppurative period of the wound, or upon pyæmia. 4th. Form arising from suppuration of a traumatic or traumatico-scorbutic extravasation of blood. 5th. An acute septæmia, occurring on the second or third day after a traumatic injury, or after an operation. 6th. A subacute or chronic form, which is accompanied by very ambignous local phenomena. 7th. That which appears with mephitic gangrene after a traumatic injury, and previous to the period of reaction.

*Mephitic gangrene* appears under two forms; in both the blood-poisoning is owing, apparently, to the reception of deleterious gases into the circulation. The primary form shows itself within two days after the injury, and supervenes immediately upon the local stupor or shock; constituting that form of blood-poisoning from the presence of bubbles of mephitic gases into the circulation. The other form develops itself only after reaction.

(c.) *Hospital Gangrene.*—This was of comparatively rare occurrence in the Crimean war. In this disease, too, the various transition phases did not admit of the drawing of well-defined distinctions between its several forms, though Pirogoff ranged them under six series. The local as well as the general phenomena of nosocomial gangrene are modified by the influence of the prevailing miasmata, and are not therefore always identical in the different endemics. As regards its infectious nature there can no longer be any doubt. Of its individual symptoms, the violent pain, insomnia, and hemorrhage deserve especial attention.

*Treatment of Nosocomial Infection and Blood-poisoning*—"There is no genuine surgery where hospital pyæmia and hospital gangrene prevail," is the strong expression of the author.

Surgeons who occupy themselves in trying to invent antipyæmic operations give proof that they look for the chief cause of pyæmia not in hospital contagion, but in operative procedures themselves. The advance of modern surgery in this respect is perhaps more dazzling than substantial.

In large hospitals, as well as in military practice generally, with the exception of a few plastic operations, attempts to obtain union by first intention should, for the most part, be given up. Pirogoff now scarcely ever uses in public practice sutures and adhesive plaster for closing large and deep wounds; he brings the edges together so far as can be done without tension, by their own weight and attention to position, or by means of gentle pressure, with suitably-adjusted compresses and bandages. Hermetical closure of deep wounds should be refrained from, or at least the angles must be left open. Chlorinated water, with spirits of camphor, is recommended as the best preparation for injecting wounds. In many cases the introduction of an elastic catheter into the cavity of the wound, either for temporary purposes or to be left in some time, is of great benefit. All latent or concealed sloughs, putrefying organic substances, fragments of carious bone, should be promptly removed, by incisions if necessary.

Patients suffering from pyæmia and gangrene should be isolated and rigidly quarantined, which is best effected by the use of hospital tents. The following words appear to be aimed at Nendörfer's doctrines: "The practice of those who, recognizing the contagiousness of nosocomial diseases, still find it more expedient not to segregate infected patients, but to distribute them about the wards, appears, to say the least, very inconsistent. It seems puerile to wish to prove the harmlessness of aggregating infected with non-infected patients, by the fact that such a course may be not only not detrimental, but even beneficial. It is inhuman and unwise to bear in mind alone the welfare of those already infected, and for the sake of an imaginary advantage to put to the test the susceptibility to contagion of those as yet exempt."

Recovery from well-pronounced forms of classical pyæmia is always very doubtful. However, even in epidemics, the system of isolation should not be neglected. The prevalence of

pyæmia in the Russian hospitals, during the entire siege, is ascribed to the fact that in the beginning of the war attention was not at once awakened to the necessity of transporting patients to remote localities, at whatever cost. In every great war it should be an imperative rule with those in authority to transport wounded, from its very commencement, to points not most convenient, simply on account of proximity, but to those more remote.

The curability of *sporadic* pyæmia, and of its milder forms, is attested by numerous cases of recovery; the peracute forms accompanied with acute tuberculosis, farcy, acute scorbutis, with hospital gangrene, are most dangerous. There are no specific antipyæmic remedies, though quinine (gr. vj–x. daily with wine and aperient means) is always indicated, especially in the beginning of the disease. For evacuating the bowels, one or two wine-glasses of the following mixture may be used when not contra-indicated by the presence of diarrhœa, (magnes. sulph. ℥iss., infus. quassiæ, (ex. ℥i.–jss.) ℥viij. e. clix. acid., haller, ℥ss.–j., with the occasional use of opiates. Metastatic peripheral abscesses should not be opened, at least too early. Country air and sea-bathing are indispensable, to recovery from chronic pyæmia.

In *hospital gangrene*, besides general disinfecting measures, the destruction of the infecting secretions of the wound itself is imperatively necessary. During the last fifteen years of his hospital practice the author has very seldom used the actual cautery, and not at all during the Crimean campaigns. His favorite mineral caustics are the *saturated solution of nitrate of lead* and the *chloride of zinc*. The result is the more secure after the employment of these means, the more thorough the mumification of the slough has been, the drier and tougher it becomes, and also the more completely it includes all the infiltrated parts, and the longer it is allowed to remain attached to the wounded surface; it should never be treated with emollient applications for the purpose of hastening its removal. Besides creosote, muriated tincture of iron, astringent, aromatic and absorbent powders also come in play. The scorbutic form often does not tolerate the use of caustics of any kind.

VII. *Operations in Military Surgery.—Anæsthetics.*—Great

ænemia, mephitic gangrene, and previous severe shock, are to be regarded as the only contra-indications, to the use of anæsthetics. The author has not had a single fatal result from the employment of chloroform in his whole surgical practice, and only in five cases has he seen syncope of such a degree as to really endanger life; in the Crimea alone, chloroform was administered in more than ten thousand cases. The following rules are to be observed in the administration of anæsthetics: 1st. Chloroform should always be dispensed in small quantities; with this view, it should be put up in one drachm phials, and never used directly from a large bottle. 2d. The patient should be kept in a horizontal posture during its administration, and while under its influence; and it should never be given fasting, or, on the other hand, too soon after eating. 3d. In the beginning the sponge or cloth saturated with chloroform should be very gradually brought to the mouth of the patient. 4th. It should be removed and applied according to the rapid or slow sinking of the pulse. 5th. All constrictions which might interfere with respiration must be removed. 6th. The greatest circumspection observed with ænemic persons. The approved means of resuscitation are enumerated, and among these, in the asphyxia, even a tentative bleeding. The giving of anæsthetics should never be intrusted to inexperienced assistants, nor is the doctrinal division of anæsthesia into different stages to be relied upon by the surgeon. This means was frequently used for the purpose of diagnosis, in simulation, etc.

*Hemostatic operations.*—The ligature is still the most important, simplest and safest means for arresting hemorrhage; the majority of other methods having more or less repute in modern times, are altogether unreliable. Torsion may, however, be employed with advantage in certain cases, especially in bleeding from small arteries.

Pirogoff has tied the *common carotid* fourteen times, once on both sides, with success, and twice in children little more than a year old. Of eleven cases of primary ligation, six were successful, and in the fourteen cases there was only one instance of consecutive hemorrhage; that occurred in a child eighteen months old, and eight weeks after the operation. The cause of fatal termination of ligation of the carotid, in hospital practice,

is usually acute purulent œdema of the deep-seated cellular layers of the neck, which extends to the mediastinum. The arteria innominata he tied once, but without success. This operation, he thinks, is best done by seeking for the trunk directly in the middle of the jugulo-trachial space. He has applied the ligature to the sub clavian above and below the clavicle nine times; three times with success. It is usually more difficult to find the vessel below the collar-bone than in the supra-clavicula fossa. In secondary hemorrhage from the branches of the brachial artery, tying the trunk above the origin of the profunda humeri is to be preferred to ligation in the middle of its course. Of thirteen ligations of the brachial generally ten were successful. The iliac vessels were tied altogether fourteen times, viz: the common iliac twice unsuccessfully, and the external iliac twelve times, with a favorable result in one-half the cases. By the author's method of performing this operation injury of the peritoneum is more surely avoided, while there is less risk of consecutive hemorrhage, and recurrence of aneurism, where the operation is done for the relief of crural aneurism, than in the application of a ligature to the femoral artery, since the vessel is tied above the origin of the profunda femoris. Ligation of the *common femoral* does not yield very encouraging results in hospital practice; of twenty-one cases reported by the author, only eight (8) were undoubted successes; in the others, the terminations of which were known, either ligation of the external iliac was required or death directly resulted.

*Arteries of medium size*, having numerous anastomoses, should be sought out and tied, in traumatic hemorrhage, at the bleeding point; ligation on the cardiac side is of no use, on account of the anastomoses. The operator should be guided by cellular planes, in searching for wounded vessels.

Wounds, after ligation of arteries, are not to be hermetically closed; for the most part, slight covering, with relaxation of the edges of the wound, by suitable position, suffices. Where, after division of muscular strata, the wound gapes widely, as after tying either of the iliac arteries, the lips should be approximated with adhesive plaster, then a layer of wadding,

with a soft napkin, put over the entire abdomen, the thighs being flexed.

(2.) *Trephining and Osseous Resections.*—Only three cases of *trephining* recovered, out of ten operated upon by Pirogoff. The same number of cases were also operated upon by others, with nearly the same result. About twenty instances of elevation and extraction of fragments of bone and balls, after gun-shot fracture of the skull, for the most part, terminated fatally. The result obtained, however, does not justify the unqualified rejection of the operation, as Stromeyer thinks. The use of the *osteotome* is not, on the whole, easier or safer than the application of the trephine, which, made according to the modification of Charrière is an indispensable instrument in military practice, while those of more voluminous or pyramidal crowns are regarded by Piragoff as useless. Injury of the meningeal artery is the only unpleasant accident that has happened to the author in performing the operation; detachment of the external from the internal table, or, more correctly speaking, from the diploëic structure, as well as injury of the sinuses of the dura mater, he has never seen except in operations upon the cadaver.

In *traumatic resections*, the distinction into *primary* and *secondary* operations must not be lost sight of. Traumatic subperiosteal resection can seldom be accomplished in primary operations, the periosteum being, for the most part, too extensively separated from the bone and soft parts. In the secondary, however, the periosteum can be much easier preserved, since it, with the soft parts, is not unfrequently much thickened, and but loosely adherent to the bone, particularly in scorbutic affections of the latter. However, we cannot hope for reproduction of bone in all instances where the periosteum is preserved. In ordinary cases of exsections of joints for wounds, where not more than an inch and a half of the articular end of either bone is removed, and where thereby anchylosis may be avoided, there is no necessity for saving the periosteum. On the other hand, in the resection of the diaphysis, to the extent of several inches, the utmost care should be taken to save the periosteum. The anatomy of the particular joint, and the nature of its injury, must determine whether the bone is first to

be disarticulated, and then the diaphysis resected, or the reverse. The chief point in preserving the periosteum is to carry the incisions through the soft parts well down to the bone, and not to separate the periosteum from the muscles, which is not difficult to do in secondary operations.

Great importance is not to be attached to the study of the many special methods of operating. An acquaintance with the principles of practice is all that is requisite. The more inexperienced the operator is, the more care must he take in performing exsection, that his incisions give him free access to the articular cavity. The muscular fibres should not be divided transversely; the unavoidable transverse section of tendinous insertion at the articular ends of bones should, if possible, be made subcutaneously. Whether a single longitudinal or a transverse or valvular incision is chosen in the exsection of joints, has generally but little influence on the final result. The thickness of the infiltrated joint, the numerous cloacæ, fistulous orifices, etc., as well as the tension and erysipelatous redness, or an acute pyarthrosis, should no more prevent the performance of secondary exsection, than the extent of osseous comminution and destruction of muscular tissue would prevent the undertaking of a primary exsection, as long as the vascular and nervous supply of the joint and limb remains uninjured. The position of the orifices of gun-shot wounds in primary resections, and that of fistulous orifices in secondary operations, determines the position and direction of the incisions, to a great degree. The removal of large pieces of bone gives better results in later than in primary operations. Pirogoff has never had occasion to tie arteries, in exsection of joints, the bleeding ceasing of itself; nor did he ever see severe consecutive hemorrhage. The instruments required for resections are of the simplest possible kind. By applying the gypsum dressing immediately after the operation, the author has always succeeded in maintaining the edges of the wound in suitable apposition, without tension or force of any sort. Pirogoff always avoids cold, moist applications, in the after-treatment of resections; nor does he undertake passive movements of the limb, with artificial extension of the connecting medium, until after a lapse of six or eight weeks. He recommends, es-

pecially to young surgeons, his operation for exsection of the elbow-joint. Exsection of the shoulder joint, with or without integrity of the biceps tendon, he invariably performs by a longitudinal incision on the anterior aspect of the joint; and in many cases, for the easier separation of the edges of the incision, he makes small *sub-cutaneous* transverse ones at the upper attachment of the deltoid, and in some cases limited cutaneous divisions at the same point. The gypsum dressing is to be applied immediately after the operation, in such a manner that the elbow is flexed at a little more than a right angle, and fixed to the side. In military practice Pirogoff has never attempted exsection of the hip or knee-joint.

(3.) *Amputations and Disarticulations.*—If the skin and muscles are in a normal state at the point selected, and there is no excess of adipose tissue, Pirogoff advises his *circular conoidal* method of amputation. This method differs from that of Langenbeck only in not requiring a special knife, a particular position of the operator, or of the condemned limb; nor does it require that flaps should be made from without inwards. Otherwise the operation by drawing the knife, rather than by bearing upon it, is to be retained, as is also the so-called extirpation of the bone of Langenbeck, i. e., a clean terrace-like section of the different tense and more or less retracted muscular layers. If the soft parts, however, are degenerated, Pirogoff either forms two quadrangular flaps of integument, (one anterior, another posterior, or two lateral,) or two museulo-cutaneous flaps from without inward. In amputation at the shoulder-joint, the double oval flap method is the most suitable for military practice, particularly on account of the excellent covering it affords for the stump; as the lateral incisions are carried not less than four inches downward from the acromion, the arteries may be easily controlled in the wound; greater security is thereby obtained in this operation against the not unfrequent consecutive hemorrhage of the axillary artery. Pirogoff, from his experience, strongly advises against the adoption of Lisfranc's operation. In amputating at the surgical and anatomical neck of the humerus, the author operates in the same way as in amputation at the shoulder-joint, with a double oval flap. In about ten cases where amputation of the thigh was

done by forming a large anterior and a small posterior flap, death very soon followed, in consequence of pyæmia and septæmia. Eight cases of disarticulation at the hip-joint also terminated fatally within a few days after the operation.

The paramount technical advantage of the method which Pirogoff adopts for all amputations, whether in the cone-like circular mode, or with the cutaneous or museulo-cutaneous flaps, or with oval ones, is: 1st. That in all these modes of making the section of the soft parts, more of the integument is preserved than in any other known way. 2d. That the ends of the divided muscles never project beyond the surface of the flaps, but are always covered by integument. 3d. That in the circular flap and oval operations the flaps are not thick, shapeless, fleshy masses; but consist of a thin, smooth, integumental covering, and of thin, smoothly divided, muscular layers; consequently the wound, after all three of these operations, has always more or less the form of a cone, whose walls consist either of integument, or of thick muscular layers. 4th. The latter do not, therefore, during the period of suppuration, run into unshapely masses, and the skin does not become attenuated and deprived of its sub-cutaneous adipose tissues. In every recovery, after amputation by the circular and oval flap methods, the form of the stump is all that can be desired.

In all amputations the author strives to be as conservative as possible, and, therefore, operates through the epiphyses as well as the diaphyses. In regard to particular modifications of amputations at various regions, we cannot do more than refer to the original. Amputation through the knee-joint he has never undertaken in military practice. The well known osteoplastic operation at the ankle-joint is commended to the special consideration of surgeons. He prefers amputation of the metatarsus, with the previous formation of plantar and dorsal flaps, to Garengeot-Lisfranc's disarticulation. Chopart's operation he always did with two flaps, sawing off the articular surfaces of the astragalus and os calcis when found affected. Disarticulation between these two bones he has never performed; in the same operation on the metacarpal and metatarsal bones of the thumb and great toe he recommends the method by oval flaps.

The only instruments Pirogoff uses in amputations consist of

three knives and a *bow saw*. For arresting hemorrhage he uses only dissecting forceps and a pair of torsion forceps, occasionally Bloomfield's tenaculum, and the tourniquet only in the absence of efficient assistants. The large vessels are always divided transversely in the modes of operation spoken of. He was in the habit of cutting off the ligatures too close to the knots after amputations. As he was not very fortunate in his attempts to obtain union by first intention after amputations, he therefore made it a rule to operate in such a manner that all the requisite conditions for union by first intention were present in the stumps, and also in the after-treatment to avoid everything calculated to disturb the union of the wound, but not to employ any forcible means for its attainment.

The following may be mentioned as the most serious troubles after amputations in public practice: secondary hemorrhage, spasm of the stump, infiltration of all kinds, with or without pyæmia, sloughing of the whole or part of the flaps, conical or "sugar loaf" stump.—*Schmidt's Jahrbücher, Oct.–Dec.*, 1864.

---

## PROCEEDINGS OF SOCIETIES.

### NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, February* 22, 1865.

Dr. Gurdon Buck, President, in the Chair.

TENIA FAVOSA IN A MOUSE.—DR. L. VOSS.

Dr. Voss presented a specimen in the shape of a mouse, which was afflicted with tenia favosa. A friend brought the specimen to him in a trap, with the statement that the mice caught for a year past in the same house were similarly affected. The disease in this instance was mostly confined to parts about the head, and occupied the right and left cheeks, the right and left ear, the cavity of the latter organ being completely filled by it. So extensive was the deposit around the eyes that the animal was rendered nearly blind thereby. In this connection, Dr. Voss stated that about ten years ago he met with this same affec-

tion in a cat, which had evidently communicated it to a lady who was in the habit of caressing the animal. The cat and the mouse were the only two animals, so far as he knew, which were subject to the disease. In conclusion, he exhibited plates of the eruption by Elfinger, and remarked that the disease was interesting in connection with the first discovery of a parasite in the skin, which was made by Schœnlin, in 1836.

URETHRAL POLYPI.—DR. D. S. CONANT.

Dr. Conant exhibited two small urethral polypi, removed that afternoon from a lady who, for nearly two years, had been suffering from what she supposed to be nothing but hemorrhoids. Four or five months ago she suffered more than usual pain from some small hemorrhoidal protrusions, and her father, who was a physician, prescribed some simple applications, without, however, making any examination. Soon after she began to suffer from vesical tenesmus, and to such a degree that she would actually faint after uriuating. On one of these occasions Dr. Conant was sent for, and on making an examination found, in the first place, hemorrhoids; secondly, ulceration within the sphincter ani; thirdly, a complete retroversion of the uterus, from which, however, she never suffered; and fourthly, two urethral polypi, one partly within, and at the verge of the orifice of the canal, and one on the floor of the urethra, about its middle. Both of these were removed by means of a fine wire through a canula, after the manner of the ecraseur. There was no particular pain experienced on handling the parts, and the inconvenience of the presence of the growths were simply made known by the symptoms of tenesmus already referred to. The operation having been performed during that afternoon, of course no particular good effect in the way of removing the tenesmus could so soon manifest itself.

Dr. Buck remarked that these growths were not of unfrequent occurrence, but the patients were usually inclined to suffer a long time from them before referring the matter to a surgeon.

Dr. Conant asked if hemorrhoids were ever treated by forcible distension of the sphincter ani, as in case of fissure.

Dr. Buck stated that he had had no experience in such a treatment, but he thought that he had heard it stated that, after an operation for the removal of hemorrhoids, it could be advantageously applied as a means of putting the sphincter at rest. As a method of cure for hemorrhoids he had not known of its application. In answer to another question from Dr. Conant, he stated that the distension might easily be made before the patient recovered from the anæsthetic.

THE IMPORTANCE OF REVACCINATION.—DR. BIBBINS.

Dr. BIBBINS made the following remarks upon the importance of revaccination:

I attach a great deal of importance to revaccination, as a protective agency against small-pox. The question has sometimes been asked whether vaccination and revaccination will completely protect an individual against any amount of exposure. During my connection with the Demilt Dispensary I went through three epidemics of small-pox, and I visited cases in the worst localities in the city, and yet never suffered the slightest inconvenience from any exposure, and the only protection I had was that given me by vaccination and revaccination. The cases of varioloid have usually happened in persons that have been a long time without revaccination. While we admit that cases may occur in those who have been recently revaccinated, it is still a question how far that revaccination is successful. During the present epidemic I have reason to know that a great deal of worthless matter has been used. Many persons who suppose that they have been properly vaccinated, and who consider themselves really protected, as far as the revaccination is concerned, are very much mistaken. I have known of cases, during the late demand for virus, that have been revaccinated from matter taken from revaccinations. Now, sir, I think there should always be a determination, on the part of those who wish to vaccinate and revaccinate most successfully, to obtain lymph from a primary vaccination. Those persons to whom I have referred, who have been vaccinated from matter otherwise obtained, have sores produced, but they are widely different in appearance from those made in the legitimate way. I think a person could be perfectly protected against small-pox for a period of years, by simple vaccination. I know of one instance where a captain who had been vaccinated in his infancy, and who, at the age of 40, was, by the force of circumstances, compelled to be in attendance on two cases of confluent small-pox on his vessel. He could not have the patients removed, neither would any one besides the physician have anything to do with them. Notwithstanding this extreme exposure the captain had no attack of the disease. On the other hand, I knew a few years ago of a person who had had small-pox in infancy, to suffer from an attack of varioloid, showing that not even an attack of small-pox is a guarantee for protection. Some few years ago a woman who had had small-pox in early life, lost, some years after, an infant with the disease. The child died on Saturday, and on the Tuesday of the following week she pre-

sented herself at the Dispensary, with pustules actually coming out in the scars of the old small-pox.

She was directed to the room of Dr. Thomas, who was then one of the physicians to the skin department, and he exhibited her to his class. There were a number of physicians who saw the case. The woman was soon so ill from the disease that she afterwards had to be attended at her house. This second attack was varioloid. I mentioned the case to Dr. Alonzo Clark, and he then said that there was a well-authenticated case on record of a soldier, who, on account of his having had confluent small-pox, was selected to bury a man who died of that disease, and that he was attacked the second time with the small-pox and died of it. These and other cases go to show that one attack of small-pox is not a complete protection for life. If, then, an actual attack of small-pox is not a certain protection, how can it be expected that simple vacciuation will be.

Vaccination does not always render small-pox mild. A child was vacciuated on the 17th of January one winter, and on the 21st (four days after) I was sent for to see the patient with an eruption. The mother was of the opinion that the physician had used small pox matter. I assured her that it was no such thing, but she would not be convinced to the contrary. I saw the child the following day, and the pustules were more developed. From the fact that they went on equally with the vaccinatiou pustule, was an additional evidence in the mother's mind corroborative of the opinion which she had from the first entertained. I however agaiu assured her that no physician would dare do such a thing, but it was in vain. The next day, as it was a remarkable case, the house physiciau went to see the patient, and took with him two army surgeous. He took virus from the vesicle iu the usual manner and at the proper time. I saw the child later in the day, and the woman was theu more than ever convinced that the matter was that of small-pox, and expressed her fears that some other child might suffer as hers had doue if it were used agaiu. Uuder the circumstances I thought it best to caution the doctor against its further introduction, and he did not make use of the virus. The result of the case was, that though the pustules of varoloid went *pari passu* with the vaccine pustule, the child nevertheless had secondary fever, and died on the 14th of February, 28 days after vaccination.

The vaccine from this case was used by a physician upon a child never before vaccinated, and the vaccination run its course without any trouble.

In most cases where vaccination precedes small-pox, the disease is

made milder, and if care is exercised in its treatment most of the individuals who are thus affected are safe. Sometimes the right virus is not used, and again, if of the right quality, is not properly inserted.

It is the custom in the Foundling Hospital, in Russia, to vaccinate and revaccinate until the virus will produce no effect. It is probable that many of the cases that have been revaccinated would still be found to have some susceptibility to the poison. If a person is revaccinated, and the revaccination is mild in its effect, it is proper, especially in an epidemic of small-pox, that they should be repeatedly revaccinated every three or four years, and should be the more careful to have it done in proportion as the virus produces its effects. Only last year I revaccinated a family with the best virus I could command, and they did not suffer from it; this year virus equally good was used alike upon the whole family, and every member had an arm very much inflamed. There seems in some seasons an epidemic condition of the constitution, in which there is evinced a greater tendency for revaccination to show its effects than in others; this seems particularly the case at the present time.

Dr. Buck asked Dr. Bibbins what were the youngest subjects in whom he had found revaccination to take.

Dr. Bibbins recollected one case in a child 5 years old who had been vaccinated in infancy. The revaccination took well, and there was as good a pustule formed as is ordinarily seen.

Dr. Buck inquired the age of the youngest child Dr. Bibbins had met with who had been subject to varioloid.

Dr. Bibbins did not recollect to have often seen that disease in young children, and could not call to mind the age of any particular one.

Dr. Buck stated that the youngest case of the sort he had seen was in a child 9½ years old. He had recently revaccinated a family of eight or nine, including the children. The revaccination took in all except the cook, who required a repetition of the operation. The mother took charge of the son with the varioloid. About the ninth or tenth day after the eruption showed itself in him, and about the seventh or eighth day of her revaccination, she was suddenly seized with headache, chills, feverishness and lassitude, and then, after three or four days, a few scattered eruptions, about twelve in all, made their appearance over her body. The lady's daughter had the same general symptoms, but without any eruption. It seemed that the contagion had affected them both, and the effects of the revaccination had, so to speak, modified the attack of varioloid which, under other circum-

stances, might have more fully declared itself. Dr. Buck, in conclusion, stated that revaccination took in his nephew, who had been vaccinated in infancy, at the age of $6\frac{1}{2}$ years.

Dr. Conant mentioned a case of a girl who had varioloid when seven years of age, and who had been successfully vaccinated when she was three months old.

Dr. Bibbins recollected a case of some interest in regard to the susceptibility of small-pox in infants. A family of children were suffering from small-pox, and the mother refused to have an infant revaccinated, saying that all her other children had had the disease, and that it was her intention that the remaining one should share the same fate. He called the next day, but the woman saw the doctor coming, and locked her door. The following day he called again, and found the mother, who was an intemperate woman, lying across the doorway intoxicated. He stepped over her without causing her to awake, and vaccinated the infant while it was asleep in the cradle. The vaccination took, and the child escaped.

Dr. Jacobi referred to three cases in point. One was a girl 5 years old, who had been vaccinated in infancy, revaccinated seven weeks ago, and had varioloid at the time of reporting the case. The scar on her arm from the first vaccination was very distinct. Another was an instance of an early successful revaccination. The patient was a boy whom the doctor had vaccinated three years before, and revaccinated within the past year in two places. The pustules of the revaccination were well developed. The other case was also another illustration of the same thing. A child vaccinated in infancy had a successful revaccination when four or five years of age.

Dr. Peaslee believed that the protection afforded by vaccination and revaccination was apt to wear out in a longer or shorter time, according to circumstances, and endorsed the view taken by Dr. Bibbins as to the utility of repeated revaccinations being performed, until there was no susceptibility to the virus.

Dr. Bibbins referred to the following curious case: A case of small-pox occurred in the Opthalmic Ward of the Nursery Hospital on Randall's Island, and all the children who did not show satisfactory vaccine scars were revaccinated. One of these cases revaccinated had, it is true, an unsatisfactory primary scar, but the revaccination took well. On the twelfth day, however, small-pox papules began to show themselves, and the case soon became so distinctly one of small-pox that the patient had to be transferred. So marked were the evidences of the disease that it was almost confluent.

INTUS-SUSCEPTION.—DR. E. R. PEASLEE.

Dr. Peaslee presented two specimens, one removed from the patient before death, and the other obtained at the post-mortem examination.

(This case is reported in another part of this journal, page 258.)

Dr. Shrady, who had made a microscopic examination of a portion of the specimen, stated that there were no appearances presented under the microscope which would lead him to suppose that the membrane was intestine; there were no involuntary muscular fibres present; nothing, in fact, but an abundance of white fibrous and connective tissue.

Dr. Conant remarked that, notwithstanding the microscope had failed to detect smooth muscular fibre, he believed that the specimen was really intestine. He could not see how a sheet of false membrane could be discharged of that length and symmetry of shape, and have a membrane attached to the tube, in precisely the situation and relation which would be assumed by the mesentery. Again, the small intestine was found on post-mortem examination to measure but 16 feet.

Dr. Krackowizer did not believe that it was intestine for the following reasons: In the first place, the walls of the mass were very thin, which would not be the case if it were an intus-susception, as in the latter instance the parietes of the incarcerated portions very much thickened. Secondly, there must be a double tube formed, which, of necessity, must present a mucous membrane, both externally and internally, while there would be a reduplication of the peritoneal lining within. He could, however, conceive of a condition of things which would render the supposition of the membrane being nothing more than a croupous exudation very possible.

An exudation might take place from the mucous membrane of the intestinal canal, and occupy at first its entire internal circumference; this in time might separate itself, except at one particular point, where a fresh deposit of the exudation might take place in such a manner as to allow of the formation of an extra sheet of membrane outside of this tube of exudation, but still within the intestinal canal. Finally, this latter attachment might be separated, and the whole pass per rectum.

Dr. Conant could not conceive of the possibility of the formation of a croupous membrance in such an ingenious manner as shown by Dr. Krackowizer. Then, again, another fact which bore stubbornly against Dr. Krackowizer's theory, was the extreme shortness of the intestinal canal as found at the post-mortem examination.

Dr. Krackowizer contended that if the intus-susception had sloughed off and was discharged, it would, besides presenting two mucous sur-

faces, be smallest at its lower end, and appear like an inverted cone, the extremity of which would be more or less curled, owing to the traction which would necessarily be exerted upon it by the mesentery. This latter membrane, too, being engaged between the opposing surfaces of the peritoneum, would eventually become adherent to it, and give the invaginated portion that increased thickness which is common in such cases. Again, there were no appearances of peritoneal surface on any part of the specimen.

Dr. Peaslee thought that the explanation offered by Dr. Krackowizer was an exceedingly ingenious one, and though the occurrence of such phenomena were by no means an impossibility, still it was an extreme improbability. He agreed with Dr. Conant in the belief that the specimen was one of intestine, and, as such, he considered it as belonging to one of the most remarkable cases of the sort on record. It was owing, in his opinion, to its extreme length that any serious questions were raised against its being what it really in his eyes seemed to be; in other words, if it had only been four inches long the fact of its being intestinal canal would not appear so improbable. The specimen had been for a long time immersed in alcohol, and had doubtless lost many of its essential microscopic characteristics, and, of course, under the circumstances, the microscope could only decide what could not be seen, while the results of the examinations made did not disprove the fact, that at one time non-striated fibre did exist.

The specimen, too, presented all the gross appearances of portions of the intestinal canal, which he had had for many years immersed in alcohol, and which had been used by him for purposes of anatomical illustration in his lectures. As to the want of a double fold in the invaginated portion, he did not think that fact so difficult of explanation, as it was not known in what manner the membrane was extended, nor whether it had not been disturbed after its removal.

Dr. Voss believed that the case was one of invagination, because of the presence of the polypus of the intestine. In case it was assumed that the theory of Dr. Krackowizer was the correct one, it was impossible to conceive of the existence of such a fortunate set of circumstances, whereby not only the tube should be so perfectly formed, but that the extra sheet of membrane should be so accommodating as to arrange itself in a given straight line on the circumference, which line should have the precise direction of the long axis of the canal.

Dr. Speir was of the opinion that if the specimen was one simply of croupous exudation, the fibres composing it would be more or less granular.

ADIPOCIRE.—DR. S. F. SPEIR.

Dr. Speir, of Brooklyn, exhibited a specimen taken from the body of a lady 45 years of age, who had been a patient of Dr. J. D. Connolly, of Brooklyn. The patient was attacked in December last with a very severe pain in the left hypochondriac region. Dr. C. was called and made an examination of the chest, suspecting the existence of some pleurisy or some disease of the heart. Opiates and other anodynes were prescribed, but failed to relieve her, and subsequently the hypodermic injection of morphine was tried. The patient stated to her attending physician that she had suffered from the same symptoms previously. Dr. Connolly being unable, as the result of a second examination which he gave her, to make out a diagnosis, called a consultation, consisting of Drs. Crane and Enos, but these latter gentlemen failed also to come to any conclusion as to the nature of her ailment. The lady died on Monday last.

The first thing which struck Dr. Speir, who made the autopsy, was the great amount of adipose tissue which had been developed, it being about two inches in thickness over the chest and abdomen. The chest contained in both pleural cavities a small quantity of serum, the lungs were normal, except perhaps an increased hypostatic congestion at the base of each. The heart was normal. The abdomen contained a sero-purulent fluid. There were evidences of peritonitis present, and at different situations the surfaces of the intestine were glued together. In an attempt to remove the stomach Dr. Speir thrust his hand through a mass which felt like hardened fæces, and a perforation was accordingly suspected. Careful search was made of the stomach and intestine, but nothing of the sort found. This soft substance proved not to be fæces. There was about a pint of it scattered throughout the left hypochondrium, in the mesentery and in the surrounding adipose tissue. It was adherent to the diaphragm, and seemed as if it originally started from that organ. The microscopic examination showed only crystals of margaric acid, while some fibres of connective tissue in a state of fatty degeneration seemed to run through it. Dr. Speir thought it to be an example of adipocire.

In answer to a question in relation to the cause of the symptoms, Dr. Enos stated that he had seen the patient several times, and had come to the conclusion, with the other gentlemen, that it was explainable on the supposition of the existence of pleurisy with effusion. In conclusion, he remarked that the substance alluded to by Dr. Speir was very remarkably situated, as it was in such a relation to the diaphragm, and not enclosed in a cavity of any size.

Dr. Voss asked if it might not have been cancerous disease of the mesenteric glands.

Dr. Speir replied that there were no evidences of such a disease presented by the microscope, but he thought it reasonable to suppose that the mesenteric glands might originally have been the seat of the degeneration just described.

---

## REVIEWS AND BIBLIOGRAPHICAL NOTICES.

*Outlines of Surgical Diagnosis.* By George H. B. Macleod, M.D., F. R. C. S. E., Fel. Fac. Phys. and Surg., Glasgow; Lecturer on Surgery, Anderson's University; Surgeon to the Glasgow Royal Infirmary, and the Lock Hospital; late Senior Surgeon Civil Hospital, Smyrna, and General Hospital in Camp before Sebastapol; *Mem. Corr. de la Soc. de Chir. de Paris;* and Author of "Notes on the Surgery of the War in the Crimea." Reprinted from advance sheets. 8vo, pp. 505. New York: Baillière Brothers, 1864.

In a prefactory note the author seems to invite criticism of the plan of arrangement which he has pursued in this work. We shall take no issue with him upon that point, but are disposed to concur with his judgment as to its practical convenience, both to author and student. He offers no results of personal experience or original research, and a mere *resume* of the accepted facts in this department of medical science may well be presented, as here, in the form of an alphabetical index.

As "index-learning," according to a medical authority, has its advantages to the reader, in that it

> "Turns no student pale,
> Yet holds the eel of science by the tail,"

so index-making simplifies the labor of the writer by relieving him of all literary obligations save those of clearness, fullness and accuracy of statement. A strict and even fastidious regard for syntax will not be amiss, while the lighter graces of rhetoric may well be dispensed with, if not positively interdicted.

When, for instance, a grave and simple statement is sprung upon the studious inquirer in the disguise of an exclamation, as follows (p 14)— "What a different idea would we form of the nature of retention of urine in a female and a male, or of paralysis of the limbs in a young

woman and a young man!" or this (p. 16)—"How much is frequently learned of a person as he walks toward you!" or this (p. 17)—"How clearly do asthma, phthisis, chlorosis, cancer, organic disease of the heart, lungs and kidney, epilepsy, apoplexy, scurvy, scrofula, mental affections, hysteria, jaundice, purulent infection, and the whole class of eruptive diseases show themselves in the face!"—the impulse is strong for the literal fact-seeker to return the vague missile with an interrogatory, instead of an exclamatory termination—"Yes, what?" "How much?" "How clearly?"

Surely such unproductive luxury of the parts of speech should have been retrenched, while elsewhere sentences are found destitute of the common comforts of syntax; e. g., "By the anus the tumor" (ovarian dropsy) "can be felt, and lastly, if a slender trocar and canula *is* inserted and the product examined by the microscope, *they* will" (that is, the anus, the tumor, the trocar and canula, the product and the microscope, we suppose) "indicate the nature of the affection," (p. 370;) and again on p. 459, *sub voce* "Tumors," in successive paragraphs, too long to quote, where erratic verbs and substantives frisk to and fro between singular and plural without apparent motive.

We would not indulge in pedantic cavil, but these are by no means the only instances which lead us to fear that the ancient and unsavory but wholesome academic discipline which has trained many generations of Scottish youth into clear and forcible writers, was unduly relaxed in the case of our author.

Medical literature inevitably bears the opprobrium of so much slipshod writing, and of so many useless new words, that when we unexpectedly meet with one or the other on the part of an author of Dr. Macleod's standing, we feel it the more reprehensible. Why, we venture to ask, would not the authorized word *stercoraceous* serve his turn as well at the bottom of p. 299 as at the top? What special need drove him to invent "stercoraceal" or "stercoracial," and to use it interchangeably, here and elsewhere, with the familiar form of the adjective? Why, in his description of simple bubo, (p. 167,) having stated clearly that "There is usually only a single gland affected," should he add immediately, "It is monoglandular?" Probably, for the sake of introducing that new and interesting hybrid, one of that ingenious class of words which indicate that he who uses them knows just as much Greek as he does Latin.

It is almost too late, we fear, to express the wish that Dr. Macleod, and a good many other medical writers, would not say "to diagnose," which is wrong, instead of "to diagnosticate," which is right.

We might fortify our objections to the author's style by numerous other instances, were the labor profitable. The faults which we have remarked upon would perhaps be less striking in a work of a different scope; but surely we might expect and love to find our compiler, our cyclopædist, a bit of a precisian. We turn to more practical points.

The first sixty pages of the book are devoted to an Introduction, treating in a general way of the science and art of investigating disease. This is rather a sketchy and allusive, than an exhaustive essay, and would gain by careful amplification. So far as it goes it is sound and suggestive enough to be read to the advantage of the student.

In this introduction Dr. Macleod gives little more than an enumeration of the more important instruments of diagnosis; a fuller description would have been acceptable in a treatise of this sort. It would have been, we hope, more accurate in the main than the account given (p. 116) of the ingenious and celebrated probe of Nelaton. "It has a small cup-shaped glazed extremity, about the size of a pea, on which a stain from the lead is left when it is impinged against the ball and twisted." Only three objections can be raised to this description; it is incomplete in not stating the material of the probe, porcelain—it is inaccurate in saying that the end is "cup-shaped and glazed;" it is ball or pear-shaped, and it is unglazed.

In this connection, under the heading "musket balls in the tissues," we find the statement, "if the ball lies deeper, a metallic probe will produce a ring when it comes in contact with the ball, or the sensation (much less reliable) it communicates to the hand will inform us of the presence of a metallic body." It has never occurred to us to see a case in which a deeply-imbedded leaden bullet in contact with a probe could be made to produce a sound which could be described as a ring, or in which the feeling transmitted by the probe was not more trustworthy than the feeble grating given nearly alike by deep lead or deep bone. In another place also, (p. 133,) dead bone is described as *ringing* like metal when struck by the probe. The expression appears to us infelicitous, and calculated to mislead the young surgeon.

The author does not omit some judicious cautions against the possible mischief to be done by the improper use of some of the various instruments of exploration. We fully agree with him in deprecating the unnecessary use of the exploring needle, (p. 58.) We would go somewhat further, and dissent most strongly from the recommendation which immediately follows:

"A narrow knife passed into the tumor, and then turned on its side, is a ready and tolerably efficient way of obtaining some of the fluid

contents of a tumor, especially if such contents turn out to be of a nature which we wish to give exit to, as the incision may at once be enlarged."

Very true, but if such contents should turn out to be those of an encephaloma, for instance—!

We are reluctant to leave this introduction without due mention of one surprising statement which it contains, and which is in these words: (p. 9,) "It is an axiom in British surgery, in examining a female, never to uncover any part of whose normal condition we have no reason to doubt." We cannot refrain from admiring the breadth and liberality of view which is implied in this use of the term "British." Had Dr. Macleod written from the banks of the Thames, he might have narrowed this expression to "English surgery," but the *lumen siccum* which glows north of the Tweed enables him to see that the virtue of decency is shared by surgeons throughout Great Britain, and (may we hope?) by those of Ireland and the Channel Islands as well. Nor will we be denied the privilege of sending through the bosom of the British surgeon a thrill of virtuous delight, by assuring him that even in the United States of America, which, though remote, is a somewhat extensive country, very similar views of decorum prevail, and that surgeons here do not commonly or wantonly strip their female patients.

The labors of our author show to the greatest advantage, perhaps upon those pages where he has collated, in parallel columns or other convenient form, the differential diagnosis between similar diseases—as for instance, under the caption Chancre, or Tumors, or Concussion and Compression of the Brain. In the article "Groin, enlarged lymphatic glands," (p. 281,) we find the statement: "If solitary * * * then they are probably syphilitic." Compare this with "Bubo from infecting chancre," (p. 167.) "Several * * * glands are found—(Pleiad.")

Pyæmia we are somewhat disappointed to find disposed of in a couple of pages, without a single new ray of light thrown upon its vague and unsatisfactory symptoms. It seems a scant allowance for the great question of the day in surgery.

The article under the caption "testicle" gives a very satisfactory exhibit in brief space of the diseases of that organ, and seems to us to be as favorable an example of the good qualities of the book as can be adduced.

The total omission of diseases of the eye and ear from a work of this

kind strikes one as a serious defect, but no explanation of it is vouchsafed, so far as we have observed.

In the detection of malingering, and the simulation of diseases, some of the greatest triumphs of the acute diagnostician have been achieved. Curiously enough Dr. Macleod barely alludes to this subject, though his large military experience, it would seem, must have given him opportunity for study of it as a *specialité*.

We have looked in vain, too, for some description of the state of shock, or collapse, a subject of the most essential interest to the student, and of daily importance to the surgeon.

The book, with all its faults, may be considered an inadequate effort in the right direction. It may possibly reach future editions. Before it does so, if Dr. Macleod has not the time to bestow upon it to make it what it should be, which we fear is the case, let him call to the work of recension some canny student in that "Anderson's University" wherein he is a lecturer, for surely there must be some such an one there, who by mere industry could make the second edition of this book better than the first.

---

*A Hand-book of Uterine Therapeutics.* By Edward John Tilt, M.D., Member of the Royal College of Physicians, etc., etc. New York: William Wood & Co., 1864.

Dr. Tilt has been well known to the profession in this country by his work on "Uterine and Ovarian Inflammation," and "On the Physiology and Diseases of Menstruation," and, to a less degree, perhaps, by his very original and useful treatise on "The Change of Life in Health and Disease." He is also the author of another work, of a popular character, which we believe has not been republished in this country, on the "Elements of Health and Principles of Female Hygiene." We should be glad to see this work republished here, as we believe it would be a most useful one, especially for mothers, and those ladies who have the charge of the large establishments for "finishing the education of young ladies."

A large professional experience in connection with these institutions has afforded us convincing proof that those ladies who have the charge of them greatly need the information which they would gain from this book.

The work which we now propose to notice was published in London, in 1863, and has recently been republished in this city. Although

numerous works have appeared within a few years past, on the diseases peculiar to females, from such authors as Dr. Henry Bennet, Prof. Simpson, Churchhill, Tyler Smith, West, McClintock and Grailly Hewitt, in Great Britain, and Meigs, Hodge and Byford, in this country, as well as the excellent translation by Dr. Gardner, of the cyclopedic treatise of Scanzoni, there was still an open field for such a book as this. The great end and aim of the physician is to cure disease, and those who have not the opportunity for special experience, afforded by a large hospital or metropolitan practice, are constantly meeting with cases, the true character and nature of which they may recognise, while they are in doubt as to the most successful plan of treatment which should be adopted. For such especially, this work bears an appropriate title, "A Hand-book of Uterine Therapeutics." Its author has evidently not only had a large personal experience in the treatment of these affections, but he has also most conscientiously and industriously studied the experience of others. The discussion of therapeutical indications and agents must necessarily involve more or less consideration of the pathological conditions to be treated, and this feature of the book is one of its merits, as the author is evidently well up with the present state of science in these points. We do not propose to review this book, in the ordinary sense of that term, but simply to give our readers an intelligible idea of the scope and character of the work.

The book opens with an introduction, in which the author discusses various preliminary matters, such as the difficulties besetting the study of uterine complaints; the peculiarities of patients; how to succeed as a doctor; examination of the patient, etc.; and the young practitioner will find some suggestive and useful hints on all these points. We shall only allude to one of them, viz., the propriety of having a third party present when examining a patient. Dr. Tilt remarks very truly, "the amount of confidence shown to the profession by women in this respect varies extremely, but I may safely say that it is greatest in proportion to their rank and mental culture; for while the lower orders have not this delicate perception of implicitly trusting us, the higher feel, in general, that it is quite bad enough to submit to such an extremity, without having the additional annoyance of having it witnessed even by a mother. The best plan, therefore, is to let patients do just as they like, without objecting to or requiring the presence of a third party."

This has been, also, very much our own rule of conduct. Our experience has been, that the most delicate and the most refined generally feel a great objection to the presence of another, when obliged to sub-

mit to a physical examination. When the character of the patient is somewhat doubtful, and in small, gossiping communities, the physician cannot be too careful in protecting his own reputation by the presence of another than the patient. The successful practice of this department of medicine, necessarily, subjects a man to more or less imputations from the evil-minded, unless he is particularly careful of his reputation, by throwing around it such shields as will make him invulnerable to attack, or he has passed the age when he is supposed to be open to temptation. Numerous instances have occurred in our own practice, where patients have revealed their true character by their description to us of their successful resistance to the pretended advances made to them by other physicians whom they have consulted.

Our readers will gain a more perfect idea of the work by the following enumeration of the subjects of the remaining chapters, viz: Uterine Dietetics, (a better term would have been Uterine Hygiene;) Antiphlogistic Treatment—Sedatives—Caustics—Tonics—Hæmostatics—Emmenagogues—Specific Treatment—(Blenorrhægia—Syphilis, Cancer, etc.)—Uterine Orthopædics—Treatment of Uterine Complications—Treatment of Sterility—Prevention of Uterine Inflammation and Influence of India on the Treatment of Uterine Inflammation.

There is also appended a select formulary for fifty-one prescriptions.

We do not propose to discuss each of the above topics in detail, for this would occupy as many pages as the original work itself. We will only say, that, in our judgment, the book is a good one, which none engaged in this class of practice can read without gaining some useful suggestions, while the general practitioner, who must necessarily see more or less of this class of diseases, will find this work especially convenient and useful.

We observe the omission of some articles among the therapeutic agents, which we are very much in the habit of using, and which we esteem as particularly valuable. For example, under the head of caustics nothing is said of the chromic acid, which we use more frequently than any other except the nitrate of silver. The liquor ferri persulphates, the most efficient and valuable of all the hemostatics, is not mentioned—nor is the chlorate of potash, which we regard as one of the best tonics and emmenagogues in certain forms of chlorosis and amenorrhœa. We may add to the list of omitted articles the carbolic acid as a local application of great value in some of the cancroid diseases and in ulcerated carcinoma.

*Annual Report of the Provost Marshal General of the United States, November 15th, 1864.*

This report, embodying the official returns of the Provost Marshal General's Bureau relative to the recruiting of our armies in the year between November 1st, 1863, and November 1st, 1864, is a document of great intrinsic importance. Few things in modern history have so bewildered the world as has the vital arithmetic of our war. The "calls" of the President were for men by the half million at a time, but it was puzzling enough to guess at the actual result of each call, amid the mixed returns of re-enlistments, volunteer recruits, conscripts, substitutes, quotas and credits, with which each call was filled. But in these figures of the Provost Marshal General's Bureau we can know just how, when and where, and of what material the most extraordinary army of modern times was raised, and, as often happens, the truth will to many prove most novel and surprising. It is fortunate for us that the history of the great contest is not to be written from the newspapers, but that its true records are preserved, better perhaps than those of any former leading struggle, for we are sure that as the whole truth comes to be learned, our country will gain new credit with each development. Thus our English friends have never failed to declare that the North has relied chiefly on foreign mercenaries wherewith to subdue the gallant confederates, but to what degree the final victory of the war was owing to "a herd of substitutes gathered from emigrant ships in New York" we may learn from the following table:

| | |
|---|---|
| Volunteers between November 1st, 1863, and November 1st, 1864 | 438,712 |
| Veterans who re-enlisted | 136,507 |
| Drafted men, and substitutes for drafted men | 75,550 |
| Total | 650,769 |

From this it will appear that more than four-fifths of this vast army was composed of volunteer recruits, a fact without parallel in the history of wars. But it is from its vital statistics that some of the most important lessons of the war are to be learned, and the Government acted most wisely in providing for an efficient medical department in the Provost Marshal General's Bureau, to take advantage of the unequalled opportunities of the time for medical observations, besides securing a uniform action between the several hundred surgeons of the various boards of enrollment which were distributed from Maine to California. The extent of the duties of this department may be inferred from the fact that systematic records of the medical examination of nearly *one*

*million* men have been transmitted to this office in the brief space since it was instituted, comprising, besides the particular features of each case, the age, nationality and physique of each one. The height and chest-girth, both on inspiration and expiration, are noted, besides the complexion, color of hair and eyes, etc. We have thus as good data as could be desired for the most extended comparisons on the physique of the different nationalities which compose our present population; and these statistics will be of great interest on this one subject alone, if on no other, for some European ethnologists have made most dismal predictions about our future, and have consigned all Americans to a hopeless degeneracy from themselves. We believe that actual facts will prove that the average European physique has been *bettered* by a land of plenty, of food and physical comfort much superior to that of the most favored country in the old world. But, aside from this subject, we hope for results of the highest interest from the statistics of the Bureau, on the causes of exemption or rejection from military service, owing to the various diseases which are reckoned as disabilities. Much the larger part of this pamphlet is taken up with the report of Surgeon T. H. Baxter, chief medical officer of the Bureau, on the results deduced from comparing the reports of the various surgeons on the drafts of 1863 and 1864, and the twenty-five tables of statistics which follow give a high idea of the labor and ability with which they have been compiled. Dr. Baxter enables us by these tables to institute comparisons, both on general grounds and on special diseases, not only between different sections of the Union, but between the country and city districts of each State; and the value of these records is further enhanced by tables of comparison with similar statistics in the military examinations of France, Great Britain and Belgium. Space forbids us from referring now to more than one or two of the points which have interested us in examining this report. It certainly ill accords with the universal impression of the superiority of country to city life, in healthiness, to find that, with the exception of Wisconsin, the ratio of drafted men exempted for physical disability is uniformly greater in agricultural sections than in cities. From these returns we would be obliged to put down Maine and Massachusetts as peopled with the most physically damaged population of the continent; while the City of New York, spite of its pre-eminence in syphilis, is only second to the best. We hardly know what to say to these figures, for they are collated from too many independent sources, and are also vastly too numerous and too uniform in their bearing, to be subject to ordinary sources of fallacy. Most curious results also are obtained from com-

paring the different States for the prevalence of mental imbecility, and here New England bears off the palm from the whole world. While the ratio per thousand throughout the United States of cases of "manifest imbecility," out of 255,188 persons examined in 1863, is 3.88 per cent., (while in Great Britain in 1861 it was only 0.50, and in Belgium 1.69,) we find imbeciles abounding in Maine at the rate of 5 17; in New Hampshire, 10 31; in Vermont, 5.51; in Massachusetts, 5.37; in Rhode Island, 9.76; and in Connecticut, 3 88. New Hampshire has been celebrated as the birth-place of great statesmen, such as Webster, Cass, Woodbury, Pierce, etc., but in these returns it appears as the home of the greatest number of fools to be found anywhere, the partial draft of 1864 making the case of the Granite State even worse than that of 1863; for though the percentage of imbeciles for the whole United States is reduced from 3.88 to 2.95 out of 61.257 persons examined, the percentage of New Hampshire in manifest imbecility rises from 10.31 per cent. to 12.49 per cent.

But unfortunately we are not at all sure of the figures which are brought into comparison with the statistics of the Provost Marshal General's Bureau. In table No. 18 of this report we find the "Ratios of rejections for certain diseases and infirmities in the United States, Great Britain, France and Belgium." The five preceding tables of the statistics of these foreign powers appear to form the basis of the summary in table No. 18, but it seems evident to us that the scope of each heading varies with each country, and therefore affords no true comparison between them. Thus we can hardly account for such variations as the following: "Feeble constitution, deficient size of chest, and deformity of spine" occur in American recruits at the rate of 44.29, in British at 97.45, in French at 94.8, while the Belgium *militia* are such a superior set that only 19.08 of such cases were found in their ranks. Again, consumption causes the rejection of no less than 15.00 per mille in the United States in 1863, but in Great Britain in 1860 only 2.90 are unfitted from this cause, while France and Belgium reject no one for this disease. Is phthisis, therefore, unknown in these two countries? Undoubtedly this difference is altogether on paper, and accounts for the great excess in the above cited "feeble constitutions" of the French and English recruits. Syphilis and "scrofula," again, disable 5.16 Americans, while such cases are nearly six times as frequent among the British; but *mirabile dictu!* the French do not have it all! A foot-note to these statistics says, that the comparison of this table is as complete as the different classifications in the English, French and Belgium returns will admit. If so,

it gives us a very high opinion of the superiority of the classification of our Bureau, for the reports of the American surgeons have to be made out according to *thirty-six* specific sections, and will admit of no such vague conglomeration of distinct diseases as is apparent in the British and French returns.

This report, comprising as it does only a minor portion of the transactions of the Bureau during the past eventful year, being occupied mainly with the statistics of the draft, which accounts for but 75,000 out of the 650,000 army recruits of the year, we regard only as a first instalment of the valuable documents which the department will furnish to the profession and the general public. We would, therefore, record here our grateful appreciation of the industry and labor which have already borne such good fruit, and which bid fair in future to be accounted among the best results which can offset the evils of an unprecedented and terrible conflict.

---

*Contributions to Practical Surgery.* By William H. Van Buren, M.D., Professor of Anatomy in the University of New York, &c., &c. Philadelphia: J. B. Lippincott & Co., 1865, pp. 208.

If all physicians and surgeons of eminence would collect the contributions they have made to Medical Journals and Transactions of Societies, where they are frequently effectually entombed, and republish them as has Dr. Van Buren, then members of the profession generally would be the gainers by the procedure. Nothing can be more conducive to good sound practice than the dissemination of the results which have been obtained by those among us, who from their opportunities have been enabled to take leading positions; and we are glad to remark a growing disposition among such to gather up, into one fold as it were, the extras which belong to them, and present them to the profession in a form which will admit of their being considered to much greater advantage than when scattered among the journals or buried in the archives of learned societies.

The papers embraced in the volume before us amount to twelve in number, and are characterized by that sound practical good sense which has placed Dr. Van Buren among those who have a right to be regarded as leaders and teachers in surgical science. They are as follows:

Cases of amputation of the hip-joint; cases of tracheotomy; cases

of inguinal aneurism; malignant polypus of the nose; fibrous tumor of the left ovarium; diseases of the rectum; cases of vesical calculus; popliteal aneurism; cases of dislocation of the femur; cases of strangulated hernia of the tunica vaginalis; ligature of the sub-clavian artery; salivary fistula of the duct of Steno.

It is thus seen that the range of subjects is extensive. There is not one of them which does not increase our knowledge of some important fact, or give us an entirely new view, and that, too, in a manner which admits of no misconprehension.

The records of actual experience are always valuable. They do not, like theories, fade away into obscurity as science advances. Every one who adds a fact, no matter how unimportant it may appear to be to the sum of human knowledge, is never entirely forgotten.

A perusal of Dr. Van Buren's contributions will convince the reader that he has not left the science and art of surgery as he found them.

---

## CORRESPONDENCE.

*Tanno-Glycerine in Chronic Inflammation of Mucous Membranes.*

*To the Editor of the New York Medical Journal:*

Dear Sir—Will you allow me to call the attention of the profession to the value of the "tanno-glycerine" (or "glycero-tannin") in chronic inflammation of *all* the mucous membranes—those of the *urethra* and the *throat*, as well as those of the eye and ear—where they have long been found so efficient. In the so-styled "opprobrium of eye surgery," granular conjunctiva, and in the analogous condition of the auditory meatus, in otorrhœa, we all know that this application may often supercede that other valuable and much abused salt—the nitrate of silver.

Doubly useful are the methodical applications of the tanno-glycerine in the so common condition of chronic inflammation and *prolapse* of the *rectum*, *uterus* and vagina, with or without their usual complications—which *complications*, I may add, are generally the antecedents and immediate *causes* of the prolapse. And here I would not be misunderstood. I do not mean to say that the tanno-glycerine applied to the vaginal canal will hold up a uterus twice its normal weight; or, applied to the rectum, will hold up a mass of hemorrhoidal tumors, or cure a fissure

or an ulcer of the rectum. But let the uterus be brought by proper local and constitutional treatment to its healthy condition; let the hemorrhoidal tumors be tied off; let the cure of the fissure or ulcer be *inaugurated* by thorough rupture of the sphincter, as suggested by Dr. Van Buren in his excellent paper read before the Academy, and then the tanno-glycerine will complete the cure; or better let its application proceed *pari passu* with the other local measures, and the cure will be aided and expedited. An *aqueous* solution of the tannin often irritates—the glycero-tannin of proper strength never does. My usual formula is as follows:

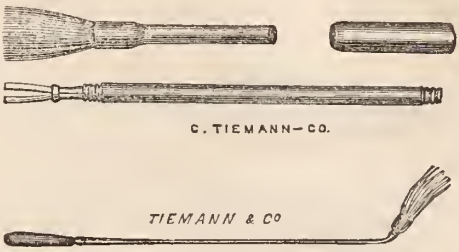
| | | |
|---|---|---|
| R.—Tannin ʒi. | | R.—Tannin ʒj. |
| Glycerin ʒj. | or | Glycerin |
| M. Ft. Mist. | | Aq. Ros. f. āā ʒss. |
| | | M. Ft. Mist. |

This last is a little cheaper. Of course the strength may be increased or diminished at pleasure. It should be applied by the surgeon to these parts—to the vagina through a common cylinder speculum, to the rectum by the aid of Dr. Sims' excellent speculum, and to the throat with Dr. Green's equally excellent tongue depressor. It should be applied *freely*, and, in the case of the vagina, *most freely* to the upper portion of the canal, where the sphincter vaginæ muscle is deficient, and where (to use a homely but apt phrase) the uterus sags.

Believing as I do, with Dr. Bennett, that the chief agent in supporting the uterus in its proper position is found in the coaretation of the vaginal walls, I further believe that, when this organ is brought to a healthful condition and normal weight, the remaining prolapse, uterine or vaginal, can, in an immense majority of cases, be cured without resort to those unphilosophical pessaries, which, if they do not inflame and excoriate the parts, torture the woman, and become unbearable, continually impair, and finally destroy that very contractility, tonicity and coarctation of the vaginal walls on which we rely as the main support of the uterus.

I fear, Mr. Editor, that my *portico* has grown much too large for my *house*. I have premised this statement to say, that, in the application of this mixture to the last three localities alluded to—throat, vagina, and rectum—I found a *suitable brush* to be a desideratum. For a long time I used one of the mammoth hair pencils, three or four quilled, known to the trade as "Gloster's brushes," attaching it to the end of a caustic holder, but I found the adjustment awkward and insecure. More recently our ingenious and ever-ready surgical instrument maker,

Mr. Stohlmann, of the firm of Tiemann & Co., 63 Chatham Street, has made for me some excellent brushes and pencils, with reliable and elegant handles of sufficient length, straight for the vagina or rectum, curved for the throat. With these he combines a *caustic holder*, if desired, as will be seen by the accompanying cuts, which explain them-




selves. I am sure these brushes will be found infinitely preferable to probangs tipped with sponge or cotton; indeed, with these last the solution can hardly be applied as freely as is desirable to the parts.

Respectfully. T. Childs, M.D.

---

*A New Inhaler for the Treatment of Diseases of the Air Passages.*

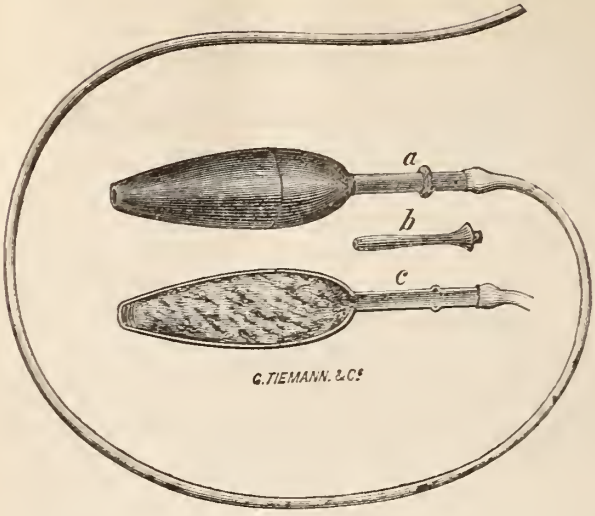
Sir—There has always been great difficulty experienced by the profession in successfully treating the various chronic diseases of the air passages, from the fact that we have never been able to properly apply remedies to the diseased parts: this trouble is now in a great measure, if not entirely, overcome.

The annexed cut represents an inhaler which I have used with great success in the treatment of chronic bronchitis, laryngitis, ozœna, etc. It is made of hard rubber, being simple, light and portable; it can be carried in the pocket while the patient is about his business, and used at any time or place, without inconvenience or loss of time.

The greatest merit, however, that this instrument possesses is the effectual manner in which, by its use, the remedies are applied.

The sponge contained within the bulb being medicated according to the indications of the case, the entire bulb of the instrument is introduced within the mouth, and the point carried well back to the velum; at every inspiration the atmosphere passes in through the medicated sponge, thus only becoming impregnated with the remedy at the very commencement of the air passages. For ozœna the inhalations

may be made through the nostril, one at a time, closing the other with the finger.




The remedies with which to medicate the sponge can be selected by any skillful practitioner, according to the condition of each individual case. In chronic cases stimulating remedies should be used. I am in the habit of using the saturated tincture of iodine, oil of tar, or a mixture of both, of which guttæ x-xv. put on the sponge is ample. The compound tincture of benzoin is spoken of as doing well. I have had no experience in it, however. Iodine is my main dependence; care should be taken not to prolong its use for too great a length of time, as the patient may become iodized.

Powdered nitrate of silver and other soluble salts may be used by sprinkling on the sponge, in which case steam should be inhaled, so as to dissolve out the salt. This may be readily done by placing the distal extremity of the flexible tube loosely in the spout of a tea-kettle.

Steam may also be inhaled with great benefit in diptheria, and in all acute inflammatory diseases of the throat. The small pipe which screws into the Inhaler is only designed to be used in cases occurring in children, when it may be necessary to blow through the elastic tube. Neuralgia occurring in the auditory region may be relieved by saturating the sponge with chloroform, and blowing the vapor into the meatus.

M. S. Buttles, M.D.

New York, *March 20th*, 1865.

*Production of Albuminuria by Corrosive Sublimate.*

Sir—In the London Medical Gazette for March, 1843, page 941, will be found an allusion to a case of albuminuria produced by poisoning with corrosive sublimate. For several days a considerable quantity of albumen was found in the urine, which was turbid and of a pale brown color; the urine was abundantly coagulable by heat and nitric acid. We are also told that albumen has frequently been detected in similar cases. Long ago Drs. Wells and Blackall made observations going to prove that mercury induces an albuminous state of the urine. Over twenty years ago, and shortly after the publication of the number of the London Medical Gazette above quoted, I had an opportunity of observing a case of poisoning with corrosive sublimate in the New York Hospital. I urged upon my friend, Dr. Wotherspoon, then resident physician of the hospital, the importance of testing the urine for albumen, which was found daily during the three or four days that the patient lived; after death an examination was made, almost expressly for the purpose of ascertaining the pathological condition of the kidneys; a small quantity of urine still remaining in the bladder, was carefully removed and tested, and found to contain albumen. The kidneys were found to be at least one-half larger than natural, and soft and flabby; the whole cortical substance was of a pale reddish white, or almost white color, instead of the normal reddish brown; the external surface was almost white, but dotted with many small reddish points. This description corresponds closely with Rogers' second variety of Bright's disease, or to the large albuminuous kidney. Christison has seen temporary albuminuria from mercury; and Thùdicum states that in all cases where the urine contains mercury a peculiar albuminous substance is present.

J. C. Peters, M.D.

---

# PROGRESS OF THE MEDICAL SCIENCES.

## I.—SURGERY.

1. *Two Cases of Amputation at the Shoulder-Joint.* By Henry Lowndes, Esq., Surgeon to the Liverpool Northern Hospital.

Case I.—William Myers, aged 36, a carter, was admitted into the Northern Hospital on June 16th, 1864, at 8 P. M., with the following injuries, inflicted by a horse. The right humerus was fractured in the upper third; there was a deep lacerated wound in the front, and

another still more extensive in the back of the arm; and the hand could be passed freely through them both down to the fracture and up towards the axilla, where the end of the lower fragment lay. The pulse could be felt at the wrist; the elbow was much contused; the bone was not much comminuted, but one or two small loose pieces could be felt. There was a large contusion over the right scapula and the right side of the chest. He was a good deal collapsed. He said he had been attacked in the stable by a horse of which he had entire charge. It appears to have first seized him by the arm with its teeth, and then to have got him down and kicked him. The soft parts of the arm were so much injured, that my colleague, Mr. Hakes, agreed with me that amputation was necessary; and at 10 P. M. I removed the limb at the shoulder-joint. Mr. Hakes was able to compress the axillary artery very securely, by passing a finger into one of the lacerations. I was barely able to save sound skin enough to cover the wound. The brachial and two other vessels were tied with ligatures, and a vein that was troublesome was secured with an acupressure needle and wire. He was directed to have brandy freely given through the night. He had thirty drops of laudanum on admission.

June 17th, 11 A. M. He was heavy and had slept a good deal; his breathing was much oppressed, and mucous *rales* were heard in the trachea and bronchi. The pupils were contracted. Emphysema had appeared on the right side of the chest, and extended upwards on the neck. Pulse 120; tongue dry and furred. He was ordered to have a strengthening plaster applied over the right side of the chest, from the sternum to the spine.

℞.—Ammoniæ carbon. ℈j; spiritûs ætheris sulph. com. ℥ij; aquæ ad ℥viij. M. Sumat ℥ss., alternis horis.

He was ordered to have an ounce of brandy every two hours; also, ice and lemonade. He had passed urine; had been rather delirious.

9 P. M. He was much the same, but not delirious.

June 18th, noon. The emphysema had extended to the left side. His breathing was still much oppressed; tongue moister; pulse 120.

June 19th, 12.30 P. M. I dressed the stump, which looked well; there was a free discharge of serum. Wet lint was applied. He was ordered to have an enema of castor oil. At 5 P. M., he was seized with a violent pain on the right side, with great distress in breathing; pulse 134; respiration 56. Hot fomentations were ordered, and brandy every hour. At 9 P. M. the pain was a good deal less severe; pulse 120, sharp and hard; the face was flushed; the skin was hot; the bowels had been moved. He was directed to take a grain of powdered opium every four hours; to continue the brandy every two hours; to take beef-tea in small quantities frequently; to have turpentine applied to the side, and the stump poulticed.

June 20th, noon. He was decidedly better; pulse 108; respiration 40; tongue much furred; skin cooler and moist. The stump was rather inflamed. He had slept a little. 9 P. M. He was still improving; and had taken a little bread and milk.

June 21st. Pulse 108, rather weak; tongue dry and brown. His breathing was still oppressed. A friction sound was distinctly audible on the right side. The face was congested; the neck still rather emphysematous. He had slight delirium. The stump was suppurating freely, but sloughy in parts. He was ordered to omit the opium, and continue the ammonia and ether. A small blister was applied over the seat of pain; and half a grain of muriate of morphia was given at bedtime.

June 22d. Respirations 44; pulse 120. He had slight delirium.

The skin was hot; the tongue brown and dry. He had not slept well. An ounce of brandy was ordered to be given every hour.

June 23d, 11 A. M. Pulse 132; respirations 32. He had slept better. There was great discharge from the stump. His respiration was very easy and natural; appetite better. In the evening he seemed still a little better; but, about 3 A. M., on the 14th, the stump began to bleed; and, before this was found out, a very great quantity of blood was lost, and the patient died about a quarter of an hour after the house surgeon had reached him.

Post-mortem examination, thirty hours after death. (From notes by Dr. Roberts, Junior, House Surgeon.) The stump was very sloughy. The axillary artery was found firmly ligatured, and appeared quite healthy; it contained a firm clot, partially decolorized and undergoing organization; the inner coat of the artery was tinged with the absorbed coloring matter. The exact source of the bleeding was not determined; but it came from the neighborhood of the posterior circumflex artery, which lay in a mass of bloody slough. There was fracture of the third, fourth, fifth, and sixth ribs, on the right side. The broken ends of the fifth projected inwards, and had punctured the lung. There was bright uniform and capillary redness of the costal pleura about the seat of fracture; some effusion of lymph, principally on the pulmonary pleura; about an ounce and a half of yellow fluid in the pleural cavity. There was no inflammation of the lung-substance, except at the seat of puncture. There was emphysema of the cellular tissue of the mediastinum.

Remarks.—The severe injuries to the chest sufficiently account for the collapsed state of the patient on admission. Although I had used acupressure in the three last amputations I had had, I did not try it in this case, partly because of the scanty and unsound flaps that were left, and partly because I thought the ligatures could be applied more rapidly, and I feared any loss of blood in the patient's state. The chest-symptoms had abated, and I was beginning to have good hopes of his recovery, when the hemorrhage carried him off.

Case II.—Francis Riley, aged 4, was admitted into the hospital on June 22d, 1864, with the right arm crushed by the wheel of a lorry. It was completely shattered quite up to the shoulder-joint; and there was only just skin enough left to form a covering after amputation. This flap of skin was pretty sound, but was a good deal detached from the muscles under it, which were much injured. The face and forehead were contused and swollen; and there was a severe contusion of the right thigh. At 8 P. M., chloroform was given, and I removed the limb at the joint, making the flaps entirely of skin. Acupressure was used; and the axillary artery was secured by a long needle passed through the integuments, and a tape passed over its ends. These smaller vessels were secured by small needles on the face of the wound, with looped wires passed over their points and twisted round their hafts. The flaps were brought together with sutures. A drachm of brandy every two hours was given.

June 23d, 10 A. M. He was going on well; had slept a little; breathing rather oppressed. 7 P. M. I found him laboring under general convulsions, which had seized him about 5 P. M., and had continued with very little intermission. His face was swollen and flushed. As the stump looked rather tense, I removed the sutures, and also the three small needles, and took off the tape from the large one. Five minims of laudanum were given; and in an hour's time, as the convulsions had not ceased, three minims more.

June 24th. He had dozed a good deal in the night; he was free

from convulsions, but was unconscious, and had not spoken. He was ordered to have milk and lemonade, and four minims of laudanum at bed-time.

June 25th. He had a restless night; was quite conscious; pulse 160, very small and weak. The outer angle of the stump was rather sloughy. The contused portion of the thigh was sloughing; and a piece of dead fascia that seemed very tense was slit up. The draught was ordered to be repeated every night, and a drachm of wine to be taken every half hour. At 12.15 P. M., about sixty-four hours after its insertion, the long needle was removed.

June 26th. Pulse 148; tongue white; breathing oppressed.

June 27th. He had had a little magnesia, which has operated, and he was better. Pulse 140.

June 28th. He had slept well. The stump was nearly clean. Pulse 140.

June 29th. He was much improved; pulse 124; tongue clean and moist. He could take more food.

From this time he went on well. A small granulating surface was left, which was difficult to heal, as underneath it lay the edges of the glenoid cavity continually moving about. One or two abscesses formed in the neighborhood; but he became plump and well, and was discharged on September 18th, 1864, well, with the exception of a slight sinus still discharging a little.

Remarks.—One point of interest in this case was the severe attack of convulsions. I was not sure whether it arose from the injury to the head, or from the loss of blood and exhaustion, or from the irritation about the stump. The fact of the convulsions being aggravated by handling the stump, seemed to favor the latter view; and the removal of all tension and points of irritation, together with the use of opium, seemed beneficial.

With regard to acupressure, I may say that I have used it in five cases, all in the present year. In one, an amputation of the thigh, high up, for severe injuries and hemorrhage, the patient died from shock within a few hours. The other cases were—an amputation of the thigh in the middle third, secondary; of the leg, secondary; at the wrist-joint, primary; and at the shoulder-joint, primary (the case just related). All these made good recoveries. In one other amputation of the leg, I could not succeed in securing the vessels with the needles, and was obliged to have recourse to the ligature.

In general, I have not found the use of the needles difficult. I have seen no hemorrhage follow their removal; and trust that, by using them in suitable cases, we shall help to lessen the mortality after amputations.—*British Medical Journal, November* 5, 1864.

## II.—PATHOLOGY AND PRACTICE OF MEDICINE.

2. Dr. Gairdner, in the *Glasgow Medical Journal,* details his experiences of "Two Months of Fever Duty in the Glasgow Royal Infirmary." His conclusions are worthy of very serious attention.

Dr. Gairdner regards typhus as a disease which has a distinct and certain course to run, and cannot be cut short. Two-thirds or three-fourths of his cases were successfully treated "without either medicine or stimulants." Febrile excitement, rapid weak pulse, and delirium are normal facts of the disease, and cannot be avoided or cut short. Remedies, therefore, are to be reserved for variations from

this normal course of things; as when tartar emetic is given in bronchitic complications, and stimulants in tendency to collapse. Under such practice, mortality has not been more than 9.3 per cent. In persons up to the age of 20 or 15, fever, so treated, is of hardly any danger. Nourishment of the kinds indicated is to be carefully administered throughout the course of the fever, viz., a bland and nutritious diet, as milk, buttermilk, rice, arrowroot and beef-tea. Free ventilation is indispensable. "Good nursing and constant watchfulness, especially watching the chest, evacuations, and the skin of the back, are the real 'physic' needed by all fever patients." No alcoholic stimulants, or only very small and carefully regulated quantities, need be added to the diet. "The first lesson that has to be learned in dealing with fever, is at the same time to many minds the most difficult—to let well alone. The argument, to many an irresistible one, will always recur. What! are we to stand by and to do nothing at all, when the pulse is 120, the tongue dry, the brain oppressed and delirious? The question is an extremely embarrassing one. But, in view of facts which have become clearer and clearer in proportion as our knowledge of typhus fever has been defined and rendered more exact, it has become a duty with teachers of medicine, not indeed to acquiesce in a blind expectancy, any more than in any other unreasoning routine, but to take a firm hold of principles based upon experience, and to place these in the light of such practical illustrations as their opportunities, derived from hospital practice, enable them to command."—*British Medical Journal, January* 14, 1865.

3. *On the Use of Hot Water as a Remedy for Profuse Perspiration.* By Robert Druitt, M.R.C.P., London, etc.

I wish to call the attention of my professional brethren to the use of hot water as a remedy for profuse perspiration.

If a part of the body that is perspiring be bathed with quite *hot* water till it becomes decidedly hot and *red*, the skin will become dry, and will continue so for a greater or less period of time.

If *cold* water be used, the part remains cool for some time and then becomes gradually warm or glowing; if *tepid*, it is usually made unpleasantly chilly and flabby; if *warm*, it is left perspiring; if *hot*, it is left hot, red and dry.

The terms cold, tepid, warm and hot are merely relative; what would be warm to one would be lukewarm to another person; but when I say *hot* water for our present purpose, I mean water as hot as can be borne without pain. It may be used by sponging or immersion, and must be continued till the parts treated are hot, red and *tingling* with heat—almost scalded, in fact. A good wipe with water at 130° is easily borne; for immersion the heat must be less; but the feelings are the only guide.

The circumstance which led me to recommend this remedy was the observation of the painful dryness of a hot skin in feverish attacks, and of the dryness produced by using too hot water in a bath, and by the clumsy use of the lamp-bath, which may make the skin dry instead of moist if not well managed.

The cases in which I have recommended it with benefit, are: first, those of general tendency to perspire to a distressing degree in hot weather, the patient being in good health. If a man who has thoroughly used a cold bath in the morning be obliged to change his shirt in the middle of the day, for example, he will keep his skin comfortably dry for a certain time by a good wash with very hot water.

The next class of cases are those in which, with or without tendency to perspire over the body generally, but most probably without, there is a tendency to distressing perspiration of some particular part; as the axillæ, hands, feet, etc. Patients who seek relief for this are generally young persons from 13 to 20, and they often endure great misery and persecution in consequence of this symptom, which really admits of easy medical treatment. The health is sure to be improved by free purgation, and by quinine, air, exercise, etc. But the distressing local symptom may be got rid of for hours at a time by the thorough application of the hottest water to the offending part until it is red, hot, and tingling as if scalded.

Thirdly, there are the cases of true hectic; diurnal shiverings, followed by heat, and drenching perspiration of an earthy, sickly odor, and depending (as we suppose) on absorption of decaying pus from some internal organ, probably lung, etc. In these cases I have tried every remedy I know of without result. I have caused profuse perspiration by the lamp-bath in the afternoon without preventing the access of hectic and perspiration in the evening; and confess my remedy inert—or next to it—in these cases.

But there is a fourth variety—the ordinary night sweat of the phthisical, not preceded by regular hectic paroxysms, but induced by all that relaxes, lessened by all that strengthens, and coming on when the patient falls asleep. For many of these cases the hot water gives relief, to a certain extent, especially if the perspiration begin, as it often does, on one special part of the body by preference, as the chest, hands or feet. In such cases, I have the testimony of patients that the hot water greatly helps to control the sweat. The way is, when the patient goes to bed, to have the chest reddened with hot water, and wiped dry. One patient, whom I see daily, and who is confined to his bed, calls out for it so soon as he perceives the dampness beginning, and has it used to chest, hands and feet, and by this means often, not always, passes a night without being obliged to shift his linen.

In conclusion, let me say that I only offer this as a contribution towards the relief of an unpleasant symptom, and not as a cure for a disease; and that whoever uses it must recollect that it is not *warm*, but *hot* water, just below scalding point, that is to be employed.—*Medical Times and Gazette, March* 4, 1865.

4. *Abstract of a Paper on the Diagnosis of Embolia* (*a*) *as Affecting the Great Vessels of the Heart. Read at the Harveian Society.* By Dr. Stewart.

Dr. Stewart wished to draw the attention of the Society to the following cases and to the few comments he desired to make upon them, and he trusted to be able to draw a clear line of diagnosis which would enable us to recognise this disease at moments when every minute lost might be a life lost:

Case I.—S. A. W., æt. thirty-five, a widow, who, while enjoying apparent good health, was suddenly seized with fainting, vomiting, cramps, and coldness of the surface, and one hour afterwards, when seen by Dr. Stewart, she was in a state of complete collapse, with general cyanosis of the skin, and died five hours after being first attacked. The post mortem results were: 1. General venous congestion, exter-

(*a*.) From *embolus*, a wedge, a pin, the bar of a door, or anything inserted.

nally and internally; 2. Interlobular emphysema of both lungs, with pulmonary apoplexy; 3. In the heart: hypererophy, dilatation, atheroma, softening, all the valves diseased, and the cavities full of black fluid blood; 4. A large clot of partially decolorized fibrin attached to the lining membrane, and filling up the aortic orifice so as completely to occlude it.

Case II.—M. H., æt. forty-nine, a single woman, fell down suddenly and expired without a word or groan. For ten years she had suffered from angina pectoris, but for two months previously to her death had been very well. There was cyanosis of the head, face and neck. Post mortem results: 1. General venous congestion, externally and internally; 2. Pulmonary apoplexy and emphysema; 3. The heart: hypertrophy, dilatation, atheroma, softening, all the valves diseased, the right cavities full of dark fluid blood; 4. Two fibrinous clots filling up the pulmonary artery.

Case III.—C. S., æt. fifty seven, a gentleman, and married: for more than thirty years had not complained of ache or pain, fell down and immediately expired after taking a short walk. Dr. Stewart saw him within five minutes of his falling down; he was quite dead, and his head, face, neck, and upper part of his body was of a deep blue purple color. The post mortem appearances were: 1. General venous congestion of the skin of head, face, neck and upper extremities, and of all the internal organs; 2. Pulmonary apoplexy and emphysema, with interlobular emphysema of the right lung; 3. The heart: hypertrophy, dilatation, softening, atheroma, all the valves diseased, right cavities full of black fluid blood; 4. A large clot filling up the vena cava descendens, extending into both subclavians, about six inches in length.

Case IV.—E. G., æt. forty-six, a married woman. During the puerperal period of her first confinement, fourteen years since, was seized with hemiplegia of the left side, which existed partially at the time of her fatal seizure. After returning from a short walk, became suddenly faint and vomited, with dyspnœa and great excitement; had numbness of the partially paralyzed arm and hand, blueness of the surface, and a grasping sensation of the left shoulder. Two hours afterwards her dyspnœa became greatly aggravated, with violent palpitation of the heart; countenance greatly excited; vomiting increased; exhaustion; cyanosis of the head, face, neck, and the upper part of the body; pulse 140; respiration 70; dulness and loud sonorous breathing over the right chest. In the evening, nine hours after, the symptoms continued much the same, her vomit consisting of a frothy mucus highly colored by blood. Forty-nine hours after her first attack she had a second, which speedily ended in collapse, and five hours afterwards in death. No post-mortem was allowed.

In all these cases the cyanosis was of a deep purple hue, so deep as is only to be seen in cases of strangulation by hanging, strangulation from some other cause, or in the blueness of collapse arising from cholera; a venous congestion of highly carbonized blood. The clots of fibrin in the first three cases were for the most part decolorized, with fresh deposits of blood adhering; and in the cases of M. H. and C. S., they were undergoing in some parts softening with the deposit of fat and oil globules, and in all the cases were more or less firmly attached to the lining membranes of the vessels they were found in. Dr. Stewart said that if he was called to a patient who was suddenly seized with extreme excitement of the nervous pulmonary and arterial systems, great anxiety of the countenance, with blueness of the sur-

face, coming on, in a state of apparent health, without evident cause, accompanied by fainting, vomiting, and great exhaustion, he should not hesitate to diagnose a plug or plugs of fibrin in one of the great vessels of the heart. If, in a case of sudden death without apparent cause, he found extreme venous congestion of the face, neck and upper part of the body, he would come to the same conclusion.—*Medical Circular, February* 8, 1865.

5. *A Case of Chorea.* By. JOHN THOMPSON, M.D., F.R.C.S., Bideford.

I was consulted in February, 1864, for a well-grown intelligent girl of fourteen, under the following circumstances: She had menstruated regularly for some time, but the quantity was in excess; and she was weak, apparently from this cause. There was pain in the right elbow-joint, which contained a little effusion; and this condition impaired the mobility. In other respects, there seemed not much the matter. The joint-affection was believed to be rheumatic; and this was confirmed by a speedy accession of the same character of pain about the intercostals of the left side. The stomach became very irritable; food was seldom retained; the bowels were rather constipated; menstruation ceased. The spine was sensitive along the whole line of the spinous processes; and some disposition to twitching was occasionally manifested about the neck and extremities. There came on a peculiar convulsive voice-sound, somewhat resembling hiccough, repeated with almost the rapidity of time-seconds, and accompanied with an agitation of the neck, much resembling paralysis agitans. All these had been developed by the beginning of April. At that time Dr. Brown, of this place, met me in consultation; her case being then, in brief, as follows:

Vomiting almost always follows any taking of food. The bowels are rather constipated. There is a constant tremulous movement of the head and neck, and the peculiar laryngeal sound before described. The limbs are rather tremulous on being used; and there appears to be anchylosis of the diseased elbow-joint. She cannot stand, nor sit up without being supported. The agitation of her system and the voice-sound entirely subside on her taking sleep.

I had already given her steel, effervescing salines, iodide of potassium, calumba, opium, etc.; some of these being directed to the improvement of the tone of the system, others to the relief of the vomiting. Some counter-irritation was employed over the spine, to the side, and to the elbow; and every attention given to the diet, ventilation of the room, and nursing.

During another month we tried the preparations of zinc, the mineral acids, strychnia, cod-liver oil, occasional doses of purging medicine, with a little blue pill; and supported her strength in every possible way. Counter-irritation was still applied to the spine.

The case did not at all seem benefited by our assiduity; and we now recommended her to be taken to a house in the country, in a commanding situation, and enjoying a strong breeze from the Atlantic. When she left, she still had the agitation of the voluntary muscles, and the spasmodic action of the larynx; and both these were notably increased if she were hurried by the intrusion of a stranger, or by any undue notice of her ailment. After being in the country for some weeks, the agitation of the neck (which was continuous when she left,) as also the voice-sound, ceased; but the irritability of the stomach was in no way abated.

It was now determined to omit the medicines, and see what would be the effect of trusting to the influence of the country air; counter-irritation by means of mustard being still advised as an occasional application. The omission of the medicine was attended with no improvement in the symptoms, the vomiting being even worse than before, and the patient could not be induced to take any food. I endeavored to support her system by means of injections of good broth or milk, and these were continued for some weeks. During this period vomiting sometimes occurred; and blood was occasionally ejected in some quantity.

At length the patient objected so strongly to the use of the injections, that they were first omitted occasionally, and at length discontinued, in spite of my advice to the contrary. I warned the friends that, without food, it was impossible that life could long be sustained, but to no purpose. The patient was inflexible, and they would not consent that force should be employed. But, notwithstanding the abstinence from food and drink, the patient lived on. An injection of water was twice used to unload the bowels; but no other interference with nature took place.

A most complete abandonment of the case was made; for I believed that the craving from hunger would compel the patient in no long time to eat; but in this I have been entirely disappointed, for she has now been over six months without having taken a morsel of food or moistened her mouth with fluid, so far as is known. She has had no injection for several months; the bowels do not act, nor is any water passed. Her condition resembles that of hybernation; rolled up in a little bed in the corner of a room, she takes no notice of any one, and only answers in a low whisper any question that is put to her.

Her pulse is now about 120 in the minute, and the respirations about 16. The breathing during the illness has been generally slow, and the pulse much less frequent than at present.

At times she has been in a state of great excitement; has had croupy breathing; and a disposition to hysterical convulsion, throwing about her hands, and endeavoring to pluck out her hair. It has been necessary for her attendant to restrain her for an hour or two at a time, when this has occurred. For the last few months nature has seemed too much exhausted to allow such exertion.

It is now over ten months since this patient came under my attention. She took very little food for the first four months, and is believed to have taken none for the last six. The residence in the country, which extended over four months, benefited her, in that all the paralytic agitation and spasms were removed; but no improvement took place in any other respect. The last time an evacuation was procured, the matter was scybalous, and strung bead-like; the last evacuations of urine resembled the thick ammoniacal fluid which constitutes the urine in birds.

She is greatly emaciated; her spine being particularly distinct, and every bone in it defined. There is tenderness over the spinous; but no paralysis in any part of the body. The surface of her skin is now, and has been throughout her illness, rather cold; the superficial blood-vessels appear congested; the extremities are not œdematous.

The facts of this, which I deem a most extraordinary case, will probably be received by some with a feeling of scepticism. On my part, I shall be happy to give any further explanation of the statements I have made, either by private communication or through the pages of the Journal.—*British Medical Journal, February* 11, 1865.

## IV.—MEDICAL JURISPRUDENCE AND TOXICOLOGY.

6. In a communication to the British Medical Journal of October 29th, 1864, Dr. Joseph Stevens gives the following details relative to "a case of fatal attempt to procure abortion." Though long, Dr. Steven's letter is of sufficient importance to warrant its transfer unabridged to our columns:

SIR—You have drawn professional attention to the case of fatal attempt to procure abortion, which has recently been the subject of a coroner's inquest at Brighton.

Cases of fatal poisoning by ergot of rye, recognized as such, being rare in this country, a description of the symptoms of such a case shown during life, and the morbid appearances detected after death, will be, perhaps, of sufficient interest to warrant my occupying a certain portion of your space. I will, therefore, with your permission, lay before your readers my notes of the case, and my reasons for deposing that death occurred as the result of the poisonous action of ergot.

I first saw Susan Kingman at 18 King's Road, Brighton, at 10 A.M., on Monday, September 26th. I was told that she was a married woman, and was pregnant; and that it was thought her illness had some connection with her pregnancy. She was in bed, holding her head with her hands; the expression of her face was most anxious, and she complained of excruciating pain in her head; she was constantly retching, and could not retain a particle of either food, drink, or medicine on her stomach, although there was constant and intense thirst; there was præcordial tenderness, but no fulness; there had been diarrhœa, but it had ceased; the head was not hot—but cold water had been used so freely that it was difficult to judge whether there was any departure from the normal temperature. The pupils were somewhat dilated and rather sluggish; the pulse was rather quick, but very small and feeble; there was a disposition to coldness of the surface of the body, and particularly of the extremities. She complained of great dryness and irritation of the throat, and requested my particular attention to its condition; the whole throat was intensely injected with blood, and on the left side of the soft palate was a dark patch, looking as if blood was effused beneath the mucous membrane. The skin had a yellowish tint. I considered it a case of acute gastritis, and treated it accordingly; the vomiting was, however, quite uncontrollable; the pain in the head continued; collapse rapidly supervened, and when I saw her at midnight she was evidently dying. She had vomited shortly before my arrival, but appeared now to have lost the power to do so, although retching was still incessant. She was partially conscious, and would swallow whatever was given to her with difficulty; she could not, however, speak, although she appeared to make an effort to do so. The extremities were quite cold, and the pulse was imperceptible. By unremitting efforts to maintain the heart's action and to keep up general warmth, by means of brandy and beef-tea, hot water bottles, hot blankets, mustard poultices, and every thing that could be thought of, life was prolonged until half-past seven A.M., when she died from asthenia, without convulsions.

During my attendance, my suspicions being aroused by the somewhat anomalous symptoms, and by my knowledge that idiopathic acute gastritis was, to say the least, extremely rare in the adult, I

made minute inquiries into the history of the patient, and found that it was not true that she was married, but that she had been living in a state of concubinage; and I moreover elicited that she had been taking medicine in large quantities for a considerable period for the purpose of procuring abortion. I could not ascertain what this medicine was during the life of the patient; but after her death I succeeded in obtaining a copy of a prescription for a medicine she was said to have taken for many weeks. You have correctly quoted it. On being applied to for a certificate of death from natural causes, I, of course, refused, and subsequently communicated my suspicions to the police.

Under the authority of the borough coroner, Mr. D. Black, I proceeded, fifty hours after death, in conjunction with Dr. Vaughan Hughes, to make a *post-mortem* examination, with the following results.

The body was that of a well-formed woman, of about 26 years of age. The features were hollow and haggard; the eyes were sunken and dull; the pupils dilated. Dark grumous fluid was oozing from the mouth. The whole body was of a yellowish tint; in fact, semi-jaundiced. There were no external marks of violence on any part of the body; but the insides of the thighs were smeared with blood, which, on minute examination, was found to have issued from the vagina. The mammary glands were quite undeveloped; but the mammillæ were enlarged and elongated; the areolæ were distinct; and the skin of the abdomen had corrugations, such as are seen in those who have borne children. (It came out in evidence that she had two living children.) There was no mortification of the extremities.

On opening the abdomen, the peritoneal covering of the stomach and duodenum was seen to be of a rosy tint; there were, however, no adhesions. The liver was of normal size and healthy structure, but was turgid with blood; the gall bladder contained bile, but was not distended; the bile-ducts were pervious.

Ligatures were applied, so that the stomach, duodenum, and about a foot of the jejunum, might be removed, with their respective contents, for more minute examination. The spleen was of natural size, but congested; the bowels were empty. The womb projected through the brim of the pelvis; and on, removal, was found to contain a fœtus of four months; the membranes were entire, enclosing a considerable quantity of amniotic fluid; there was, however, slight detachment of one edge of the placenta, accounting for the issue of blood *per vaginam*. There was no appearance of injury to the os or cervix uteri.*

On opening the thorax, the heart and blood-vessels, lungs and pleura, were found to be perfectly healthy. The right auricle of the heart contained a small clot; the other cavities, a small quantity of dark fluid blood.

The œsophagus and pharynx were then removed for minute examination.

On opening the head, the meningeal vessels were seen to be turgid with dark blood. There was no appreciable quantity of fluid in the ventricles of the brain; although the lateral ventricles appeared abnormally large, as if fluid had distended them, but had been absorbed or had run down the spine. The substance of the brain was healthy.

---

*There had been no uterine pain excited by the ergot, and, as the flow of blood only took place very shortly before death, I am disposed to think the slight detachment of the placenta was due to the violent vomiting, rather than to the induction of uterine contractions.

With the exception of the parts mentioned as being congested, the body was remarkably exsanguine; and, except the small clot in the heart, the blood was everywhere fluid and very dark.

We finally proceeded to examine the viscera, which we had placed aside, as narrowly as time would allow. On opening the stomach, it was seen at a glance that its mucous membrane had been acutely inflamed; there were deeply injected, circumscribed, arborescent patches, extending from the cardiac to the pyloric orifice, especially on the posterior surface of the viscus, and grouped about the orifices. Over these patches the mucous membrane peeled off with extreme ease, but nowhere else. There was a small quantity of heavy smelling, dark, coffeeground-like fluid, of a gummy consistency, in the stomach, and a thick mucus adhered to its walls. The first and second portions of the duodenum had the same appearances; the marks of inflammation, however, gradually diminished on proceeding downwards; the third portion of the duodenum showed but slight traces of it; and the portion of the jejunum was healthy. The œsophagus was quite rotten at its lower part; at the upper part it was covered with inflammatory patches. The pharynx was extremely congested, and the mucous membrane was considerably thickened.

I then carefully secured the viscera, with their contents, in jars, and proceeded to the inquest-room.

It was now proved that the deceased had taken large doses of tincture of ergot and oil of pennyroyal for many weeks, to procure abortion; and I deposed that, in my opinion, the symptoms during life, and the appearances of the body after death, were fully accounted for by that fact.

The inquest was adjourned; and I took advantage of the interval to make a careful analysis of the viscera and their contents, so that I might be certain that she had not, in addition to the ergot, taken a mineral irritant. My examination was particularly directed to the detection of the salts of copper, as the sulphate is a reputed abortive, and produces somewhat similar symptoms and appearances to those observed. The result of my analysis was, however, a confirmation of my belief that she had died from ergot, as not a trace of any mineral poison was found.

On the resumption of the inquiry, the druggists who had, as was then proved, supplied the medicine for eleven weeks, produced a Dr. Roberts, who stated that Christison did not consider that ergot was a poison; that Taylor was mistaken on that point; and that I was altogether wrong in the opinion I had expressed. He stated that there was no more reason for calling tincture of ergot a poison than brandy: and that, in his belief, it could not primarily cause death.

The case stood thus, when the coroner produced Taylor *On Poisons*, and turned the balance in favor of the view I had expressed. Had it not been for this, as one doctor was pitted against another, the jury would have been in a dilemma, not knowing which doctor to believe.

I do not think any member of the profession will be for a moment in such a dilemma, as every one, I presume, but Dr. Roberts, knows that ergot was first, I had almost said, discovered from its action as a deadly poison.

It will be well, however, to make it manifest that there would be no mistake about this being a genuine case of poisoning by ergot; and to do so, I will show how closely the symptoms and appearances coincide with those which had previously been recognized as characteristic of the action of ergot.

*Malgré* Dr. Roberts, Christison says the symptoms of ergot-poisoning are, *inter alia*, nausea, vomiting, headache, a small pulse, a yellow skin.

Taylor says it produces dryness and irritation of throat, thirst, burning pain in the stomach, vomiting, etc.; and the cerebral symptoms are headache, and sometimes giddiness and stupor. The appearances after death in a few cases have been patches of inflammation on the mucous membrane of the stomach and small intestines; sometimes congestion of the brain, liver, and heart; sometimes the blood is black and fluid throughout the body, and the meningeal vessels are found distended, and there is effusion into the ventricles of the brain.

Pereira says, weight and pain in the head, dilatation of the pupils, and stupor are the principal symptoms which indicate the action of ergot of rye on the brain; there is great depression of the pulse; nausea and vomiting are not uncommon; and the countenance is sometimes yellow.

Casper and Neubert gave a case where, during life, there was great thirst, with frequent vomiting, præcordial pain, pallor, and coldness of the surface; and, after death, the mucous membrane of the stomach was found inflamed.

I have quoted briefly and imperfectly, out of consideration for the value of your space; but I think with sufficient fullness to prove my point.

These symptoms and appearances have been observed in cases of chronic prisoning, and also in cases of death from an excessive dose; and I think we may fairly take the case of Susan Kingman as a combination of both; for, after taking it for a considerable period in the prescribed dose, I have been informed, she became impatient at the want of effect, and sometimes took a larger quantity. In the recorded cases ergot has usually been taken in powder or decoction, and would be much less irritating than the tincture combined with a large dose of the essential oil of pennyroyal. Hence, probably, the excessive amount of inflammatory action established by it in this case. The pharynx bore evident marks of long-continued irritation; and I have little doubt chronic inflammation of the mucous lining of the pharynx, œsophagus, stomach, and duodenum had been going on for some time; and that, at the last, the fatal attack of acute gastritis was set up by taking a large dose of the medicine. Had it not been for the irritating form in which the medicine was taken, and for the large doses, it is probable the case would have gone on, and eventually developed the characteristic conditions constituting either "gangrenous" or "convulsive ergotism."

As to the immediate action of a large dose of ergot in this particular form and combination, we have pertinent evidence from a witness, who stated that, "after taking the medicine, the deceased appeared *very strange and faint*." This corroborates what Headland says: "When given in an overdose, ergot has a dangerous action on the brain, producing at sometimes narcotism, at other times syncope." In this case these two effects appeared to be combined.

In conclusion, I would endeavor to educe some benefit from the consideration of this painful case; and I would ask you, sir, and the profession generally, whether, in your and their opinion, it is proper for a druggist to consider a prescription as a sort of *carte blanche* for the continuous and practically unlimited supply of the medicine thereby ordered. My own opinion is, that a prescription should never be

considered to authorize the supply of more than the quantity ordered *on one occasion only.* But in the case of poisonous drugs, and especially of those known to be applied to criminal purposes, I am convinced that it is the incumbent duty of the druggist to stipulate that such a prescription *shall be redated and resigned either by the original prescriber, or by some other legally qualified practitioner, before it it redispensed*

If this plan were invariably adopted, prescriber, dispenser, and patient would be comparatively safe; and, on the occurrence of a case similar to the present one, we should know "whom to hang."

---

## EDITORIAL.

— The Seventeenth Annual Convention of the American Medical Association was assembled at Boston, on Tuesday, June 6th, and continued in session until Friday noon, June 9th. The number of delegates present was unpreecedentedly large, and, together with the permanent members, constituted the largest assembly of the medical men of this country ever held under the auspiees of the Association.

Nor was this convention noteworthy only on account of the large attendance. It was eminently successful for reason of the great number and general high professional excellence of the reports and volunteer communieations, and for the direct manner with which the energies of the Session were devoted to the business of the Association. Much of the suecess of the meetings in this latter respect was due to the admirable management of the presiding officer, Dr. N. S. Davis, whose minute acquaintance with parliamentary rules eminently qualified him for the position, and through whose firmness, mingled with urbanity, all irrelevant diseussion was shut off, and all attempts to introduce personal polemics estopped. Never have the sittings of the Association gone off more harmoniously, and never have we observed a tone and temper more truly professional, and so promising for the future growth and influence of the Association.

The following were among the principal reports and papers brought before the Sections and referred to the Committee on Publication:

On Insanity. By Dr. H. R. Storer, of Boston.

On the Relations of Eleetricity to the Causes of Disease. By Dr. S. Littell, of Philadelphia.

On Clineatology and Epidemie Diseases of California. By Dr. Logan, of California.

On Alcohol and its Relations to Man. By Dr. G. E. Morgan, of New York.

On Autopsies and their Relation to Medical Jurisprudence. By Dr. T. C. Finnell, of New York.

On the Introduction of Disease by Commerce, and the Means of its Prevention. By Dr. A. N. Bell, of Brooklyn, N. Y.

On Exsections and their Relation to Conservative Surgery. By Drs. Tewksbury and Lyon.

On Specialists and Specialties. By Dr. Homberger, of New York, and Dr Storer, of Boston.

On the Rank of the Medical Corps in the Army. By Dr. Tripler, U. S. A.

On the Rank of the Medical Corps in the Navy. By Dr. James Anderson and others.

On Small-pox. By Dr. Ramsey, of New York, and by Dr. Nebinger, of Philadelphia.

On Ophthalmology. By Dr. Williams, of Cincinnati.

On Extraction of Foreign Bodies from the Ear and Nose. By Dr. Lawrence Turnbull, of Philadelphia.

On Staphyloraphy. By Dr. J. M. Warren, of Boston.

On Surgery. By Dr. Henry J. Bigelow, of Boston.

On the Functions of the Nerves of Sensation and Motion. By Dr. Haskell, of Rockport, Ill.

On Dislocations of the Clavicle. By Dr. H. Holton, of Putney, Vt.

On Compulsory Vaccination. By Dr. Toner, of Washington, D. C.

On the Mechanical Treatment of Chronic Inflammation of the Joints of the Lower Extremities, with a description of some new apparatus for producing extension of the Knee and Ankle Joints. By Dr. L. A. Sayre, New York.

On Fracture of the Neck of the Femur and Impaction of the head of the Bone, and Dislocation of the same. By Dr. H. J. Bigelow, Boston.

The Committee on Prize Essays announced that a prize had been awarded to the author of the paper "on the Surgical Treatment of Morbid Growths in the Larynx," which was ascertained to be Dr. Louis Elsberg, of New York.

The main discussions in full session occurred upon the reports of the Special Committee appointed to report on Specialties and Specialists, and upon the motion of Dr. Cox, of Maryland, to strike the name of Dr. Montrose A. Pallen from the rolls of the Association, and to disqualify him hereafter from membership, for alleged complicity in an

attempt to poison the water in the Croton Reservoir, thus imperiling the lives of the citizens of New York.

The reports of Drs. Homberger and Storer on Specialties were referred to the Committee on Ethics, with instructions to report some definite action on this subject.

The motion of Dr. Cox was carried, but followed next day by a protest against this action of the Association, signed by thirty or more members, "on the general principle that all sense of right and justice, as well as the established rules of this Association, demand that no man shall be condemned and punished until his guilt is established." A reply to this protest was prepared by a Committee, which took the ground that the action of the Association neither "condemned nor punished" in the legal sense, but protected the members of the Association from the odium of any connection with one, who, "while he was unable to clear his skirts, is not particularly jeopardized in life, liberty, or the pursuit of happiness by our act."

At this junction a telegram was received from Dr. Pallen, dated Montreal, execrating the crime with which he was charged, asking for a reconsideration of the vote, and pledging himself "to still preserve the fair fame belonging to every member of the Association."

Of the hospitalities extended to the Association by the profession and the civil authorities of Boston, there is but one opinion. While all were pleased with the general success of the convention, the only regret was, that the social festivities which so delighted those engaged in them should so soon terminate, to give place to professional cares and anxieties.

— At a meeting of the New York County Medical Society, held at the College of Physicians and Surgeons, Monday evening, May 1st, the following resolutions, proposed by Dr. John R. Van Kleeck, and seconded by Dr. William Hibbard, were unanimously adopted:

*Resolved*, That the New York County Medical Society, in common with the profession throughout the land, have learned with deep sorrow of the death of Professor Valentine Mott, M.D., one of the oldest members of the Society.

*Resolved*, That while by the death of Doctor Mott the realm of Surgical Science has lost its highest peer; Society one of its best citizens; humanity one of its greatest benefactors, yet we have cause for great thankfulness that his life was spared so long, to illustrate and adorn every department in which he moved.

*Resolved*, That as citizens of America we have a national pride, and as citizens of New York a local pride, that this country and this city were his abode, the arena in which he performed those mighty achievements

which have secured for him so world-wide a renown, that there is scarce a spot in the civilized world where the name and fame of Dr. Mott, of New York, is not familiarly known and regarded as of the highest in surgical science.

Isaac E. Taylor, M.D., *President.*

Ellsworth Eliot, M.D., *Secretary.*

—At a meeting of the Faculty of the Bellevue Hospital Medical College, the following resolutions were presented and adopted:

*Resolved*, That the Faculty of the Bellevue Hospital Medical College desire to place on record their recognition of the bereavement of the medical profession throughout the world, and especially in this country, by the death of the late venerable and distinguished Professor Valentine Mott, M.D., LL.D.

*Resolved*, That the long and brilliant career of one so justly recognized as the "Father of American Surgery" must ever be a source of just pride to all the citizens of the United States, while the charm of his manner and his unaffected kindness of heart shed a grace on every action, which can never be forgotten by those within the sphere of his personal influence.

*Resolved*, That we respectfully present the expression of our sincere sympathy to his family in their affliction, and especially to his son, our colleague—Professor Alexander B. Mott—with the conviction that their chief consolation will be drawn from their recollection of his well-spent, though laborious life; his christian charity; his sincere faith and cheerful resignation to the will of his Heavenly Father; his freedom from personal animosity, and in gratitude to the merciful Providence which permitted him to enjoy, to the advanced age of nearly eighty years, all the happiness which flowed from his pre-eminent professional rank, his unclouded intellect, and his undisturbed bodily vigor.

*Resolved*, That a copy of these resolutions be published in the daily papers and in the *New York Medical Journal*, and transmitted to the family.

*Resolved*, That the Faculty attend the funeral, and wear the customary badge of mourning for thirty days.

Isaac E. Taylor, M.D.,
*President Bellevue Hospital Medical College.*

A. Flint, Jr., M.D.,
*Secretary Bellevue Hospital Medical College.*

Spanish Medical Journals.—There are eighteen medical journals published at the present moment in Spain. The *Correspondencia Medica; Siglo Medico; Restaurador Farmaceutico; Porvenir de la Veterinaria; Criterio Medico; Pabellon Medico; Genio Cirujico; Voz de los Ministrantes; Espana Medica; Clinica Medica; Monitor de la Salud; Revista de Sanidad Militar; Monitor de la Veterinaria; Veterinaria Espanola; Cronica de Sevilla; Revista Medica de Cadiz; Revista Farmaceutica de Barcelona;* and *Vigia de los Partidos.*

## BOOKS, JOURNALS, &c., RECEIVED.

A Dictionary of Medical Science, &c., &c. By Robly Dunglison, M.D., &c. Thoroughly revised and very greatly modified and augmented. Philadelphia: Blanchard & Lea. 1865.

Lectures on Surgical Pathology, delivered at the Royal College of Surgeons of England. By James Paget, F. R. S., &c. Revised and Edited by William Turner, M. B., London, &c. Third American Edition. Philadelphia: Lindsay & Blakiston. 1865.

Lectures, chiefly Clinical. By Thomas King Chambers, M.D., &c., &c. From the Third London Edition. Philadelphia: Lindsay & Blakiston. 1865.

Principles and Practice of Obstetrics. By Gunning S. Bedford, A.M., M.D., Prof. of Obstetrics in the University of New York. Third Edition, Revised and Enlarged. Wm. Wood & Co. 1865.

Hand-Book on Skin Diseases, for Students and Practitioners. By Thomas Hillier, M.D., London, &c. Philadelphia: Blanchard & Lea. 1865.

Physicians' Prescription Book, &c., &c. By Jonathan Pereira, M. D., F. R. S. Fourteenth Edition. Philadelphia: Lindsay & Blakiston. 1865.

The Army Surgeon's Manual. For the Use of Medical Officers, Cadets, Chaplains, Hospital Stewards, &c., &c. By William Grace. Second Edition. Published by permission of the Surgeon-General. New York: Baillière Brothers. 1865.

Memoir of the Life and Character of Prof. Valentine Mott. Facile Princeps. By Dr. Samuel W. Francis, &c. New York: W. J. Middleton. 1865.

Memoir of Jacob Harsen, M.D. Read before the New York Academy of Medicine, June 1, 1864. By John G. Adams, M.D.

Memoir of Thomas Turner, M.D. Read before the Medical Society of the County of Kings, Brooklyn, April 17, 1865. New York. 1865.

Medical Logic: An Introductory Lecture to the Medical Department of the University of Michigan, Session of 1863–4. By S. G. Armor, M.D., &c. Detroit. 1863.

Defective and Impaired Vision, with the Clinical Use of the Ophthalmoscope in their Diagnosis and Treatment. By Lawrence Turnbull, M.D., &c., &c. Philadelphia: Lindsay & Blakiston. 1865.

Annual Catalogue of the Officers and Students of the Charity Hospital Medical College of Cleveland, Ohio. Session 1864–65.

Catalogue and Circular of the Albany Medical College.

Catalogue of the Officers and Students of the University of Michigan, with a statement of the course of instruction in the various departments. 1865.

The Army Medical Staff. An Address delivered at the Inauguration of the Dale General Hospital, U. S. A., Worcester, Mass. By Warren Webster, M.D., U. S. A. Boston. 1865.

The Eastern or Turkish Bath; with its History, Revision in Britain, and Application to the Purposes of Health. By Erasmus Wilson, F. R. S., with Notes and Appendix by M. L. Holbrook, M.D.

American Druggist Circular. May and June, 1865.

American Journal of Insanity. July, October, 1864; January, April, 1865.

Boston Medical and Surgical Journal. April 27, May 4, 18, 25, June 1, 15.

Buffalo Medical and Surgical Journal. April, May, June, 1865.

Chicago Medical Examiner. March, April, May, June, 1865.

Chicago Medical Journal. May, June, 1865.

Cincinnati Lancet and Observer. May, June, 1865.

St. Louis Medical and Surgical Journal. March, April, May, June, 1865.

The Medical News and Library. May and June, 1865.

The Catholic World. June, 1865.

American Literary Gazette and Publishers' Circular. Phila., June, 1865.

Anales de la Real Academia de Ciencias Medicas, Fisicas y Naturales de la Habana. Revista Cientifica. Directores D. Antonio Mestre y D. J. Joaquin Muñoz. Abril, Mayo, 1865.

Trübner's American and Oriental Literary Record, London. March, April, 1865.

NEW YORK

# MEDICAL JOURNAL,

A MONTHLY RECORD OF MEDICINE AND THE COLLATERAL SCIENCES.

AUGUST, 1865.

---

## ORIGINAL COMMUNICATIONS.

*Hints towards the Treatment of Uræmia.* By JOHN C. PETERS, M.D.

For the basis of the present article, I will somewhat arbitrarily assume that the complication of disorders included under the terms uræmia, Bright's disease, and albuminuria, arise mainly, if not exclusively, from the presence of an excess of urea in the blood. I almost believe that urea bears the same relation to albuminuria and Bright's disease that sugar does to diabetes, and urate of soda to gout. In like manner, as almost every grain of starch introduced into the human body passes through the stage of sugar, so almost every grain of albuminous substance that enters the blood, sooner or later in its way out, passes through the stage of uric acid, and, if thoroughly oxidized, escapes as urea, carbonic acid and water. As want of oxidation of sugar is the cause of the diabetic diathesis, and a want of oxidation of the urates and their consequent accumulation in the textures and the blood is the cause of the gout-diathesis, so is an increased formation and deficient excretion of urea the cause of the uræmic-diathesis. The number of substances that are formed between albumen and urea are vastly

more numerous than between starch and carbonic acid; but whatever their number, uric acid is the penultimate, and urea the ultimate product of oxidation. Thus, Neubauer gave 300 grains of uric acid to a rabbit, an amount which would furnish about 255 grains of urea; the rabbit passed an excess of 240 grains of urea, a result which proves that the uric acid was almost, if not entirely, converted into urea and carbonic acid. Wohler and Frerichs found the quantity of urea greatly increased when uric acid or the urates of potash or ammonia were taken; the uric acid was decomposed into urea in the system. Hence, it would seem as if some at least of the bad effects of a tendency to uræmic disease might be temporarily stayed if the normally rapid conversion of uric acid into urea could be lessened or delayed. Will acids accomplish this? Simpson thinks that an alkaloidal poison is generated in the blood in Bright's disease, and hence gives acids, especially acetic acid, because the acetates of most alkaloids readily pass out of the body. He believes that he has seen good results from large doses of vinegar. A Dr. Hansen claims to have treated twenty cases with dilute nitric acid, and to have cured eighteen; only two died, and these are said to have been complicated, one with consumption, and the other with organic disease of the liver; the eighteen cured were all recent cases. The muriate tincture of iron is known to be one of the most useful remedies, perhaps the most useful of all medicines in chronic cases.

It is well known that urea is easily transposable into, and is almost the equivalent of *cyanide of ammonia*, and it has been conjectured of late that this latter substance is the offending agent in the so-called uræmic poisoning. However this may be, urea itself is a very injurious substance when present in excess. Not only has it been shown by the experiments of Hammond and others that urea is poisonous when introduced into the blood, but Gallois has even observed its toxic properties when injected into the stomach. He threw about five drachms of urea into the stomachs of various rabbits; the animals died, all having exhibited the same symptoms, which resembled in many respects those which we observe in the human body in rapid cases of uræmia. Again, Goodfellow says, no vivisec-

tor or experimental physiologist has either extirpated the kidneys, tied the renal arteries, or destroyed the renal nerves, or in any way arrested the kidney functions, without producing the signs of uræmic poisoning. But in all cases of removal of the kidneys the animals survived for several days, and the symptoms were not observed for a considerable time after the operation. In those, however, in which in addition *urea* was injected into the blood, the symptoms invariably came on within an hour, and death occurred in from six to nine hours.

In health, urea is so rapidly removed by the renal organs, that only minute traces of it can be obtained in the blood; but if the kidneys become diseased and are no longer fitted to perform their important functions of depuration, large quantities have been detected. If spontaneous vomiting or diarrhœa does not occur, or is not artificially produced, or if free action of the skin does not take place, then epileptiform convulsions, or other nervous symptoms, or œdema of the lungs, or peri- or endo-carditis, or pleurisy may arise.

Free action of the skin is very important in uræmia, for, according to Favre, urea is a normal constituent of perspiration. Bird admits that small quantities are naturally removed from the system by the skin, and has found it abundantly in the perspiration of some persons whose kidneys are unhealthy, and absent in others. Hence, when the urea-excreting functions of both skin and kidneys are suppressed, a formidable condition arises, as in dropsy after scarlet fever, and in albuminuria arising from exposure to cold and wet. Many subjects of Bright's disease will be found to have always had unusually dry skins, to have scarcely ever perspired, even in the hottest weather. To such, a soda-bath, made with one or two pounds of sal soda in a warm bath, twice a week, is said to be useful. Would not an *acid* bath be better? Neither opium nor any of its preparations should be used as diaphoretics, for they render the urine scanty and cause retention of urea.

Attention to diet is very important in uræmia, but is, unfortunately, only available in sub-acute and chronic cases, for urea constitutes the form in which a very large, if not the largest, quantity of nitrogen is expelled from the system. The diet of a subject of Bright's disease should be as carefully

attended to as in the gouty, and a small amount of animal and vegetable albuminous and nitrogenous food only should be allowed. I am confident that I have noticed cases of recovery in which the patient was restricted to a bread and milk diet, with gruel, arrow root, and nothing more substantial than fish; while others, apparently no more diseased, who were fed on meat, beef-tea, eggs, &c., either terminated fatally or recovered very slowly and imperfectly. To make this more probable, we need only quote the experiments of Lehmann on his own person. He passed no less than eight hundred grains of urea while living exclusively on animal food; less than five hundred grains while using a mixed animal and vegetable diet; less than three hundred and fifty grains when he restricted himself to vegetables; and scarcely two hundred and fifty grains when he confined himself to purely non-nitrogenous substances, such as starch, sugar, and oil. Beigel found that healthy men, living on a very scanty diet of rolls and a kind of porridge, passed more than three hundred grains *less* than those who enjoyed a superabundant animal diet and plenty of porter. Two patients undergoing the so-called hunger-cure, excreted only from two hundred and fifty-five to three hundred and thirty grains of urea daily. A dog, taking nearly nine pounds of beef, free from fat and bone, discharged 2,850 grains, or more than six *ounces* of urea daily, while the same animal, when restricted to little more than one pound of potatoes and half a pound of fat, excreted not more than from one and a half to 2 *drachms*. Bischoff believes that the increase of urea is only limited by the power of the individual to dissolve and digest nitrogenous food. He also found that the use of gelatine as food increases the quantity of urea to a great extent. Alcohol, tea and coffee, especially the empyreumatic aromatic substance in the latter, diminish the daily quantity of urea. Eggs may prove especially injurious, as both Lehmann and Hammond produced true albuminuria in their own persons, from living exclusively on eggs; but it is true that Lehmann once succeeded in consuming no less than thirty-two boiled eggs in one day. While fasting from *solid* food, the usual amount of liquid being taken, the quantity of urea is, as a rule, at once *reduced*. In some experiments by Moos it fell

off 240 grains in 24 hours; in others 216 grains; in others only 135 grains. Of course a very limited and restricted diet must not be carried out very long at a time, except in quite robust patients. Finally, urea exists in combination with common table salt, *i. e.*, as the chloro-sodate of urea, in the blood and partly also in the urine. Wundt has tried the effect of total abstinence from chloride of sodium; his urine fell off fully one-half in quantity in five days, and became albuminous the third day. The diminution of the water of the urine was so marked as to lead to the opinion that chloride of sodium may play an important part in the diffusion of fluids. Parkes also thinks this production of albuminuria is a most important observation. It seems to him to support the idea that the freedom of healthy urine from albumen is owing to the albumen during its transit through the renal tissues and epithelium being *rendered insoluble by the action of acids* in the presence of chloride of sodium. It would hence seem important to supply albuminurious patients with a full quantity, or even an excess of both acids and table salt. Bischoff has also proved that common salt exerts an unquestionable influence in augmenting the excretion of urea.

It is scarcely necessary to prove that the urea is diminished in the urine in Bright's disease, but it may be well to state a few facts. In an acute case the urea amounted to 242 grains daily when first observed; it quickly lessened to 143 and 126 grains, and shortly before death only 55 grains were passed. This patient was very thirsty, drank largely, and gained 11 pounds in weight in three days, simply from deficient elimination of perspiration, urinary water and urea. In a chronic case French found less than 15 grains in one day; but generally about 100 grains are excreted, although occasionally and temporarily as much as 250 grains may be detected. It is evident that in the treatment of uræmia we should lessen the formation of urea in the blood and system, and increase its elimination from the kidneys, skin and bowels.

We now pass to a consideration of the medicines which increase or diminish the quantity of urea.

1. *Tartar Emetic.*—Bœcker took 2½ grains of tartar emetic daily for nine days; the urea was *lessened* about 75 grains in

eaeh 24 hours; the only alteration of any importanee in the urine was the diminution of urea. Beigel gave two persons two grains every day for four days, and found the urea invariably decreased about seventy-five grains daily. Tartar emetic is well known to be very useful in aeute eases of Bright's disease; but Aekermann found it to greatly increase the quantity of urea, and apparently proportionately to the size of the dose. It may prove useful both by preventing the formation of urea and inereasing its elimination.

2. *Golden Sulphuret of Antimony* inereases all the eonstituents of the urine, and that of urea over ninety grains daily. Parkes thinks that it either increases the elimination of all the eonstituents of the urine, or favors the metamorphosis of nearly all the tissues of the body, or both. He regrets that this remedy has almost fallen into disuse of late, and that it has been superseded by tartar emetic, espeeially in ehronic diseases.

3. *Muriate of Ammonia* inereases all the eonstituents of the urine except uric aeid, whieh it slightly diminishes; the daily *increase* of urea was about seventy-four grains, a quantity which indicates a great augmentation of metamorphosis or elimination; as it lessens the urie aeid, perhaps it eonverts this more rapidly into urea.

4. *Citrate of Ammonia.*—Prout notieed a great inerease of urea in the urine of a dyspeptic patient while taking this remedy.

5. *Liquor Potassæ.*—In several eases the amount of urea was inereased, and Parkes says this oeeurred so constantly as to lead to the inferenee that this alkali really augmented the *formation* of urea. The uric acid was unaffeeted. Day says little is definitely known regarding the power of remedial agents in modifying the amount of urea, exeept that liquor potassæ has been decisively proved by the experiments of Dr. Parkes to inerease its quantity. He adds, the experiments of Bœeker, Beigel and others, on this subject, are too vague and uneertain in their results to call for speeial notiee. But doetors will disagree.

6. *Nitrate of Soda.*—Aecording to Sehenek, it inereases the water of urine and the urea for the first three or four days, when they both fall below the normal standard to an extent

which balances the previous increase. It acts first as a diuretic, increasing the amount of urinary water, thus aiding the elimination of urea; but its influence is limited and temporary; it is a mere elimination, and the formation of urea in the system is not augmented. It increases the urinary water 2,700 grains for three or four days, and the urea about 60 grains; then the water falls off 3,000 grains below the previous increase, and about 1,350 grains below the normal standard; the urea fell off about 100 grains below the increase, and 45 grains below the normal quantity. One and one-half ounces of nitrate of soda were required to produce the above effects.

7. *Nitrate of Potash.*—According to Beigel, three drachms given in twenty-four hours diminished the urea slightly in one case, and greatly in two cases. Hence it either lessens the production of urea or prevents its elimination. Parkes, from one ounce given in twenty-four hours, found it to act as a diuretic, and to cause the exercise of an excess of nearly 200 grains of urinary solids.

8. *Phosphate of Soda* diminishes the urea nearly thirty grains in one day when given in 225 grain doses; it is said to retard the digestive process extremely, and diminish the amount of nutriment entering the system. It is not a disintegrating agent, but rather the reverse; it lessens both the quantity of urea and that of the insensible perspiration.

9. *Acetate of Potash.*—Bœcker took three ounces of the Prussian solution of the acetate of potash in four days, and found the quantity of urea lessened about fifteen grains; the urinary water about 440 grains. It lessens the urinary water, urea, and extractives, and the earthy phosphates in a remarkable degree, viz., to the extent of twenty-two grains per day. In another case in which the acetate of potash was taken for eleven days, the urea was diminished over sixty grains per day.

10. *Colchicum* lessens the quantity of urea and uric acid from one-seventh to one-quarter the normal quantity. Garrod found the uric acid generally, but slightly lessened. This remedy should prove either very useful or very injurious; in one case I thought it decidedly injurious, or rather discomforting, for it caused nausea and vomiting in very small doses. But in scarlatinous dropsy Dr. Maclagan frequently found colchi-

eum of much service, particularly when the urine became very scanty, and indications were given of approaching coma. He thinks that urea retained in the blood is the cause of the symptoms, and that colchicum causes its discharge. The same writer proposes colchicum in the advanced stages of Bright's disease as a means of depurating the blood.

11. *Belladonna* increases rather than diminishes the quantity of urinary water, urea and extractives.

12. *Quinine.*—Ranke has made the important observation, that twenty grains of quinine lessens very greatly, viz., about one-half, the excretion of uric acid. It does not affect the quantity of urea. There was no increased excretion of uric acid after the effect of the quinine had passed off; hence the formation of uric acid was probably absolutely lessened; as the quantity of urea was not increased, it was, of course, not converted into urea.

13. *Digitalis.*—In a case of cardiac dropsy observed by I. Vogel, 419 grains of urea were excreted before digitalis was given, and 755 grains per day subsequently; in another case the urea rose to 696 grains daily.

14. *Juniper Ointment* increased the urinary water to 114 ounces, and the quantity of urea from 339 to 622 grains.

---

*Report of Committee on the "Progress of Ophthalmology in the year 1864" to the American Ophthalmological Society.* By B. Joy Jeffries, M.D.

[Read before the American Ophthalmological Society, June 13, 1865.]

Your committee has not considered it within its province to enumerate or criticise all that has been said or written upon ophthalmology during the past year, but simply to bring before you what seems truly in advance of our former knowledge, and show its importance in our branch of medical science, and its bearing upon the study and practice of the profession at large.

"Mr. Newton has demonstrated several new propositions,

which are so many new truths, and are further advances in mathematical knowledge."—*Locke.*

The results of the labors of Donders and his assistants upon the accommodation and refraction of the human eye which have been given to the scientific world during the year 1864, by means of the "New Sydenham Society,"[1] may properly be called "new propositions, which are so many new truths and further advances" in ophthalmology. As the members of the Society have probably ere this rendered themselves familiar with the contents of this magnificent volume, embracing the long-continued researches of Donders, it is not necessary, perhaps not even becoming, for your committee to attempt analyzing these studies, already become fixed facts in ophthalmological and optical science. An analysis of these investigations upon the refraction and accommodation of the eye is in reality the book itself. It is, therefore, but left to us to show the bearing of these important truths upon our specialty, and our relation to our medical brethren. They have revolutionized the treatment of anomalies of accommodation and refraction as thoroughly as the invention of the ophthalmoscope revolutionized the treatment of internal affections of the globe. They have, almost like the demonstration of a mathematical problem, not only determined the existence, but the treatment of myopia, hypermetropia, asthenopia and astigmatism. Together with the invention of the ophthalmoscope, the results of this application of the higher mathematics to the solution of problems in physiological optics have served to raise our specialty to a much higher grade in medical science. In speaking of ophthalmoscopic literature, an English reviewer said: "It has been happily observed of a book that once produced much controversy, the 'Vestiges of the Natural History of Creation,' that the most conspicuous fact in connection with its history was the discovery of previously unsuspected strata of ignorance in the so-called intelligent and educated classes. In like manner the introduction of the ophthalmoscope into England was the cause of some sufficiently startling revelations of a similar kind. Many of the leading oculists were found to be unconversant with the elementary facts of optics, and were therefore unable to comprehend the principles upon which the instrument

was based, or to speak of it without unconsciously falling into error."—(*Ophthalmic Review, April*, 1864, *p.* 90.)

From remarks here and there cropping out in the journals in reference to Donders' book, we fear that there are still deeper "previously unsuspected strata of ignorance among the so-called intelligent and educated" surgeons, and even oculists of our day. Let this not be said of the members of this Society. Our duty to the profession requires us to be ever eager to learn, appreciate, and adopt all advances in ophthalmological science as well as in ophthalmological medicine and surgery. In this way only can we retain the position which our medical brethren are according us, and which is the surest means of shaking off from our specialty the fungus of quackery springing up from the soil of ignorance. The name of oculist will then no longer be a doubtful term. Already out of the profession comes a call for *scientific* ophthalmologists. A non-medical writer on physiological optics says: "In the ordinary diseases to which the eye, like other parts of the body, is subject, we may safely confide in the skill of the experienced physician; but in the diseases to which it is liable as an optical instrument, where optical science can alone direct us, we regret that professional assistance is difficult to be found. Guided by practice, the skillful oculist may dexterously extract the crystalline lens, or make an artificial pupil; but all the refinements of optical science are requisite in the practitioner to whom we commit the care of our sight; and we trust the time is not distant when men will be expressly educated for this branch of the healing art, and exhaust in their practice the rich resources with which science can supply them."—(*North British Review, Nov.*, 1856, *quoted in Jago's Entoptics, preface, p.* 9.) In reality, ophthalmoscopy and the anomalies of refraction and accommodation are already becoming almost a specialty within a specialty. No better proof is needed than this to show that new truths have been discovered requiring the special energy and study of ophthalmologists. And the year that has passed has given us all opportunity to make ourselves masters of the researches of those who are the leaders in our specialty. In this, then, ophthalmology has truly advanced.

*Ophthalmic Photography.*—Some advance has been made in

the method employed to obtain photographs of the fundus oculi of animals, by Dr. Henry D. Noyes, of New York, Dr. A. M. Roseburgh, of Toronto, Canada, and we believe, also, by Dr. Liebreich. The fundus of the human eye has not yet been photographed, yet we cannot doubt but that it will be done. It has been suggested that the quality of the light has not, perhaps, been sufficiently studied. That is, is there not some form of illumination to which the plate, but not the eye, is particularly sensitive? The photographist and the physiologist must combine their knowledge and efforts. It will certainly be a great gain to be able to photograph important cases of internal disease of the globe, for now the difficulty and expense of producing a colored lithograph, to represent even faintly morbid changes, is very great, and we all know how impossible it is to intelligibly describe what we see.

*Autopthalmoscopy.*—The inventions of Prof. Coccius,[2] of Leipsic, Dr. Giraud-Teulon,[3] of Paris, Dr. F. Heyman,[4] of Dresden, and N. W. Zehender,[5] of Bern, have lately "given us the gift to see ourselves as others see us." But the power of viewing one's own optic disk and retinal vessels is not simply a physiological wonder. It gives the ophthalmic student opportunity to study for himself by himself. Indeed, a good method of training himself in ophthalmoscopy is, to become by practice *au fait* at examining his own fundus oculi. He can also thereby learn what to see and how to see it. Although autopthalmoscopy is but in its infancy, yet we already have several different forms of the instrument, both for the upright and inverted image. It would not be safe to predict the results that may be developed by the autopthalmoscope. One thing let us note. It sprung from philosophic ophthalmologists applying the laws of optics to physiology. It was not stumbled on, but wrought out by patient investigation and experiment.

*Entoptics.*—Prof. Donders' researches, and more especially Dr. James Jago's,[6] have been given to the world during the year 1864. Entoptics is certainly one of the most difficult fields of study, and has consequently been lying fallow for some time. Dr. Jago has not only given us the means of investigation, but the results of these means, when employed. Although the ophthalmoscope, and more especially the binocular, has

greatly removed the necessity of entoptical examination, yet Dr. Jago has so enlarged our method of determining the position and importance of ocular spectra that we can now hardly leave out this help to our diagnosis. His investigations certainly give us a series of new truths, and are therefore advances upon our former knowledge, whether they are applied or forgotten, to be again hereafter brought forward, when some additional discovery throws them out into relief, like these ocula spectra lying unnoticed or hidden till a glimpse through a perforated card calls them up as by the magician's wand.

*Retinal Structure.*—Heinrich Müller's[1] researches on the structure of the retina in man and the vertebrates, published in 1856, have been the basis of our knowledge on this subject, and his anatomical investigations seemed so firmly fixed that they were considered as absolute. But Dr. Carl Ritter[2] has given us lately his own continuance, as one might say, of Müller's work. He has certainly made a great advance over our former knowledge of the histological elements of the retina; so that Müller's views must be greatly modified. He regrets, with his readers, that Müller's death, just as he was completing his work, took away a critic who could both appreciate and weigh the value of his investigations. Till the anatomy of the retina is exhausted, its physiology must still be in a measure hypothetical. Dr. Ritter's careful deductions and patient research have brought us a long distance in advance of where Müller and those following him left us. These are the histological elements as he gives them: Bacillar layer, granular layer, fibrous layer, ganglion-cell layer, nerve-fibre layer. He has traced the connection of these layers, and more especially shown and explained the supporting structure which holds and sustains them. This clears up a great deal before uncertain, and the anatomy of the retina commences to assume some definite shape. He concludes his work with this paragraph, the deductions from his investigations: "Thus determining the functions of the separate portions of the nervous structure of the retina, the bacillæ simply receive the impression, their stimulation corresponds to the sensation; the granules convert the sensation into nervous stimulation; the granular cells give the sense of color; the ganglion cells finally determine the

retina's sense of location. Although I know very well that this is hypothetical, yet I cannot but think that a definite expression of it will be of use." Late optical and physiological studies seem to support these views. We see how far they would carry us towards the true theory of vision. This is not of course the place to criticise them.

*Binocular Ophthalmoscope.*—We owe to Dr. Giraud-Teulon, and following him, Mr. J. Z. Lawrence, our thanks for the invention of the binocular ophthalmoscope, by means of which we are enabled to save a great deal of time and uncertainty in determining the position of extravasations, exudations, deposits, &c., in the vitreous humor, retina and choroid. It is true, as Dr. Schweigger admits, that with the monocular ophthalmoscope it is possible to ascertain nearly all that the binocular instrument can reveal to us; but a moment's glance with both eyes is worth an hour's gaze with one. Probably in a short time ophthalmologists will use it to the exclusion of the monocular ophthalmoscope. A comparison of the two would be better than any description we can here give. Time will undoubtedly simplify as well as cheapen this instrument. It is, in the highest sense of the term, an advance upon our previous means of observation. Simply as a scientific or philosophical instrument, it will be of great value, as probably enabling us to settle many points in reference to binocular vision and so-called stereoscopic effect. It is a new means of experimenting in this field of physiological optics. Its general use will be looked forward to with interest by both the philosophical and pathological ophthalmologist.

*Physiology and Theory of Vision.*—Physiologists and philosophical ophthalmologists have, the last few years, given a great deal of time and study to vision, and their labors have been so productive of new truths as to attract the attention of the general scientific world. This has been, perhaps, in great part due to the invention of the ophthalmoscope, and the educated research called forth by it, as it brought again more forcibly before philosophers the human eye as the most attractive field for physiological and psychological study. The published record of investigations for the last ten years are mainly contained in the works which we here enumerate. (Vide note 9.)

It is of course impossible to give even a resumé of the results these authors have arrived at. Many optical and physiological experiments, always accepted as absolute, have been disproved or different deductions drawn from them. Others have stood the test of repetition by careful observers, and thus placed us in advance of our former knowledge. A carefully conducted physiological optical experiment is as it were however but the anatomy, the deduction from it the physiology of vision. Some theories of vision have been again weighed in this recent research, and in this respect the past year has been productive of new truths. Others have not stood the test of crucial experiment, and thus we have likewise gained ground in our difficult field of study. But it may be asked, how has all this laborious experimentation helped us? In what way have we been advanced by it? Our answer would be: From just these studies sprung the ophthalmoscope, the laws of accommodation and refraction, and the true meaning of strabismus.

Mr. Abbott's book, "Sight and Touch," reviews, as it were, the results of the others mentioned, with the purpose of disproving the Berkeleian theory of vision. That is, he has tested this theory by the experiments and laws, and reasoning therefrom deduced, in the long series of investigations carried on by physiological ophthalmologists the past few years. The result is, that the eye must be placed much higher among the organs of sense. Through it we gain a greater knowledge of the external world than has hitherto been conceded. The received ideas in reference to stereoscopic effect must be greatly modified. The use of two eyes seems to give us a greater amount, besides a different power, of vision gained by one. There is much we would willingly dwell upon in this book, but it is not perhaps in place here. It is proper to state that Dr. Giraud-Teulon, of Paris, prosecuted similar studies in 1860. Mr. Abbott has reversed the theory that sight was dependent upon touch; and here we have made a great advance, and can proceed upon a sounder basis in optical experiment, which must be, as it were, the anatomy for physiological deduction. "The science of philosophy must henceforth give place to the philosophy of science."

In three great points, then, has ophthalmology advanced, or

an advance made sure and proved, during the year. First, in the laws of the refractive media of the eye in health and disease; second, in the anatomy of the membrane, upon which these refractive media form the picture; and thirdly, in the means by which this retinal impression becomes visual perception. But these three taken together are "*sight*."

The past year has not perhaps been very productive of great improvements in ophthalmic medicine and surgery. Much it is true has been proposed, but time must test its worth, and say whether or no it is more than a revival or another application of former knowledge forgotten. It must be remembered that the old proverb applies to our specialty as well as to other branches of medicine, "There is nothing new that is true, or true that is new."

Yet in the every-day life, so to speak, of ophthalmology, the past year has not left us behind. There was a spirited meeting of the "Ophthalmologische Gesellschaft" in September, and the proceedings were published by von Græfe, Hess, and Zehender. A new ophthalmic journal, the "Ophthalmic Review," was started in London, and has been kept up with spirit and in the pursuit of scientific truth. The excellent "Reports of the Royal London Ophthalmic Hospital" have also been continued. Zehender's Klinische Monatsblätter and the Annales d'Oculistique contain ever fresh material and useful digests. The "Archiv für Ophthalmologie" has gone steadily on at the head of ophthalmic literature. A number of new and exceedingly valuable works and monographs upon various subjects have appeared from the European press, such as Schweigger's Gebrauch der Augenspiegel,[10] Zander and Geissler's Verletzungen der Augen,[11] Wecker's Etudes Ophthalmologiques,[13] Carter's translation of Zander on the Ophthalmoscope,[12] J. S. Wells' Lectures on Glaucoma,[14] Canton's Arcus Senilis,[15] and many others.

If, during these times of excitement and anxiety, we American ophthalmologists have not perhaps contributed our share towards the advancement of our science, we shall be pardoned by our medical brethren. We have, at least, by the very formation of this Association, shown that we are anxious to learn, by mutual intercourse and interchange of thought and criti

cism, and that we ever have in view the one great object of our specialty, the restoration of sight.

## BIBLIOGRAPHY.

1. "On the Anomalies of Accommodation and Refraction of the Eye." F. C. Donders, M.D. London, 1864. New Syd. Society.

2. Annales d'Oculistique. Tome 49, p. 56.

3. " " " 49, p. 181.

4. Die Autoskopie des Auges. Dr. F. Heymann. Leipzig, 1863.

5. Klinische Monatsblätter für Augenheilkunde. May, 1863.

6. Entoptics, with its uses in Physiology and Medicine. James Jago, M.D. London, 1864.

7. Anatomisch-physiologische Untersuchungen über die Retina des Menschen und der Wirbelthiere. Von Heinrich Müller. Leipzig, 1856.

8. Die Structur der Retina dargestellt nach Untersuchungen über das Walfischauge. Von Dr. Carl Ritter. Leipzig, 1864.

*See also* Archiv für Ophthalmologie. Band. 2, Abth. 1.

Die Querstreifen der Retinakörner. Carl Ritter.

Ueber die feinsten Elemente des Bindegewebes in der Faserschicht und der Zwischenkörnerschicht des Menschen. Carl Ritter.

*See also* Nachrichten von der Königl. Gesellschaft der Wissenschaften und der G. A. Universität zu Göttingen. Nos. 7–15, 1864. Henle.

*See also* Contributions to the Anatomy of the Amphibean and Reptilian Retina, by J. W. Hulke. Ophth. Hospital Reports, Vol. 4, Part 3.

9. Archiv für Ophthalmologie. Band. 2, Abth. 2, 1856.

Ueber den Einfluss der Aufmerksamkeit auf die Bildung des Gesichtfeldes überhaupt und des gemeinschaftlichen Gesichtfeldes beider Augen in Besondern, von Herm. Meyer.

Ditto, ditto. Beitrag von der Schätzung der Entfernung aus der Convergenz der Augenaxen, von Hermann Meyer.

Ditto. Bd. 3, Abt. 3, 1857. Untersuchungen über den Raumsinn der Retina, von Dr. Aubert und Dr. Forster in Breslau, and Ueber die Grenzen der Farbenwahrnehmung auf den seitlichen Theilen der Retina, von Dr. Aubert.

Ditto. Bd. 5, Abt. 1, 1859. Die scheinbare Grösse der gesehenen Objecte, von Prof. Dr. L. Panum.

Ditto, ditto. Beitrag zu der Lehre von dem Einfluss der Erregung nicht identischer Netzhautpunkte auf die Stellung der Sehachsen, von Dr. Alfred Græfe.

Ditto. Band. 5, Abt. 2, 1859. Die Stereoskopischen Erscheinungen in ihrer Beziehung zu der Lehre von den identischen Netzhautpunkten, von Prof. A. W. Volkmann.

Ditto. Band. 8, Abt. 2, 1862. Ueber die ungleiche Entfernung von Doppelbildern, welche in verschiedener Höhe geschen werden, von Dr. Albrecht Nagel.

Ditto. Band. 9, Abt. 3, 1863. Studien über den blinden Fleck, von Prof. Wittig.

Ditto, ditto. Zur Farbenempfindung, von Dr. Rudolph Schelske in Heidelberg.

Ditto. Band. 10, Abt. 1, 1864. Ueber den Horopter, von H. Helmholz.
Archives du Bibl., Univ. de Genève, 1859. A. Prévost.
Reichert et DuBois, Archiv. 1859. Claparède.
Berichte d. Sächs. Gesellsch. d. Wissensch. zu Leipzig, 1859. Volkmann.
Poggend. Ann., Vol. cx., 1860–62; ditto Vol. 85. H. Meyer.
Physiol. Versuche. in Wien. Sitzungsberichte, Vol. 42.
Molesehott's Untersuch, Vol. 8, pt. 2d.
Physiologische Optik. Helmholz.
Die Medizinische Physik, von Dr. Aldolf Fick, 1858. Braunschweig.
Physiologische Untersuchungen über das Sehen mit zwei Augen. Dr. P. L. Panum. Kiel, 1858.
On the Invention of Stereoscopic Glasses for Single Pictures, &c. P. Wharton Jones. London, 1860.
The Stereoseope and Stereoscopic Results. J. Towne. Guy's Hospital Reports, 3d Series, Vol. 9.
Some Experiments and Inferences in regard to Binocular Vision; also on our Inability from the Retinal Impression alone to determine which Retina is Impressed. By Prof. W. B. Rogers. 1860.
Beiträge zur Physiologie. Dr. Ewald Hering, Leipzig. Containing
Vom Ortsinne der Netzhaut. 1861.
Von den identischen Netzhautstellen. 1862.
Vom Horopter. 1863.
Allgemeine Geometrische Auflösung des Horopterproblems. 1864.
Von den Bewegungen des Menschlichen Auges. 1864.
Von Binocularen Tiefschen. 1864.
Die Theorie des Sehens und räumlichen Vorstellens. Halle, 1861, von Carl Sebastian Cornelius.
Théorie de la Vision normale et sa Consequence, la Vision interne ou l'Esprit, par Adrien Lerondeau. Paris, 1862.
Zur Theorie des Erkennens durch den Gesichtsinn, von Dr. M. J. Schleiden. Leipzig, 1861.
Das Sehen mit zwei Augen und die Lehre von den identischen Netzhautstellen, von Dr. Albrecht Nagel. Leipzig, 1861.
Beiträge zur Theorie der Sinneswahrnehmung, von Dr. Wilhelm Wundt. Leipzig, 1862.
Ueber das Schlussverfahren des Sehactes, von Dr. August Classen. Rostock, 1863.
Physiologische Untersuchungen im Gebiete der Optik, von Dr. Alfred W. Volkmann. Leipzig, 1863.
Lehrbuch der Anatomie und Physiologie der Sinnesorgane. 2 Heft. Prof. Dr. Adolf Fick. Lahr, 1864.
Physiologie der Netzhaut, von Dr. Hermann Aubert. Breslau, 1864.
Die Physiologische Optik. Eine Darstellung der Gesetze des Auges, von Dr. Hermann Scheffler. Braunschweig, 1864.
Zur Theorie des sehens mit Rücksicht auf die neuesten Arbeiten in diesem Gebiete, von C. S. Cornelius. Halle, 1864.
Die empfindende Netzhautschicht. Ein Beitrag zur Erkentniss des Sehorgangs, von Dr. F. Heymann. Dresden, 1864.

Light and Touch: an attempt to disprove the received (or Berkleian) Theory of Vision. Thomas K. Abbott, M.A. London, 1864.

10. Vorlesungen über den Gebrauch des Augenspiegels, von Dr. C. Schweigger. Berlin, 1864.

11. Verletzungen des Auges. Dr. Adolf Zander und Dr. Arthur Geissler. 2 Theile. Leipzig, 1863-4.

12. The Ophthalmoscope, its Varieties and its Use. Translated from the German of Dr. Adolf Zander, by R. B. Carter. London, 1864.

13. Traité theorique et pratique des Maladies des Yeux, par L. Wecker. Paris, 1862-3-4.

14. Four Lectures on Glaucoma and its Cure by Iridectomy. J. Soelberg Wells. London, 1864.

15. Arcus Senilis, or Fatty Degeneration of the Cornea, by Edwin Canton, F.R.C.S. London, 1863.

---

## *Statement of Cases of Gonorrhœal and Purulent Ophthalmia treated in the Desmarres (U. S. Army) Eye and Ear Hospital, Chicago, Illinois, with Special Report of Treatment Employed.* By Surgeon J. S. Hildreth, U. S. V., in charge of Hospital.

[Read before the American Ophthalmological Society, June 13, 1865.]

Tabular Statement *of all Cases of Gonorrhœal and Purulent Ophthalmia treated in the Desmarres Eye and Ear Hospital, at Chicago, Illinois, from August 26th, 1864, to January 15th, 1865, with results obtained.*

| No. | Names. | Age. | Affection. | Treatment by Pressure. | | | | Results. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | With. | | Without. | | Saved. | | Lost. | |
| | | | | Right. | Left. | Right. | Left. | Right. | Left. | Right. | Left. |
| 1 | Chapiu. ... | 23 | Purulent Ophthalmia... | 1 | 1 | .. | .. | 1 | 1 | .. | .. |
| 2 | Case ..... | 48 | " " | 1 | 1 | .. | .. | 1 | 1 | .. | .. |
| 3 | Richards... | 33 | " " | 1 | 1 | .. | .. | 1 | 1 | .. | .. |
| 4 | Haight .... | 26 | " " | .. | 1 | 1 | .. | .. | 1 | 1 | .. |
| 5 | Vosburgh.. | 43 | " " | 1 | .. | .. | 1 | 1 | .. | .. | 1 |
| 6 | Finn..... | 23 | " " | 1 | .. | .. | 1 | 1 | .. | .. | 1 |
| 7 | Shimming.. | 20 | " " | 1 | .. | .. | 1 | 1 | .. | .. | 1 |
| 8 | Ulrich..... | 25 | " " | 1 | .. | .. | 1 | 1 | .. | .. | 1 |
| 9 | Strong ..... | 24 | " " | .. | .. | 1 | 1 | 1 | 1 | .. | .. |
| 10 | Shafer..... | 39 | " " | .. | .. | 1 | 1 | .. | 1 | 1 | .. |
| 11 | Smith ..... | 25 | " " | .. | .. | 1 | 1 | 1 | 1 | .. | .. |
| 12 | Doran..... | 17 | " " | .. | .. | 1 | 1 | .. | .. | 1 | 1 |
| 13 | Gibbs..... | 43 | " " | .. | .. | 1 | 1 | .. | .. | 1 | 1 |
| 14 | Ellsworth .. | 24 | Gonorrhœal Ophthalmia. | 1 | 1 | .. | .. | 1 | .. | .. | 1 |
| 15 | Essen ..... | 40 | " " | 1 | 1 | .. | .. | 1 | 1 | .. | .. |
| 16 | Mervin..... | 20 | " " | .. | .. | 1 | 1 | 1 | 1 | .. | .. |

Recapitulation.

| | No. | Saved. | Lost. |
|---|---|---|---|
| Eyes Treated with Pressure..... | 15 | 14 | 1 |
| Eyes Treated without Pressure ..... | 17 | 7 | 10 |

The condition of the above cases at the commencement of treatment with pressure was as follows. Results are also given.

CONDITION OF PATIENTS.

No. 1.—Cornea panniform and ulcerated; chemosis sero-phlegmonous and large; purulent discharge abundant.

Nos. 2 and 3.—Corneal epithelium of both eyes considerably disturbed; chemosis sero-phlegmonous, firm and large; discharge abundant.

RESULTS, &C.

Pressure was used on both eyes in these three cases.

No. 1 recovered in good condition, except nebulous spots at seat of old ulcerations of cornea, whose panniform condition is fast disappearing and vision improving.

Nos. 2 and 3 recovered in good condition.

CONDITION OF PATIENTS.

No. 4—Right cornea sloughed and lost; left corneal epithelium so disturbed as to seriously interfere with its transparency; chemosis large and phlegmonous.

No. 5—Cornea of left eye sloughed and lost; right corneal epithelium considerably disturbed; chemosis phlegmonous, large and firm.

No. 6—In similar condition.

No. 7—Left cornea sloughed and lost; right affected with central ulceration and perforation; chemosis phlegmonous and very large; great tumefaction of the lids of both eyes.

No 8—Left cornea sloughed and lost; right panniform and ulcerated; chemosis very large, firm and phlegmonous; purulent discharge from all abundant.

RESULTS, &C.

Pressure was employed on left eye of No. 4 and on right eye of Nos. 5, 6, 7 and 8.

Nos. 4, 5 and 6 recovered in good condition; No. 7 with central leucomatous spot, artificial pupil practicable; and No. 8 with cornea cloudy and panniform, but constantly improving.

CONDITION OF PATIENTS.

Nos. 9, 10 and 11—Severe purulent ophthalmia, with large

sero-phlegmonous chemosis, (No. 10 being phlegmonous;) purulent discharge abundant, and great tumefaction of lids.

RESULTS, &C.

No pressure was used in these cases.

No. 9 recovered both eyes in good condition. No. 10 lost left eye from sloughing of cornea, the right cornea recovering, panniform and nebulous, but improving. No. 11 recovered with synechia anterior of each eye, from perforation of the corneæ.

CONDITION OF PATIENTS.

Nos. 12 and 13—Severe purulent ophthalmia, accompanied by considerable disturbance of corneal epithelium of both eyes and large sero-phlegmonous chemosis; purulent discharge very abundant; lids greatly tumefied.

RESULTS, &C.

No pressure used, and both eyes lost in each case from sloughing of the corneæ.

CONDITION OF PATIENT.

No. 14—Cornea of left eye largely infiltrated in its deep "laminæ;" very large and firm chemosis; lids largely tumefied and eye scarcely influenced by recti-muscles; discharge of gonorrhœal pus from both eyes very profuse. Cornea of right eye slightly infiltrated in superficial "laminæ;" chemosis large, phlegmonous and firm; lids much swollen; patient had specific discharge from the urethra.

RESULTS, &C.

Pressure employed on both eyes. Cornea left eye recovered, opaque from ulceration and perforation; cornea of right eye slightly cloudy, but vision continually improving.

CONDITION OF PATIENT.

No. 15—Epithelium of both corneæ considerably disturbed; chemosis large, firm and phlegmonous, great tumefaction of lids, and abundant gonorrhœal discharge.

RESULTS, &C.

Pressure applied to both eyes, which recovered in good condition.

CONDITION OF PATIENT.

No. 16—Corneal epithelium slightly disturbed; large phlegmonous chemosis; great tumefaction of lids, and abundant gonorrhœal discharge from both eyes.

RESULTS, &C.

No pressure used. Recovered in good condition.

From the preceding table and subsequent remarks, it appears that thirteen patients with purulent ophthalmia were treated. In three cases both eyes with pressure, and both eyes in each case recovered.

In five cases an eye only of each patient was treated with pressure, and the other eye without. All the former were saved, and all the latter lost.

In five cases not treated with pressure, one patient recovered both eyes in good condition; one with synechia anterior of each eye; one losing the right and saving the left eye, and two losing both eyes.

Three patients affected with gonorrhœal ophthalmia were also treated.

In two cases both eyes were treated with pressure. One patient recovered both eyes, and one lost the left and saved the right eye.

In one case in which no pressure was used both eyes were saved.

The above comprises all cases of these types treated in the hospital from August 26th, 1864, to January 15th, 1865, which I have been particular to describe in order to show the nature of these affections as they manifested themselves, and the relative value of the application of pressure in their treatment.

Those of purulent ophthalmia exhibited an unusual degree of malignity; especially in tendency to destruction of the cornea by infiltration or ulceration, and sloughing "couche surcouche."

Some oculists have suggested what occurred to me at the time, that many of them were diphtheritic, but I am not satisfied such was the case. At all events, the indications of such disease were as well marked in those treated with pressure as in the others. The cases of gonorrhœal ophthalmia presented nothing unusual beyond what has been described above.

I have been careful and explicit in regard to details, on account of the marked difference in the results obtained with and without pressure in the treatment, which, in all other respects, was the same; and the more so, as in five cases circumstances placed it in my power to witness the difference of treatment on the same individuals.

This became possible from the fact of my entire want of knowledge of the use of pressure in such cases, until circumstances forced me to devise some method of staying the ravages of disease over which I could obtain, by all known means, but little control; and it was not until ten eyes out of twenty-four had been lost, that the idea suggested itself to me, which, like many others, was at once carefully and prudently acted upon.

Twelve hours seemed to justify the means adopted, and after twenty-four hours the change in the left eye of case No. 4, the only one at first attempted, was so decisive as to warrant the experiment on a more extended scale.

The results are given in the table.

What I mean by the use of pressure in the treatment of such cases, is not the application of lint wet or dry over the lids with moderate compression, but a *firm, hard, continued pressure upon all parts of the contents of the orbit, especially the anterior*. This I effect in the following manner:

The lids being closed, the orbit is to be packed, as it were, by means of charpie, or picked lint, (scraped lint or cotton wool is not so serviceable,) in such a manner that all parts about the eye, within the orbit, the anterior hemisphere of the globe, and especially the conjunctiva, shall be acted on.

Care must be taken to fill the grand angle, and to have the charpie evenly and regularly disposed *about* as well as over the globe.

Quite a large bunch should be used for each eye, not only to ensure evenness of pressure, but to absorb the purulent discharge. This being done, compression is made by means of a bandage, or better, a firm elastic band of rubber braid, not less than two inches in width, passing around the head. It should be slowly and regularly increased until the pain, if any there

be, in the parts affected, is greatly diminished or controlled if practicable.

In other words, pressure is to be applied to the eye and surrounding parts within the margin of the orbit to a degree sufficient to so control the circulation as to prevent the destructive tendency of the disease, but not to interfere with proper nutrition. This must, of course, vary with the peculiarities of each case.

But the principle of employing, as constantly as possible, firm, hard, even and continued pressure from the *earliest moment practicable* until the *close of all acute symptoms*, is not to be lost sight of for a moment. The anatomy of the orbit, the mechanism of the lids, and the cushion of adipose tissue posterior to the globe, render this not only possible, but easy.

I have in no instance resorted to it in purulent or gonorrhœal affections of the eye during the acute stages, even after the organ has been irretrievably lost, without greatly diminishing the discharge in a short time, and very materially adding to the patient's comfort in reducing the pain, and modifying subsequent and present staphyloma, as occurred in cases numbered 4, 5, 6, 7, 8 and 12.

While the purulent discharge is abundant, the dressing should be renewed twice during every twenty-four hours. Dry charpie is to be preferred, though moist will answer; yet it is not so elastic.

That pressure will have a potent influence in diminishing the discharge, reducing the tumefaction of the lids and the chemosis, modifying extravasation and exudation, arresting and inducing infiltration of the cornea to become resolved, is now a clinical fact.

The rationale of such action is certainly as simple as the means employed to produce it.

The influence of the virus (be it what it may) induces an extraordinary flow of blood to the affected parts, and often with great rapidity.

Their arterial circulation is taxed to the utmost, and the venous also; while the capillary connecting them is inadequate to the demand imposed upon it, even when distended to its utmost.

Hence the results which unhappily too frequently follow. Compression of the affected parts diminishes the flow of blood into them, so acts upon the capillaries as to prevent their enlargement, stimulating them to perform their functions, besides producing partial anæsthesia, and controlling or modifying the pain.

Having dwelt sufficiently, I think, upon the uses of pressure in these cases, I now propose to allude to the treatment I have found in other respects most beneficial. Before doing so, a division of cases will be desirable, to illustrate my reasons for adopting certain means.

1st. Those cases in which pain, swelling, heat, redness and phlegmonous or phlegmono-serous chemosis are decided and well-marked, and which, usually occurring in patients of full habit, or having that condition favorable to the formation of the so-called "plastic lymph," may be called Sthenic.

2d. Those characterized by "serous puffiness" of the lids, serous or sero-phlegmonous chemosis, little pain, discharge thin, and great tendency to infiltration on the part of the cornea—conditions which usually occur with persons whose systems have been reduced by scurvy, typhoidal disease, chronic diarrhœa, &c.—and which may be termed Asthenic.

Before proceeding to detail the medical, I must allude to certain surgical means, frequently found necessary. It often occurs that the cornea becomes anæsthetized, so much so that the patient feels very imperceptibly the contact of a foreign body —as the point of a small roll of twisted paper, or a small camel's hair brush—and the pupil cannot be influenced by atropia, or only partially so, though *no* adhesions exist between the iris and the capsule.

I have found infiltration of the cornea to follow very closely upon such complications. Deep scarifications, circular or radiated, of the chemosis, or cups to the temple, have, in my hands, been very unsatisfactory in removing or preventing such conditions. No better results seem to follow paracentesis of the anterior chamber, "repeated" or otherwise. Unless largely infiltrated, I have frequently succeeded in saving the cornea in such cases by means of Hancock's operation of division of the "ciliary ring." Besides its preventing infiltra-

tion and sloughing of that important membrane, the patient will suffer much less pain during the continuance of acute symptoms. Unless the cornea is in an anæsthetized condition, is beginning to be infiltrated, or shows symptoms of sloughing and ulcerating, such an operation should not be resorted to.

I have frequently found the indications for this operation, as mentioned above, to exist with other affections of the eye, and have relieved them in the same manner; but the subject would, of itself, form an extensive article, and I shall therefore not dwell longer upon it here, beyond remarking that Hancock's operation, in relieving such symptoms and conditions, cannot be relied upon to take the place of pressure; neither will the latter, under similar circumstances, relieve the necessity of dividing the "ciliary ring."

The utility of scarifications, deep, circular or radiated, of the chemosis is too well known to be dwelt upon here.

For local application I rely mainly upon bromide of ammonium, atropia, and nitrate of silver. In sthenic cases I prefer the use of bromide of ammonium dissolved in glycerine—forty to sixty grains to an ounce of pure glycerine—which is applied twice daily to the conjunctiva, ocular and palpebral, by means of a camel's hair brush.* It may be employed oftener in some cases, but this will, as a general rule, be found sufficient. Under its influence purulent, and especially gonorrhœal ophthalmia, appears to become rapidly modified, as I have frequently had occasion to demonstrate. The addition of ten grains of tannin to one ounce of the solution adds somewhat to its efficacy, but this is not indispensable.

For asthenic cases the nitrate of silver is most serviceable. I prefer to apply it gently to the mucous membrane of the lids, neutralizing any excess of the salt by proper means. Blood may or not be taken from the lids, the chemosis or the temple, after the use of bromide of ammonium or nitrate of silver; but this must depend on the size of the chemosis and state of

* The following will be found serviceable for gonorrhœa:

| | |
|---|---|
| Bromide of ammonium, | ℥ss.—℥j. |
| Tannin, | ℥ij. |
| Aqua, | ℥ij.—Misce. |

*Sig.*—One half ounce to be injected pro re nata.

the patient. Atropia will be required to dilate and so maintain the pupils.

For general treatment in sthenic cases I prefer muriate of ammonia in alternate doses, from three to five grains every one or two hours. Asthenic cases are benefited by muriated tincture of iron, five drops every two hours or oftener, if the patient will bear it. Permanganate of potassa is also useful, in $\frac{1}{4}$ grain doses, every two or three hours. But it is evident that all general means must be adapted to the existing condition of the patient. The treatment for purulent and gonorrhœal ophthalmia may, therefore, be summed up as follows:

1st. If anæsthesia of the cornea exists, or it is infiltrating, and especially if the pupil will not yield to the influence of atropia, Hancock's operation of division of the "ciliary ring" is indicated, care being taken to divide all its fibres from the insertion of the iris to its posterior limit.

2d. Application of a solution of bromide of ammonium, (40 to 60 grs. to ℥j. pure glycerine,*) or nitrate of silver to conjunctiva; the former to all parts of the conjunctiva, and the latter to that covering the cartilage of the lids only.

3d. Scarification of the lids and deep incisions into the chemosis, if required, removing the blood with tepid water so long as it continues to flow.

4th. Atropia in solution (iv. grs.–℥j.) sufficient to dilate the pupil.

5th. Application of firm, hard, continued pressure, as soon as practicable, and continued to the close of acute symptoms.

6th. Remove the dressings twice during every twenty-four hours, until the purulent discharge ceases.

7th. Two applications daily of bromide of ammonium and one of nitrate of silver will be found sufficient. Atropia may be used twice daily or oftener, but care should be taken not to continue its employ beyond *producing* and *maintaining moderate* dilatation of the pupil.

8th. A constitutional treatment adapted to the condition of the patient.

It is evident that no single remedy or means should be ex-

* Glycerine perfectly pure should be used.

clusively relied on in the treatment of purulent or gonorrhœal ophthalmia; but each case, and even each eye, must be managed in accordance with its existing conditions, and the varying symptoms promptly met by appropriate means. In this way we shall be justified in prognosticating favorable results in most cases.

In closing, it is sincerely hoped the special principle of treatment so prominently set forth in this article, as well as all others having anything unusual of application or otherwise, will be rigidly tested, and the results made known to the profession.

---

*A Case of "Ophthalmia Intermittens."*—By. H. Derby, M.D.

[Read before the American Ophthalmological Society, June 13, 1865.]

The term "intermittent ophthalmia" savors, indeed, of the ophthalmology of a past generation, but is the only one I could find at all applicable to the present case. This case is believed to be unique of its kind, and is presented to the Society more on account of its curious nature than of its practical bearings.

Mrs. S. H., aged 59, a lady of full habit and in the enjoyment of perfect health, came to consult me, March 17, 1864, complaining of some smarting and a sensation as of a foreign body in right eye. An examination revealed the following state of things. Extending from the inner edge of the cornea —where it occupied a space about 2‴ in breadth—back to and below the caruncle, widening all the way, was a belt or band of raised vascular tissue, evidently involving the conjunctiva and subconjunctival tissue. It stopped short at the cornea, the substance of which could not be discovered to be in the slightest degree affected, and resembled an exceedingly pronounced pterygium, the corneal portion of which had been dissected away.

On investigating the history of the case, it was found that this difficulty first made its appearance seven years ago, being two years after the cessation of the catamenia. Attention was at first attracted to it by a pricking and smarting of the eye,

and a sensation as of a foreign body between the lids. This would be observed the first thing in the morning, patient having gone to bed well the night before. On inspection, the same reddish band would be visible—faint at first, rapidly increasing in prominence and deepening in color, and passing off in three or four days. At this time the attacks occurred every four or five days, so that one would barely be recovered from before another would have to be undergone. Six weeks later they began to diminish in frequency, occurring every eighth day, now and then waiting till the ninth. During the first year the interval never exceeded ten days, and during the second, eleven. For a year and a half of this time patient was under treatment, and used dry cupping, as well as some constitutional remedies, without effect.

As time went on the interval between the attacks gradually increased, averaging finally from thirty to thirty-three days, and on one occasion reaching thirty-eight. The duration of the attack came to average about three days, and it was observed that the color of the band was less red, and the uncomfortable sensation in the eye less marked.

I give the following dates of recurrence since the patient has been under my observation: In 1864—March 17th, April 19th, May 19th, June 26th, July 29th, August 29th, September 24th, October 31st. The dates of the November and December attacks were lost. In 1865—January 17th, February 12th, March 22d, April 19th, May 10th, and June 10th.

As before stated, the patient goes to bed perfectly well, having had no premonitory symptoms, and either notices a sensation of fullness in the eye if she wakes up in the night, or observes the red patch on going to her mirror in the morning. No treatment appears either to affect its duration or recurrence, insufflation of calomel, atropine, &c., having been tried in vain.

It should be stated, that the eyes are used without restriction or fatigue, and in the interval are throughout perfectly normal, presenting no trace whatever of the affection.

I have consulted a number of authors, in order to ascertain if any similar case was on record. *Chelius** speaks of intermit-

---

* Handbuch der Augenheilkunde. Bd. 1, s. 271.

tent inflammations of the eye, "ophthalmiæ intermittentes"—regularly occurring periodic attacks, with as regular intervals. His account is, however, very vague, and the longest interval observed by him was eight days: of this a single instance. *Himly** adverts also, in general terms, to similar cases, and seems to refer particularly to attacks of iritis, simple and serous. He has observed an interval of fourteen days. *Edmonstone*† refers to the disease as often lasting years, and ending in what he calls "amaurosis." The two most frequently cited cases of intermittent ophthalmia are those reported as occurring in their own persons, by *Dr. Curry*,‡ in 1812, and *Dr. Bostock*,§ in 1819. The first gentleman labored—as nearly as can be judged from his own account—under repeated attacks of keratitis, in some of which there was a marked exacerbation on the second, in others on the seventh day. Dr. Curry's case seems to have been simply one of hay-asthma—coming on every summer, and exhibiting a particular tendency to attack the conjunctiva prior to the other mucous membranes. Finally, *Mackenzie*‖ has a short chapter on this affection.

The literature of the subject is thus seen to be very limited; in fact, all the recorded cases differ very materially from the present.

---

## PROCEEDINGS OF SOCIETIES.

### NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, May* 3, 1865.

Dr. James Anderson, President, in the Chair.

#### LAST ILLNESS OF VALENTINE MOTT, M.D.

Dr. Austin Flint read the following account of the last illness of Dr. Valentine Mott.

---

* Die Krankheiten und Missbiddungen des menschlichen Anges. S. 498.

† Treatise on the Varieties and Consequences of Ophthalmia, &c. London, 1816. P. 133.

‡ Med. Chir. Transactions. Vol. iii., p. 148.

§ Med. Chir. Transactions, Vol. x., p. 161.

‖ Traité Pratique des Maladies de l'Oeil traduite de l'Anglaise. Paris, 1857, p. 130.

Mr. President, in compliance with a request made at the Special Meeting of the Academy, held on the occasion of the death of the late Valentine Mott, I have the honor to submit a succinct report of his last illness. In making this report, I shall not presume to encroach upon the duty and privilege, belonging more appropriately to others, of rehearsing the surgical achievements which will render memorable in all time the name of Valentine Mott; or of pronouncing eulogiums for private virtues, which made him not less worthy of admiration as a man than as an illustrious member of our profession.

For several months preceding his death the family and friends of Dr. Mott had observed a manifest decline in his physical vigor. He had pain (supposed to be neuralgie) in the back and limbs. The pain was at times exceedingly severe. Under a belief that neuralgia was due to malaria, he took, for a time, arsenic. Cupping, with and without scarification, was also resorted to. I am unable to give further details with respect to these and other measures of treatment prior to his last illness. There was no evidence of failure as regards his mental faculties. A short time only before his last illness I was associated with him in an important case, in which, from his intimate relations with the patient, he had consented to assume the responsibility of the attending physician. In the management of this case, the accuracy and completeness with which he carried in his mind the surgical events, and his attention to minute therapeutical details, impressed me strongly. The recent tragic events which produced such a profound sensation throughout our country—I refer to the assassination of our late President—occurred a few days prior to his last illness. He was very deeply affected by this event; so much so, that the members of his family entertain a conviction that it contributed to his illness. His utterances in delirium frequently related to circumstances connected with this event. It is to be added, that he had repeatedly had attacks of intermitting fever.

On Saturday, April 22d, without any unusual exertion, exposure, or apparent exciting cause of any kind, he was seized with a severe chill at two o'clock P.M. The chill lasted an hour. It was accompanied with great prostration and intense lumbar pain. During its continuance he was seen by Dr. Vanderpoel. It was followed by intense febrile movement. I saw him at 5½ o'clock P.M. At this time the skin was extremely hot, the pulse frequent, the intense lumbar pain continued, and he was greatly prostrated. He was then lying upon a sofa in his office. It was necessary to carry him up stairs to his bedchamber. This was done, and a quarter of a grain of the sulphate of

morphine given. At 7 P.M. he began to perspire. At $10\frac{1}{2}$ P.M. he had perspired freely, and the febrile movement had ceased. He appeared to have passed through an unusually severe paroxysm of intermitting fever. The lumbar pain did not continue, but he now, for the first time, complained of intense pain in the left leg, the pain being referred especially to the calf and ankle. A suppository containing half a grain of the sulphate of morphine was given.

*April* 23.—I was requested to see him at 6 A.M. He had passed a wretched night, from the continuance of intense pain in the left leg. A quarter of a grain of the sulphate of morphine was given by the mouth. Relief of the pain followed, and, during this day, he slept much of the time in short naps. Fearful of a repetition of the paroxysm of fever, two grains of the sulphate of quinine were given hourly, from 11 A.M. to 5 P.M., and, during the night, the same doses were continued at intervals of three hours. During this day he was free from febrile movement. At evening he seemed quite comfortable. He had taken during the day beef tea, chicken soup, and wine whey pretty freely. At this time the left leg presented no morbid appearance, but there was notable tenderness over the calf and ankle.

*April* 24.—He had passed a comfortable night, but he suffered great pain in the left leg whenever it was moved. He appeared to doze most of the day, but complained of getting no sleep. Swelling and redness of the ankle and foot were observed on this day, and hardness over the calf of the leg. The heat of the limb was considerably increased. At evening some vesication had occurred over both ankles. The pulse on this day became quite irregular and feeble. He had some deafness and tinnitus, attributable to the quinine. He was disinclined to take nourishment, and at times complained of nausea. No dejection had occurred since the attack. The urine was abundant. Auscultation of the heart revealed no murmur. The heart-sounds were feeble, especially the first sound. The apex-beat was not appreciable; but, judging of its situation by the maximum of intensity of the first sound, and determining the area of præcordial dullness by percussion, there appeared to be no enlargement of the heart. During this day the sulphate of quinine was continued in two-grain doses, repeated every two hours until evening. There was no recurrence of the paroxysms of fever. A little wine and brandy, with nourishment, were given on this day. He was reluctant to take either food or stimulants. In the afternoon an eighth of a grain of the sulphate of morphine was given. There was considerable tremulousness of the muscles of the jaw, and of the hands whenever he made any voluntary

movements. Some incoherency was observed on this day. During this day, as on the previous day, he was seen repeatedly by Dr. Vanderpoel and myself, together and in alternation.

*April* 25.—He had passed a pretty comfortable night, sleeping, at best, half of the night. Brandy and nourishment had been given sparingly, on account of his great repugnance to both. The pulse continued quite irregular. The tongue on this day became dry. The skin was warm. The left leg presented increase of swelling over the ankle and foot, and of hardness over the calf. The blisters over the ankles had enlarged, and presented a dark or purplish appearance. He had a free dejection, the first since the attack. There was great tremulousness of the hands with voluntary movements. Frequent tremulousness of the jaw continued. He still took food and stimulants very reluctantly. During this day there was considerable incoherency. The urine examined on this day showed a trace of albumen. Its reaction was acid; sp. gr. 1022; urates were deposited in abundance. With the microscope nothing was discovered in the sediment but amorphous urates.

Up to this date only Dr. Vanderpoel and myself were associated in attendance. Dr. Alexander B. Mott returned home from the army on this date. On examination of the affected lower limb Dr. Mott ascertained diminished force of pulsation of the femoral artery, as compared with the pulsation of the corresponding artery of the opposite limb. In the afternoon there was constant delirium, manifested by talking incoherently without cessation, imagining he was away from home, desiring to get up, the delirium being like that in typhus and typhoid fever. An eighth of a grain of the sulphate of morphine was given without any tranquilizing effect, and afterwards a quarter of a grain.

At 8½ P.M. he was seen in consultation by Dr. Alexander H. Stevens and Dr. Joseph M. Smith, and at 10 P.M. by Dr. Metcalfe. The restless, talkative delirium had ceased. He was somnolent, but easily aroused, recognizing persons who addressed him, and replying to questions, but relapsing into somnolency directly after being aroused. The skin was warm and moist; the pulse was frequent, feeble, and irregular. The rythm of the respirations was disturbed, breathing being suspended at intervals for several seconds. The left leg presented, in addition to the appearances already stated, a circumscribed dark patch on the dorsal aspect of the foot. The slightest movement of this limb now, as before, excited expressions of pain. The gentlemen who saw him in consultation with Dr. Vanderpoel and my-

self, advised only the continuance of alcoholic stimulants and nourishment.

*April* 26.—During the greater part of the preceding night I was in attendance. He was in a semi-comatose state; the respirations and pulse were irregular; deglutition was unaffected, but food and stimulants were given with considerable difficulty on account of his repugnance to them. He remained during the day in this condition. The left leg presented increased vesication over the ankles, and enlargement of the dark patch on the dorsal aspect of the foot near the toes. With considerable difficulty food and stimulants were given at short intervals during the day. He became more and more lethargic; the pulse became progressively more feeble and irregular; the temperature of the skin diminished, and it was covered with clammy perspiration; deglutition became difficult, and death took place at 1 P.M.

The duration of the illness was four days and eight hours.

A review of this report, which, I should state, is essentially a transcript of memoranda noted daily during the illness, shows the following order of events:

*First.* A paroxysm, having all the characters of a paroxysm of intermittent fever, the cold stage lasting an hour, the hot stage lasting four hours, and the sweating stage followed by complete asphyxia. The paroxysm severe, and accompanied by great prostration.

*Second.* Severe pain in the left leg, following the febrile paroxysm, the pain accompanied by great tenderness. On the third day, the occurrence of swelling, redness, increased heat and vesication. On the fourth day, increase of vesication, and the appearance of a dark circumscribed patch on the dorsal aspect of the foot. And, on the fifth day, increase of vesication, and enlargement of the dark circumscribed patch. In conjunction with these local appearances, diminished force of pulsation in the femoral artery.

*Third.* Great prostration remaining after the febrile paroxysm. On the third day, incoherency; on the fourth day, typhoid delirium; and, on the fifth day, gradually developed coma, continuing and increasing until death—the mode of dying being chiefly by asthenia, notwithstanding the comatose condition and the disturbance of the rythm of respiration.

As regards the nature of the illness, or the pathological conditions involved, the following conclusions were drawn from the events of the clinical history: The primary affection was intermitting fever—a recurrence of the paroxysm being probably prevented by the use of quinine. The affection of the leg tended rapidly to gangrene, and

there was reason to suspect the existence of embolism. The typhoid phenomena, occurring after the febrile paroxysm and during the development of the affection of the leg, would render the name *typho-malarial fever* appropriate; considering this name, in this instance, as denoting the existence of the typhoid state, not typhoid fever, with a malarial fever. The explanation of the fatal termination by exhaustion, after so short an illness, is to be found in the severity of the febrile paroxysm and the local affection, taken in connection with the advanced age of the patient, and the recent deterioration of the constitutional vigor.

These pathological views are believed to represent fairly the opinions of those who were associated in consultation; but it is proper to state that I have not been able to submit to them this report before presenting it to the Academy.

### DISCUSSION ON PYÆMIA.

Dr. Krackowizer, by appointment, opened the discussion on pyæmia as follows:

The subject for this evening's discussion is *Pyæmia*. Without rejecting the name as a designation, which, when used, elicits in every physician's mind the idea of a disease originating under pretty well understood circumstances, marked by very characteristic symptoms, and leaving in the dead body well defined and unmistakable lesions, I will state here, before everything, that I do not understand by the name of Pyæmia what its etymology indicates, namely, the presence of matter in the blood, as the first and only cause of all the subsequent troubles. In fact, I do not believe that many physicians can be found outside of France who adhere to the theory for which, to create a formula, Piorry first introduced the expression "pyæmia."

We understand certainly very little of the ultimate and proximate causes of diseases, except the so-called mechanical ones. But in comparing what our knowledge is of pyæmia, and of other diseases attended with great fatality, like typhus, diphtheria, cholera, and so on, we safely can say that in pyæmia we are nearer the insight into its proximate causes, that we understand better the connection and sequel of the pathological processes occurring in its course, than of other zymotic diseases—if pyæmia be a zymotic disease.

If, then, physicians look with a certain awe and resignation on the ravages of pyæmia, it is not because they know less of its causes and its nature than those of other diseases, but because they see plainly how the cause could be removed; yet, under certain circumstances, are

denied the means to prevent the disease. Pyæmia, like hospital gangrene, is emphatically an accidental, preventable disease.

It is bad enough that the surgeon, the obstetrician, find inherent difficulties in the treatment of wounds, in the management of abnormal labor, that they cannot help sometimes making mistakes in choosing the time for operations and in performing them; but it is discouraging to have to take an element into calculation, in performing one's professional duty, that neither lies in the nature of the case, nor can be warded off by any degree of scientific acumen or professional skill.

Yet this very characteristic of preventability of the disease has, without doubt, helped to enlist more talent and knowledge to its scrutiny than to that of any other disease, considering the time in which it attracted the attention of the medical world. Since 1784, when John Hunter promulgated his ideas of phlebitis, which undoubtedly started the inquiry, large clinical experience, ripe practical reasoning, careful pathological anatomy, and skilled physiological experiment on animals, have contributed, sometimes by their very disagreement, to shed more light over this doctrine than over almost any other one of such intricate nature.

I do not, Mr. President, propose to unfold the succeeding and dominating theories about pyæmia in their historical order; yet this much I may say, that theories of pathological anatomists and experimenters on animals, when they seemed to be complete, have always been called to order by sound clinical observation and practice, which when they appeared to dominate diagnosis and treatment have forced these auxiliaries of medicine to revise what seemed to be an axiom, and to start on new errands to become subservient to the great end of the healing art—to prevent and cure disease.

The great fact that with inflammations partaking of a suppurative or ulcerative character, either spontaneous or after lesions, generally, very suddenly, a new train of symptoms sets in, marked by irregular rigors, continued fever of a typhoid character, yellow discoloration of the skin, and formation of abscesses in different parts, has not escaped early observers. The connection of cause and effect they were forced to admit. The theory of *metastasis* in the then sense was a very crude explanation.

The designation "*purulent diathesis*," recognizing the fact, yet not admitting *one* specific cause to the exclusion of all others, is perhaps the best name, better than *purulent dyscrasia*, which means the purulent infection of blood, as positively as the name pyæmia.

I cannot admit that the name *ichorrhæmia*, proposed by Virchow,

is an improvement, because, although very well adapted to the disease when originating from self-infection, it is not applicable to these cases, by far the largest number, that are produced by miasma.

Had the words "purulent diathesis" never been abandoned, the petrified idea that the admixture of pus with the blood was the cause of the disease in question, after having been shown to be an exclusively one-sided theory, would sooner have lost its influence upon the minds of the profession; and time and labor would not have been squandered to so lamentable a degree in unprofitable discussions, in which the antagonists were not so far removed from each other as they themselves imagined.

John Hunter had established three forms of phlebitis: the *adhesive*, the *suppurative*, and the *ulcerative*. The product of inflammation he derived from the inner coat of the vein—the glabra. If the product was coagulable lymph, the lumen of the vein would get occluded; if matter, it might be carried into the general circulation. This, though, he considered as a rare possibility, because the suppurative inflammation higher up generally, assumed an adhesive character, by which the lumen would be closed, and the matter so become secluded in the vein, establishing in this manner an abscess mixed with coagulated blood.

The belief that the inner coat of the veins not only, but of the arteries and capillaries even, was liable to get inflamed and very easily so, became, since Hunter's time, an axiom; until Virchow, by manifold experiments, demonstrated that an exudation never occurred on the inner surface of the epithelial lining of the blood-vessels.

Hunter had not considered the effect of the inflammation of the inner surface of the vein on its natural content—the blood.

Cruveilhier first stated the general law—that, as the most essential morbid change in inflammation everywhere was congestion, stagnation, and finally coagulation of blood in the vessels of the inflamed parts, so the first effect of inflammation of the vein was the coagulation of blood—the formation of a thrombus. If, after the coagulation had taken place, the inner surface of the vein exuded coagulable lymph, the thrombus became organized, and the vein by degrees a solid string, if matter was formed, it accumulated between the walls of the vein and the coagulated blood, and mixed with it.

But it was soon observed that veins, supposed to be inflamed, might hold an adherent thrombus, which, again, in its centre was hollow, and filled with a substance resembling, more or less closely, pus.

Cruveilhier explained this fact by the theory that the pus secreted by the glabra passed through the outer porous layers of the thrombus,

and accumulated in its centre. English observers, like Carswell and principally Gulliver, demonstrated the fallacy of this explanation, and attributed the formation of this purulent matter to the transformation of the thrombus. Gulliver, moreover, by experiments and the microscope, showed that it originated from the molecular disintegration of the fibrin of the thrombus. The presence of cells, besides the detritus from fibrin, he explained by the white blood corpuscles inclosed in the thrombus getting free by its softening. Yet he did not deny that pus-cells might be formed during the process of the softening of the fibrin of the thrombus.

Yet even the fact of the gradual softening of a thrombus in a vein gives rise to a substance looking like pus; and not being pus, did not shake the received axiom—that phlebitis, if not of the adhesive character, produced true matter from the inner surface of the vein, accumulating in its lumen, mixing with the blood, and passing into the general circulation. Patients had certain grave symptoms; these symptoms did not develope unless there anteceded somewhere a suppuration, with inflammation of the neighboring veins of a suppurative character. The sequel was admixture of matter with the blood, and the blood, so vitiated, produced those grave symptoms and the morbid changes observed after death.

All this granted, no better adapted name could be found than the one proposed by Piorry, and very soon accepted all over the world. Some, like Piorry, (the author of the theory of the inflammation of the blood—hæmatitis,) went so far as to assume a spontaneous formation of pus in the circulating blood, and I see that Erichsen holds a theory of pyæmia occupying distinctly such ground.

The arguments which the defenders of the theory of pyæmia, in its original sense, advanced were these:

I. In phlebitis the presence of pus in the cavity of the vein is demonstrated.

II. The presence of pus in the blood can be demonstrated.

III. Injections of pus into the veins of animals produce the symptoms and the pathologico-anatomical lesions of pyæmia in man.

Ad. I. It can be shown—

1. That what is thought pus in the veins, is, in the greatest number of cases, not such, but a substance only looking like it—the product of the softening of the thrombus obdurating or narrowing the vein.

2. That the inner surface of the vein is impermeably for transudation.

3. That experiments on animals and pathological anatomy alike

show that, where the walls of the vein are inflamed, if the inflammatory product be matter, it accumulates between the coats composing the wall of the vein; and that matter so situated does not enter the lumen of the vein except by the epithelial layer of the inner coat bursting or being corroded from outside—a process in every respect similar to the opening of an abscess under the skin. In this manner, matter from an abscess in the walls of the vein may perhaps become mixed with the blood, but can hardly be carried off in the general circulation, because the abscess, before it breaks inside, forming a protuberance in the lumen of the vein, gives rise to such a retardation of blood, and produces such increased friction between the blood and the inner surface of the vein, that a thrombus forms, by which, when the abscess has burst, the intravasated matter gets sequestered, and its effect cannot become general.

Ad. II. It is conceded that the white blood corpuscles and pus-cells have nearly the same aspect under the microscope. The pus-cells are a little larger, yellowish, of a more granulated surface, and have a larger number of nuclei. The white blood corpuscles are somewhat smaller, whitish, of a smoother surface, and have generally one nucleus.

Now, whoever has examined pus microscopically, is aware that the cells are not all of the same size—that sometimes such with one nucleus are found, and that white blood corpuscles sometimes have three, five, and seven nuclei.

White blood corpuscles are smaller, because they are in a more concentrated menstruum—the blood serum. If added to water, they become larger, granulated, and cannot be recognized from pus-cells.

The fact is, that pus-cells and white blood corpuscles are not permanent, immutable structures, but very short-lived elements, originating, growing, and decaying in a very short space of time. So it may come, and it is known to be so, that a white blood corpuscle, at the acme of its development, may be as large as we are wont to see the pus-cells, have as many nuclei, and, examined under water, assume a mulberry-like surface, like pus-cells; while young pus-cells may not measure more than 0.003‴, and have one nucleus.

To assume, then, an immutable standard for pus-cells and white blood corpuscles is the same as saying—The male sex have a beard and are 5 ft. 8 in. high—which would exclude all boys, and all taller or lower than 5 ft. 8 in.

To demonstrate that a cell in the blood is a pus-cell it would be necessary to examine the matter of a purulent focus, from whence it is claimed that it came. If it then be an exact likeness of cells in the

abscess in size, number of nuclei, and so on, and if other cells in the blood differ from it in all these points, then the probability would be very great that pus is circulating with the blood.

I am not aware that many such investigations have been made. Those made by Virchow have certainly not shown such variations as to claim the facility of distinguishing pus-cells and white blood corpuscles in the circulating blood.

The *greater number* of such cells in the blood has been claimed as evidence that the surplus is owing to addition of matter to the blood. But when we notice in leucæmia the great augmentation of white cells not distinguishable from pus-cells, and in this complaint miss every symptom that characterizes pyæmia, we soon see the fallacy of the argument. But not only in leucæmia proper we see a larger number of white blood corpuscles, that might be taken for pus-cells—in many other diseases of an exhaustive character, tubercular phthisis, typhus, scrofula, even in certain physiological conditions, as pregnancy, the number of white cells is increased, and nobody dreams of counting these conditions to pyæmia, because more white cells than one in two hundred and fifty or three hundred red ones are found and claim the excess as pus-cells.

If pus be injected into the veins, in a very short time the pus-cells can no more be distinguished. Lebert, who has made many such investigations, states that in a very short time they disappear, and that only in two single cases was he able to distinguish them. This is undoubtedly owing to the circumstance already alluded to, that, containing more water than the surrounding serum of blood, they lose by exosmosis a certain quantity of it, and thereby become like white blood corpuscles.

Ad. III. If what is considered healthy pus be injected into the veins of animals with all necessary caution, almost all observers coincide that no symptoms in life, or when the animals are killed, in the carcass, occur, that can be compared with pyæmia in man. Sédillot, the stout defender of pyæmia, in his own experiments could not produce pyæmia in dogs except by repeated injections, for which purpose he left an elastic catheter in the vein of the dog for several days. That the presence of a foreign body in the circulation for so long a time would give rise to coagulation of blood in the vessel, and that pieces of the thrombus at a latter injection would, with the pus, be propelled to the heart, and consequently bring up in a branch of the pulmonary artery, can hardly be doubted. That an india-rubber tube, being surrounded by blood, at a temperature of more than 100°, would commence to be decom-

posed and impart a tendency to decomposition to the coherent coagnla, is eqnally patent. The effects of repeated injections of pus under such circumstances, add, as an element to the effect of pus in the blood, the presence of a decomposing embolus which we shall soon consider.

Mnch has been said that the pus-cells being larger than the white blood corpuscles, they cannot pass the capillaries of the lnngs, and being arrested in them form metastatic abscesses. Bnt it has been already demonstrated that white blood corpuscles equally large pass the lnng capillaries without difficulty; and it mnst be remembered that the metastases in the lungs are not pure matter, bnt lobular hepatizations, the product, therefore, of inflammations. The mechanical theory of the effect of pus in the capillaries can therefore not be maintained; and even if admitted for the lungs, would not explain the metastases in other organs, and least of all the secretion of pus from the synovial membranes and the large abscesses in the connective tissues, so common in pyæmia.

Conceded, then, for the sake of argnment, that it is the chemical difference between the pns selected for the experiment and the blood, which alters the mixture of blood in such a manner that with the well known symptoms of pyæmic fever multiple suppurations occur, how does this tally with the fact that healthy pus, if injected not in excess and with all the necessary cautelæ, is inuocuous?

If, then, by injecting pus into the veins pyæmia follows, we mnst assume that it has already undergone certain changes, that it has already assumed a poisonous character, and is the carrier of an infectious substance, which, if brought without the microscopic elements of pus in the circulation, would create what is presumed in man to produce pyæmia.

The old theory of absorption of pus by an open vein, already stated by Boerhaave, and again revived about thirty or forty years ago by Ribes, Maréchal, and Velpeau, I believe, is so utterly given up, that I need not refnte it extensively. A vein, open by rigidity of its walls, and in commnnication with the circnlating blood, would bleed and most effectually prevent the intravasation of matter.

After having refuted the origin of pyæmia from admixture of pus with the blood, we mnst consider now another theory, at the basis of which lie the changes venons thrombi frequently undergo.

In the veins we often find thrombi, the result of spontaneons coagulation of blood, or the effect of phlebitis. In the latter case we do not understand the formation of the thrombns in the sense of Hunter, or Cruveilhier, or Rokitanski, but in the sense in which Virchow

has explained it. An inflamed vein, by the deposition of the inflammatory products in its walls, loses the evenness of its inner surface, because the epithelial layer following the inequalities of the coats exterior to it shows irregular prominences and recesses. In this way the friction of the circulating blood is increased, and the velocity of the current is retarded—circumstances favoring the deposition of layers of fibrin, which, including cruor, gives rise to the formation of the thrombus, either entirely blocking up the lumen of the vessel, or narrowing it by lateral adhesion.

If this thrombus is not organized, it becomes drier, paler, and finally softens. If the softening is very gradual, and not disturbed by mechanical influences from outside—for example, muscular action—the disintegration produces a molecular detritus which mixes with the blood, and being germane to its constituents, does not produce any deleterious influences. If larger pieces are detached, they are carried by the venous current into the heart, from thence into the pulmonary artery, and bring up at a branch which they cannot pass, obliterating it partially or totally.

It depends entirely upon the size of the embolus what its effect will be.

For our object we are interested only in the smaller emboli that block up smaller branches of the pulmonary artery, distributing, for example, in a lobule of the lung.

Their effect can be studied experimentally by inserting pieces of convenient size into the jugular vein of animals.

If they are made of a material not irritating chemically or mechanically, like caoutchouc (Virchow) or wax (Panum,) and if not too large, they are borne without any symptoms. The capillaries fed by the artery which they block up are filled by degrees per anastomosin, and the bodies themselves are spun in like any other foreign body that does not produce suppuration.

If, however, substances are selected having a rough surface, like cork, or chemically irritating, like pieces of muscle or fibrin, they set up inflammation in the artery and surrounding tissue more or less violent, with the termination in suppuration or gangrene. We have then very nearly a counterpart of the metastatic infiltrations and abscesses that form such a common post-mortem result in pyæmic fever.

Sometimes in pyæmic fever cases, in the midst of the lobular abscesses of the lung, small emboli are found, evidently not of local origin, but by their discoloration and dryness resembling the thrombus that may be found in a vein, inflamed or not, coming from a suppurating wound.

The more enthusiastic pupils and followers of Virchow (for he never dreamed of such a thing) thought that with the emboli and the metastatic abscesses the whole difficulty of pyæmia was solved.

But just as little as we have seen that healthy pus mixed with the circulating blood does produce pyæmia, just as little does simple embolism create metastatic abscesses; nor are metastatic abscesses and the disease called pyæmia identical. Only to state one point of difference: The symptoms of pyæmic fever are declared before the hæmorrhagic infarctions or the lobular pneumonias have commenced.

We are then forced to recur to a certain chemical alteration of the thrombus, of which the embolus is a part; and, indeed, we see in a wound with unhealthy suppuration that the process of ulceration reaches the veins, which are thrombosed, that the veins then become discolored and ulcerating, and that the thrombus is impregnated with the unhealthy tumors, broken down and mixed in the cavity of the vessel with a sanious liquid.

Yet the cases must be exceedingly rare in which the blood comes in immediate contact with a decomposing thrombus as described, because higher up it is generally sequestered by fresh coagulations, and thereby the circulating blood shielded from its deleterious contact.

Failing, then, to find the cause of pyæmia in admixture of pus *per se* with the blood, and unable to explain it, barring very exceptional cases, by the impregnation of the blood from a decomposing thrombus, we have to seek for another cause, and we hear (in surgical cases) the *wound as a total*, and the changes which may occur in it during the process of suppuration.

When I limit myself to surgical cases, I beg not to be understood as if pyæmia in obstetrical cases acknowledged a different origin.

Either they are by the wounded inner surface of the womb, or wounds at the os or in the vagina, identical with surgical cases; or, when not showing unhealthy action in their wounded parts, they are under the operation of the same agencies that produce pyæmia in surgical cases without corresponding deterioration of the aspect of the wound.

Very rarely, except in hospitals, pyæmia occurs in patients whose wounds are in full reparative progress. Generally only part of the wound is granulating, while in other parts the preparatory steps to healthy suppuration are not yet finished. The surface of a wound, for example, of an amputated limb, may show healthy suppuration, while in its deeper layers there are still undetached particles of necrosed tissue, decomposing bloodclots, pent up matter, or ulcerative tracks.

Air and moisture being present with the temperature of the blood-heat, all necessary conditions for putrefaction exist. *Along with suppuration there is putrefaction.* Virchow has urged, very properly, that while observers have labored so ingeniously and hard to explain the entrance of matter through those veins which are no more part of the apparatus for general circulation and mere repositories of coagulated blood in its different transformations—and, as I admit, sometimes of pus—they attached so little importance to those venous branches that are still connected with the circulation and to the lymphatics. Both these vessels may absorb liquid substances, the product of suppuration, ulceration, and sloughing in the wound.

If part of the body, either primarily or secondarily, by excessive or insufficient reaction, becomes gangrenous, we often see patients seized and carried off in a very short time under symptoms of so-called *septicæmia.* That septicæmia is owing to the absorption of putrid substances nobody doubts. Since Gaspard and Magendie, all experimenters are agreed that the injection of putrid liquids is *always* followed by the same alterations in the living and dead body, and that these are identical with the symptoms of septicæmia in man.

But, again, septicæmia, how different from pyæmia!

It might be said that as the introduction of putrid fluids produces septicæmia, so the same fluids in smaller quantity or in a more diluted state might produce pyæmia, so that pyæmia might be looked upon as septicæmia of a less deleterious character.

But we know that if only a small quantity of putrid substances comes in circulating blood, animals recover without having first gone through pyæmia.

It is true that we know, thus far, very little of the chemical changes produced by putrefaction. There are, probably, a great number of products, varying more or less in their chemical constitution. But they all—whether derived from animal or vegetable substances, of more or less penetrating stench, of more recent or older date—when injected in the veins of animals, produce the same effect: septicæmia, fatal or not, but never pyæmia.

*If, then, a patient not exposed to miasmatic influences, and having a suppurating and ulcerating wound, is taken with pyæmia, we are forced to think that the cause of pyæmia, originating in the wound and transmitted to the blood in no other imaginable way than by absorption, must be a specific one, just as distinct as the product of hospital gangrene, for example.*

We cannot help supposing that ulcerating and sloughing wounds

sometimes produce an infectious substance, which, when absorbed, works such changes in the constitutions as are marked by a characteristic fever of a typhoid type, and inflammations in different parts with an invariable tendency to suppuration.

All this constitutés a disease as distinct and specific as typhus, diphtheria, scarlatina, and other zymotic diseases.

The analogies are many and very near. I allude, for the sake of brevity, to the disease in horses and asses, very nearly allied to pyæmia—the maliasmus or glanders.

I have chosen, for example, a case of sporadic pyæmia.

The zymotic character of pyæmia only becomes more patent when we consider it in its epidemic character.

It is almost superfluous to state the fact, so well known to hospital surgeons and obstetricians, that the accumulation of patients with large suppurating wounds produces a pyæmic miasma, which affects patients exposed to it, so that comparatively slight lesions are followed by pyæmia.

Every surgeon of experience knows that the effect of hospital air on the attendants in typhus wards, in wards where patients with diarrhœa or dysentery are crowded, does not compare with that in wards where a large number of suppurating and sloughing wounds are congregated. No stench from the innumerable stools of diarrhœic patients produces in so short a time the paleness of face, vertigo, want of appetite, oppression in the precardiac region, the nausea, vomiting and purging, (always followed by relief,) as the exhalations from many suppurating and sloughing wounds. Undoubtedly, the pyæmic miasm constitutes only a partial cause of these effects, and there are besides it many other emanations of a non-specific character. Some military surgeons, like Pirogoff, and in part Strohmeier, have gone so far in assuming, that whatever disease, even dysentery, Bright's disease, tuberculosis, some forms of hospital gangrene, septicæmia, hectic fever, if only originating under the protracted influence of pus-vapor, were pyæmic diseases. This is the other extreme, where impressions from so one-sided hospital experience branch off as far from truth as the views of the mere pathological anatomist or the physiological experimenter, that have no hospital experience to prevent their generalizing facts, which are only part or complication of the disease.

I have in this short summary barely hinted at the symptoms and pathological anatomy of pyæmia, which are so well known that it would be only consuming time to recite them before the Fellows of the Academy of Medicine.

What is most desirable in the further investigation of pyæmia are experiments, studying the effect of pyæmic blood on healthy animals, and chemical analysis of the secretions of wounds of pyæmic patients, with a view to find the pyæmic miasma. We might then hope to be nearer the possibility of preventing the disease, or of exterminating it when in existence.

Of the treatment I designedly did not speak. Locally it does not differ from that which the rules of sound surgery exact for the treatment of any suppurating or sloughy wound. In the general treatment our knowledge does not rise above that of the management of cases in which the vital powers are depressed even from other causes. The preventive hygienic treatment goes before everything. If the sums spent all over the world for every sort of medicine in healing pyæmia —quinine included—could be accumulated in a fund wherewith to build a hospital in some part of the world, so perfect in its hygienic arrangements that pyæmia in it would be impossible, more would have been done for diminishing its ravages than by all the attempts to heal patients when they once are its victims.

Permit me, Mr. President, to close by recapitulating the essence of my remarks.

1. Pyæmia is not the result of the admixture of pus with the blood.
2. The metastatic abscesses produced by emboli from venous thrombi are not pyæmia.
3. Pyæmia and septicæmia are different diseases.
4. Both occur frequently together in the same individual.
5. Pyæmia is an infectious, specific disease.
6. The infectious substance is either produced in the diseased individual, or,
7. By pyæmic miasma generated outside of the patient.
8. The name of pyæmia should be abandoned, and that of purulent diathesis substituted.

## AMERICAN OPHTHALMOLOGICAL SOCIETY.

*Second Annual Meeting, Tuesday, June* 13, 1865.

Dr. E. Delafield, President.

After the organization of the meeting, the reports from the officers, and the election of new members, the Report of the Committee on the Progress of Ophthalmic Science was read by Dr. Jeffries.

(For this report see page 336 of this Journal.)

Dr. Dyer then read a paper by Dr. Hildreth, of the Desmarres United States General Hospital, Chicago, Illinois, on Purulent and Gonorrhœal Ophthalmia.

(For this paper see page 346 of this Journal.)

The committee appointed to report a subject for discussion at the next Annual Meeting, reported the following:—*The Various Operations for Cataract, and their Comparative Success.*

Dr. Williams, (of Cincinnati.)—So far as the author claims priority in the use of the treatment employed, all of us, perhaps, who have read the Ophthalmic journals for some years, know that the treatment has already been suggested and practised by different persons. Dr. Graefe, in a recent number of the *Archives*, gives a method of treatment of the eye by pressure, and among other diseases to be treated thereby he mentions purulent conjunctivitis. He says, however, there is so much difficulty in keeping the pressure properly applied, and it produces in the patient so much pain and inconvenience, that he has been obliged to give it up. He abandoned the treatment after having tried it in a large number of cases, and being convinced that it was of no particular value. For myself, I have been in the habit of using compression in certain cases where purulent conjunctivitis has reached the point alluded to by Dr. Graefe, and where ulceration of the cornea has absolutely set in. I never depended upon the pressure, however, for arresting the disease. I have repeatedly treated cases of conjunctivitis by application of nitrate of silver, which, in my opinion, is the best remedy for genuine conjunctivitis. Sometimes in treating it with nitrate of silver, ulceration of the cornea has come on, and I have left off the first and resorted to the use of compression, applying the bandage in the manner described by Dr. Graefe. For four or five years I have been in the habit of using those elastic bands which ladies generally use for various purposes, from an inch to an inch and a half in width, and long enough so as to be moderately stretched in passing round; under this band I place the cotton or whatever else is placed over the eye. What I wish to state is, I do not believe that compression exercises a beneficial influence over the inflammatory process or the suppuration. As I stated, when I cease making the application of the nitrate of silver, I sometimes make use of compression; and when the symptoms indicate it to be safe to return to the local application of the nitrate of silver, I recommence it, and always witness a rapid diminution of the amount of the purulent secretion, and also a diminution of the amount of redness and inflammatory symptoms that accompanied it. I, therefore, do not believe that the treatment of purulent conjunctivitis by

compression can be relied on in every case. In all cases of ulceration of the cornea it is valuable. In cases of purulent conjunctivitis it is impossible to tell what will be the result of your treatment. I have always treated this disease making a reserved prognosis: I cannot tell to-day that the eye will not be lost to-morrow. For some time I have been in the habit of dividing the external commissure of the lids, if there was swelling and tension in the lids, (I think it was first recommended by Dr. Graefe,) to produce at the same time free bleeding, and diminish the pressure on the globe of the eye. But I have not been able to satisfy myself that this treatment had any effect one way or the other except in producing local depletion, which can be just as well produced by the application of leeches to the nose. I have also resorted to paracentesis where implication of the cornea was threatened. If the chemosis be great, I make it a point to practise paracentesis of the cornea; and if any one method of treatment be better than another for this, it is paracentesis. I make it a point never to wait, as I said before, for ulceration, but puncture the cornea, frequently twice a day during severe symptoms. It, of course, produces a little pain, but may be done under the influence of chloroform. I have sometimes resorted to arteriotomy, and have occasionally saved eyes in that way, that, I am confident, would have been lost by any other treatment. After several years' experience in this class of cases, I have reduced my treatment to a very simple one, using nitrate of silver. As soon as I see what the difficulty is, I evert the upper and the lower lid and wash them with a twenty-grain solution of nitrate of silver. Formerly I used the lapis mitigatus, as advised by Dr. Graefe, but I now prefer the solution. I wash the everted eyelids as extensively as possible with a solution of nitrate of silver, sometimes carrying it as high as forty grains to the ounce; infants bear it much better than adults. I have seen in some cases the secretion reduced one-half in twenty-four hours, and the greatest possible diminution in the swelling. For infants, I think nitrate of silver, to which I wish especially to call your attention, will, in most cases, effect a cure. Adults cannot be so successfully treated. I use ice water or cold water compresses to the eyelids, keeping them up day and night as long as the acute symptoms continue; and if the lids are not very stiff and the soreness too great, and especially if the purulent discharge is thick and abundant, I resort to an application once or twice a day of the solution of nitrate of silver in the way I have mentioned; and when the cornea is threatened or the symptoms are severe, I resort to a division of the external commissure. By means of this treatment I have ob-

tained better success than by the use of any other remedy. The division of the ciliary muscle, as recommended by Dr. Hildreth, is, in my judgment, a dangerous remedy. I do not think it likely to prove as beneficial as arteriotemy. I do not think anybody was ever much benefited by that operation practised for purulent conjunctivitis; nor do I think I could be now induced to practise it.

Dr. Noyes.—In this communication made by Dr. Hildreth, I do not remember that he states whether compression, as recommended by him, excites pain, and, if so, how far he allows this fact to modify his treatment. Dr. Hildreth has stated to me personally that the pressure when first employed is painful, but that he continues it and increases it till the pain is absolutely annulled.

Dr. Jeffries.—There is one thing mentioned in the report of Dr. Hildreth to which I will refer. He says: "Carry the knife back so as to divide the fibres of the ciliary muscle from the iris to the choroid." I wish to refer to the anatomy of the muscle, and in the course of the discussion opportunity may be given me to do so. I will say nothing further now than to call attention to the erroneous idea of the anatomy of the eye which he seems to give.

Dr. Agnew.—Mr. Chairman, I am very much interested in the remarks which the gentlemen have made on the general subject of purulent and gonorrhœal ophthalmia, in connection with this paper by Dr. Hildreth; and I was very forcibly struck, during the reading of the paper, with the apparently unguarded manner in which the doctor has yielded himself to, I fear, some preconceived view, as to the value of compression as a remedy. We are led in the earlier portion of the paper to believe that the doctor has found some real curative value in pressure as a treatment for gonorrhœal ophthalmia, and yet, unless I am very much mistaken, he in all those cases subjected the eyes not only to treatment by pressure, but to two solutions daily of bromide of ammonium and one of nitrate of silver; so that, so far as this paper is concerned, we really have no evidence sufficient to furnish the basis for a conclusion as to the value of pressure as recommended. If we could have had one or two cases cited in which pressure without the intervention of any local remedy had been used, then we should be better prepared to appreciate the treatment proposed. I am very glad to hear the frank criticisms that have been made upon the paper presented by Dr. Hildreth, and the spirit of scientific fairness that has characterized the remarks of the gentlemen who have preceded me. I only wish the doctor were here to listen to them, and regret that he has not the opportunity that he certainly is entitled to, of replying

to the criticisms evoked by his paper. But as he has sent the paper here without his personal presence, I do not think we are guilty of any discourtesy in giving it this discussion. I have listened to Dr. Williams' statements of his experience in the treatment of purulent and gonorrhœal ophthalmia with great interest, and am ready to go with him step by step in the experience by which he has been led to his conclusions as to what is the more valuable form of treatment for this disease. I agree with him entirely in believing that in purulent ophthalmia the treatment should be exceedingly simple; and I have had gratifying results in watching the progress of natural processes in curing *ophthalmia neonatorum*, in using a much weaker solution of nitrate of silver than the doctor has employed. I very seldom exceed a half grain solution in the treatment of ophthalmia in infants, and consider cleanliness a very great and ruling remedy. As to the treatment of adults, I think Dr. Williams' experience exceedingly valuable, and it lies very nearly parallel with my own.

Dr. Derby, of Boston, then read a case of ophthalmia intermittens. (See page 355.)

Dr. Jeffries.—I am inclined to think that a solution of this case will be found in the connection between the uterine system and the innervation of the eye. It has occurred to me that the experience of Brown-Séquard, in reference to the effect of excitation or nervous stimulation upon tissues in which vascularity is visible as in the eye, would be valuable. I wish that Dr. Derby would, if this case is printed in our proceedings, communicate with Dr. Séquard in reference to it. It seems to me that his suggestions would be valuable.

Dr. Derby.—The disease did not make its appearance for several years after the cessation of the menses. It has greatly diminished from year to year.

Dr. Williams, (of Cincinnati.)—One word in connection with this paper. I have an imperfect recollection of a case, which was very obscure to me at the time, and which I have never yet been able to comprehend. It cannot depend upon the suppression of the menses, because this was in a young man. He came to me with a very marked congestion of the sub-conjunctival tissue in one eye, commencing on the inner side, but not confining itself to that portion of the sclerotica, extending itself in the course of twenty-four hours over the whole surface of the globe. It never led to any opacities of the cornea, and almost disappeared sometimes in the course of thirty-six to forty-eight hours. The use of various astringents seemed to have no effect upon it. It was not a case of sclerotitis; it was evidently a case of congestion of

the sub-conjunctival tissue, recurring periodically. I treated the young man during four or five different attacks, (I forget how many,) and they lasted, as I said, from thirty-six to forty-eight hours, and the disease usually travelled round the whole cornea, involving the whole sclerotica, accompanied by a great deal of pain during the first few hours. The intervals between the attacks were from eight to ten days. I think the attacks occurred regularly once a week soon after that. I gave him different kinds of treatment internally and topically, and was not satisfied that anything had any effect upon the disease. The man has been perfectly well since.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, March 8th*, 1865.

Dr. Gurdon Buck, President, in the Chair.

Dr. Conant made a statement with reference to the case of operation for vesical tenesmus reported by him at the last meeting, that the patient had been entirely relieved from the distressing symptoms.

### CIRSOID ANEURISM.—DR. E. KRACKOWIZER.

Dr. Krackowizer exhibited the patient who had been presented to the Society at the meeting of Sept. 11, 1861, with cirsoid aneurism. The following is the history of the case as given at the meeting referred to:

The tumor was divided into two parts; that over the temporal artery was smooth upon its surface, and resembled in size and shape the half of a full-sized orange; while the other portion of the mass, large in bulk, and connected more particularly with the posterior auricular artery, was irregular in form, being divided up into numerous secondary tumors which shot out in the form of processes curling upon themselves. The patient was forty-five years of age, and had always enjoyed good health with the exception of two attacks of typhus fever, the first of which took place about seven years before, when I had the opportunity of seeing him. The history then given was, that the tumor had made its appearance from his earliest recollection, and that it had kept on steadily increasing until it had attained the size referred to; and indeed, as far as my recollection serves me, the growth had not been arrested since then, except perhaps that of the anterior tumor. The tumors were soft and elastic on pressure, and disappeared readily by pressure on the carotid of the affected side. The patient did not seem to suffer from any pain in

consequence of the presence of the disease; could lie upon the tumor, sleeping comfortably, and the hearing of the right ear was not interfered with except by the continual noise of the blood rushing through the aneurism. No ulceration had at any time taken place, neither had hemorrhage. No abnormal sound in the heart or lungs could be detected. The pulsation of the right carotid was stronger than the left. There was no difference in the pulsation of the two radial arteries.

I have not seen the patient since the meeting in September, until a few days ago, when he asked my advice for some inconsiderable trouble. Of course I felt interested to examine his aneurism again, and, to my great surprise, I found that it had been diminished in all its parts. Pulsation in some parts was discontinued entirely, and the anfractuosities of the large arteries have become in some spots solid, not yielding to pressure. The ear, which was greatly enlarged, has now shrivelled up, in a great measure, and the pulsation of the posterior auricular artery has become feeble, and two thrombi, of different thicknesses, can be felt in its interior. The patient states that this change in his condition commenced to take place about one year ago, and that the decrease in the size of the tumor and the force of the pulsation was gradual, and that if he kept perfectly quiet the growth was even smaller, and that the troublesome noise, which was audible at other times, disappeared then altogether.

I only find two such cases of spontaneous cure of cirsoid aneurism on record; one by Gluke and Orfilla, thirty years ago, in which the disease was the result of injury, and the patient declined to have an operation performed. In the course of ten years after every trace of the trouble had disappeared. The second case was by Chevalier, of Paris. In that instance, too, the aneurism was the result of an injury, but the spontaneous cure was effected in the course of two years.

### REPORT OF COMMITTEE ON DR. PEASLEE'S CASE OF INVAGINATION OF INTESTINE, ETC.

The committee, consisting of Drs. Krackowizer, Peaslee, Conant, and Shrady, appointed at the last meeting to report upon the specimen of invagination of the intestine, presented the results of their investigations, in a verbal communication from Dr. Krackowizer, their chairman, as follows:

Mr. President, the committee met on the afternoon of the Friday succeeding the meeting, and, on looking at the specimen in full daylight, there was an instant coincidence of opinion among the gentlemen of the committee that the specimen presented was intestine

which had sloughed away; that, according to what was known of the history of this case, a portion of intestine had first become invaginated, then gangrenous, then it sloughed, and was expelled. The specimen showed unmistakably the ramifactions of the arteries of the mesentery. This membrane showed also unmistakably the existence of a peritoneal covering. The same was the case with the intestine, and at different spots this peritoneal covering was torn up to show the muscular layer underneath. When turned inside out, the intestine showed also a mucous membrane studded at several points with ecchymotic effusions. In fact, there did not remain the least doubt in the minds of the committee that the specimen was part of the intestine of the patient.

After such evidences as were presented by the gross appearances, it seemed almost superfluous to go into a microscopic examination; yet it was done.

Under the microscope no evidences that the specimen was a croupous exudation were found. Wherever a microscopic specimen was taken from it the fibres of connective tissue were well preserved. In one specimen a capillary vessel could be distinctly seen. No unstriated muscular fibre was found, yet the committee did not use the proper reagents to bring these fibres into view, as it is almost invariably necessary to do, to bring the nuclei of these bodies into good relief. It seems that no epithelium was found. All the tissues seem to have been destroyed, save the connective, and the appearance of these fibres corroborated the opinion, previously formed by the naked eye, that this was an organic structure. The shortness of the intestine, too, added to the portion which had sloughed off, gave the usual length of the canal.

It was unfortunate, when the intestine was taken out, that the mesentery was not preserved; yet, from the small portion left at the seat of the stricture, it becomes plain that at that spot the mesentery was crowded in a thick fold into the intus-susception, because the little piece of mesentery that was attached was more clumsy and massive than usual. In its middle there was a cylindrical mass, which felt like the vas deferens, and it undoubtedly contained a large branch of the superior mesenteric artery, for right below this the lumen of a very much dilated branch of this artery could be discerned.

There are two modes of explaining the manner in which this discharge of intestine might have occurred.

One mode of explanation has been given by Dr. Conant, and is this: The process of sloughing did not take place simultaneously with the whole of the tube, but ulceration first severed the returning piece of

the invagination, so that it dropped over the inner layer, and became unraveled within the intestinal canal.

The other explanation may be this—that the invaginated mass protruded per anum, with the upper end of the inner tube presenting, and that the mother, in attempting to withdraw the mass, took hold of this inner tube and unraveled it *in situ*.

Either mode of explanation is admissible, and I would not say which one is the most probable.

The mucous membrane of the intestine below the strieture has been torn longitudinally, most probably at the autopsy. It seems, from the condition of the strictures, that the upper portion was invaginated into the lower one.

I forgot to mention that under the microscope could be seen part of a peyerian patch, with a number of the openings of the follicles presenting at regular distances.

In conclusion, Dr. Kraekowizer remarked, that the very same day on which the committee met he saw, in a German journal, a case of intus-susception, with a woodcut of a portion of intestine which had been discharged per anum, but which measured, however, only fifteen inches in length. This patient, after the discharge, had one or two attacks of intestinal obstruction, from which, however, he was relieved; so that, at the time of reporting the case, the patient was doing well. In this instance the cause was a simple pediculated tumor on the peritoneal surface of the intestine. In Dr. Peaslee's case the same kind of tumor existed, but on the mucous membrane, and it was somewhat remarkable that this mass was situated two and a half feet from the stricture.

VESICAL CALCULI IN A CHILD.—DR. A. C. POST.

Dr. Post presented three calculi which were removed by lithotomy from the bladder of a child two years and eleven months old. The little patient suffered from symptoms of stone since it was one year old. On examination of the child under ether it was very evident that a stone was present in the bladder. The peculiarity of the case was this: After making the section of the prostate gland Dr. Post withdrew one calculus, which was situated at the lower portion of the bladder, close to the end, and projecting into the orifice of the urethra. Seeing a polished surface upon this calculus, he was aware of the existence of another. A second stone was then discovered, which had been so closely applied to the first as to appear almost like one. The bladder at first seemed as if it were closely contracted upon these, but on further examination it was discovered that a cavity existed

above; in other words, an hour-glass contraction of the organ was made out. In the cavity above a third calculus was discovered and removed. The stones weighed respectively 41, 40, and 65 grains.

Dr. Post remarked, that he had met with one similar instance before, in which there was a calculus found in each compartment. This case was also one which occurred in early childhood, although the symptoms were allowed to continue until the patient was 22 years of age. The calculi in this instance, unlike the first mentioned case, were separated one or two inches. The recovery of the child was rapid and complete.

Dr. Conant stated that he had been called six or seven years ago, with a view to operate upon a boy six or seven years old, who was said to have calculus. A very careful examination, however, failing to convince Dr. C. that there was any stone in the bladder, he declined commencing the operation. It so happened that the next day the child took scarlet fever, and in the course of a few days after died. At the autopsy it was discovered that there were two diverticula from the side of the bladder, one of which contained three and the other one calculus.

In answer to a question from Dr. Buck, Dr. Post stated that he supposed in the case reported by him that the two lower stones first formed, then a contraction of the bladder was induced, after which the third stone formed above.

### NECROSIS OF THE RADIUS AND ULNA.—DR. H. B. SANDS.

Dr. Sands presented two specimens of necrosis, removed from a boy, a patient of the New York Hospital, with the following history:

A pale, sickly-looking boy, inheriting a tendency to phthisis, and perhaps having the disease at the time of his admission, was brought to the New York Hospital a good many months ago with a severe injury of the hand, which consisted in a fracture of the metacarpal bone of the thumb and fracture of one of the phalanges of the fingers, with extensive stripping off of the integument. An attempt was made to save the limb by Dr. Markoe, who was then in charge of the case, but amputation of the forearm, at the junction of the middle and lower third, was rendered necessary three weeks after. Dr. Sands was told that the incisions which were made during the operation were not made through very sound tissues. Previous to this the wound had sloughed considerably. After the amputation the patient did badly, and there was a good deal of suppuration, pain and tumefaction of the limb. Dr. Sands found the patient in December last

with tubercular deposit in the left lung; at the same time there was considerable emaciation present, together with a degree of pallor rarely seen. An operation of course was not to be considered under the circumstances, and the patient was treated in the ordinary way. In the course of a month afterwards the boy had improved very much in his general health, and was desirous that something should be done to relieve him. An examination of the parts decided the practicability of amputation; the limb was very much swollen, and was infiltrated up to the elbow-joint. The operation was, accordingly, soon after performed.

On examination of the stump after its removal it was found to present a most perfect specimen of necrosis of both the radius and ulna. The necrotic portions were each enclosed in hollow cylinders of new bone. The olecranon process was not necrosed, whilst the coronoid process was entirely dead. The explanation of this was that the olecranon was developed from an epyphysis, while the coronoid was developed in common with the point of ossification, which forms the shaft of the bone. The olecranon process not only was not necrosed, but it had a very regular line of union with a new formation of bone, making the involucrum.

The patient's health was very much improved by the operation.

### OVARIAN TUMOR.—DR. E. R. PEASLEE.

Dr. Peaslee exhibited a specimen of ovarian tumor, taken that day from a patient 57 years of age. She first discovered some enlargement in the lower part of her abdomen about seven or eight years since. It had been increasing very gradually for the first two years, and then much more rapidly until a year since; when Dr. Peaslee first saw her she measured forty-five inches in her largest circumference. Her health at this time began very sensibly to decline, as was evinced by an emaciation of her extremities and the parietes of the chest. She was advised to wait for a time, and also to be tapped once before the operation, should it be performed. Tapping was performed in July last, and twenty-six pounds of fluid were removed. The diagnosis made was that the tumor was composed of a large sac, with a smaller one joined to it. It was at first thought that the evacuation of the larger sac would invite an increase in the smaller one, but this did not prove to be the case. She rallied well after the tapping, and Dr. P. did not see her again until last October, when she had again filled considerably. She was, however, advised to wait, and the operation was finally performed at the time stated, she meas-

uring just previous to it about forty-two inches in her greatest circumference. The specimen, to all intents and purposes, was a monocystic tumor, though there were several small sacs developed from its posterior aspect; some of them had extremely thin walls. The tumor contained twelve pounds of clear fluid. The pedicle was found of the ordinary length; a double ligature was passed around it when it was separated, and both the ligatures cut off short. The incision through the integument was about four inches, that through the peritoneum about three. The fluid contents were evacuated in the ordinary way. There were no adhesions, except on the anterior face of the tumor, and these were inconsiderable; these were not in any way connected with the previous tapping. The external incision was closed up with silk sutures. Of the eight cases operated upon by him, Dr. Peaslee considered this patient, on account of the few adhesions which existed, to have as good a chance for recovery, and in fact better, than any of the others. The patient was then doing well, and everything, as far as could be judged so soon after the operation, looked favorably.

Dr. Sands stated that the specimen resembled very much a tumor confined to the ovarian ligament. In that case he had seen, the patient died on the fifth day from a latent peritonitis. No other cysts, however, were found in the walls of the larger one.

Dr. Peaslee stated that he thought at first that it might be a tumor connected with the ligament, but was afterwards forced to make the diagnosis that it was ovarian. If he were sure it was only connected with the ligament, he would simply have tapped it, and expected that to be the end of the trouble.

---

## CORRESPONDENCE.

*Gleanings from Hospital Practice in London.*

London, Pall-Mall, *July* 3, 1865.

Mr. Editor—Having spent more than four months visiting the various hospitals of this metropolis, during which I have received every courtesy which I could possibly have desired from the various members of the different faculties, I will jot down as I may recall them some of the chief points of interest thus far observed during my visit. I began with Guy's Hospital, where I was introduced by Mr. John Birkett. Here I met with Mr. Hilton, author of the "Physiology of Rest;" Mr.

Durham, who has written so ably on the "Philosophy of Sleep," and others of the faculty. This is, except Bartholomew's, the largest hospital in London; excepting that of the Royal College Surgeons, it has, also, by far the best museum. Mr. Wilks, Prof. of Pathological Anatomy, showed me some fresh specimens of what he says seems to be on the increase in London, viz., a fibroid degeneration of the lung. It is incident to chronic bronchitis, and consists of a thickening of the mucous membrane of the bronchii with a kind of interstitial density of structure, giving rise, on auscultation or percussion, to the same physical signs as the presence of tubercle. The rational signs, however, differ in this: The patient is usually over 40 years of age, is inclined to be of robust habit, and in every other respect is unlike a phthisical patient.

I saw rather an unusual case in Mr. Birkett's ward; a child, under three years, upon whom he had operated successfully for the radical cure of *double* inguinal hernia. This hospital, being so exceedingly old, has small and badly-ventilated wards, and an operating theatre inconveniently small; the only obstacle to its alteration would seem to be a dislike to disturb what is so intimately associated with the surgical triumphs of the great Sir Astley Cooper, who operated there for many years.

St. Bartholomew's, which is on a more magnificent scale even than Guy's, numbers among its staff the veteran Lawrence, William Paget, Savony, &c. Although Mr. Lawrence is over seventy years of age, he still remains at his post, attempting to continue the duties which should be intrusted only to men of more reliable age. It is deplorable, alike in London as elsewhere, to see superannuated, infirm old men crowding out so pertinaciously their legitimate successors, long after they can expect to be able to operate with superior advantage to the patients or hope to add fresh lustre to their established fame.

Mr. Paget, who in clearness of statement is scarcely second to Mr. Gladstone in the House, amputated at the shoulder-joint recently for the removal of an immense tumor of the arm. A good deal of difference of opinion was felt as to its character, which, partly from the size of the superficial veins, I could but suppose to be malignant. After removal, a hurried section revealed it to be a case of osteo-sarcoma of the humerus. In the next doubtful case of the kind Mr. Paget suggested it might be an improvement to determine beforehand with my exploring drill the real character of the tumor to be removed.

As you may be aware, the different schools here entertain a good

deal of class feeling; this, though an incentive perhaps to healthful emulation, is also promotive of a stereotyped and illiberal style of practice in all the schools respectively. The rule being that the appointments in any hospital shall be given to its alumni only, each respectively is in danger of perpetuating the errors at any previous time peculiar to their school; and so, for the want of a little crossing, there is some danger of a degree of degeneration.

In St. Mary's Hospital the most interesting part to visit is perhaps the cancer wards. These are under the chief care of Mr. Charles H. Moore. The fundamental treatment here pursued is cutting out the cancerous mass deeply, removing all unsound material, or, in the absence of a tumor, paring the ulcerating surface, and then making a free application of the chloride of zinc paste; after this application healthy granulation frequently occurs, and the parts perfectly heal. An instance of this kind recently occurred here, and that too in the case of a *medullary* cancer of the orbit, where the orbital plates were destroyed and the dura mater affected by the disease. As a palliative treatment morphia is administered, beginning with one-sixth of a grain, but *hypodermically only;* in this way nausea is almost entirely prevented, while the patient is kept steadily under its soothing influence. Mr. DeMorgan, of this hospital, is using, as yet I believe rather experimentally, a solution of chloride of zinc, with which he washes over the wound after every operation, especially when for extirpation of cancer. He extends its use, however, to stumps also, and has great confidence that it destroys that which in glazing the surface of the wound may, he says, decompose and be a source of infection, and encourages a more sound and healthful granulation, with greatly diminished danger from purulent infection. To me this process would seem, by just so much as it was employed, to diminish the chances we might possibly have for union by first intention, the exudation of the agglutinating fluid being thus arrested, and the opposed edges of the wound being partially oxidized and their vitality diminished.

I was struck with the almost perfect inodorous condition of the cancer wards. This is maintained by placing at the head of each bed an ordinary pill box containing metallic iodine, and by a metallic vessel in the centre of the ward containing chloride of lime and permanganate of potassa, kept moist by a constant trickling of dilute sulphuric acid. Mr. Moore finds that, although the iodine is very expensive, it is the most efficient as well as convenient of the disinfectants.

It is almost amusing to one who has been accustomed to military

surgery, to see the extreme caution with which chloroform is used in all the hospitals here. Inhalers of various patterns are used. At the Westminster Hospital the chloroform vapor is first diluted by measure in large India rubber bags, whence it is inhaled, as in the common way of using laughing gas. It is the general custom to bring the patient under the influence of the chloroform as slowly as possible. It is almost an exception to see a patient fully anæsthetized prior to the commencement of the operation.

King's College Hospital, being nearly new, is superior in its general appointments, ventilation, &c., to the older hospitals of the city. Its chief attraction is, perhaps, the imperial operator, Mr. Ferguson, who, every Saturday, is sure to have some interesting cases. For calm self-possession and adroit manipulation I have not seen Mr. Ferguson's equal in London. In resections of the elbow-joint he does not attempt to secure anchylosis at a given angle, but allowing the ends of the bone to remain apart, with very loose splints. He submits the limb to regular motion the last two or three weeks, and thus endeavors to secure a certain amount of motion in what becomes a modified false joint. Two weeks since I saw him remove the right scapula, for malignant disease, an operation which he said had been performed in London but once before, and then by himself.

What has most interested me here is the radical operation for hernia, which Mr. Wood performs so successfully. Mr. Wood was kind enough to invite me to see him operate two or three times, and the last time showed me some of his old patients he had brought together for me to examine. One of these was a child, four years of age, who was operated upon when a year and a half old. The hernia was so extensive that no truss could be successfully worn. After the operation he remained under treatment ten days, suffering no unpleasant symptom meanwhile, and since then there has been no apparent tendency to its return.

The operation consists in shutting up permanently the inguinal openings and canal, by drawing together and producing adhesion of the tendinous walls as far up as the internal opening. This is done by invaginating the sac, (but not the integument, which is previously incised and dissected up for some distance around the wound,) which is secured in this position by stout wire sutures passed through the sides of the canal, effecting complete closure both in front of and behind the spermatic cord, without interfering with the functions of the cord, the conjoined tendon being firmly united to Poupart's ligament, in front of and above the cord. Within the upper end of the loop of

the wire is the conjoined tendon and internal pillar of the superficial ring. The loop passes through the outer pillar, close to the centre of Poupart's ligament, and at the lower end through the triangular aponeurosis, and the insertion of the internal pillar lower down. Two portions of the suture are thus placed across the hernial canal, invaginated fascia and sac, closely embracing but not including the spermatic cord, and connecting the posterior or deep wall with the anterior or superficial perforating aponeurosis in three places, but the ligature escaping by the same aperture in the skin.

When the ligatures are tightened, the posterior wall of the canal is found to be drawn forward by the ligature, and the pillars of the superficial ring are closed in. The patients seem to suffer little trouble or inconvenience after the operation. The wires are removed in about two weeks, and the patient is soon after discharged.

The results, so far, have been, in from 140 to 150 cases, complete success, at the rate of 75 per cent. In all there have been four fatal cases; one from pyæmia, two from peritonitis, and one from erysipelas. Out of forty cases of children there have been but eight partial failures. It is well to know that, though the operation fail of complete success, one may always reckon upon an improvement, from diminution of the size of the canal. This operation was entirely originated by Mr. Wood, and promises to be of great service to our race.

Yours, &c., Benj. Howard, M.D.

---

*Treatment of Typhus Fever.*

Mr. Editor—In the July number of the *Journal* I find, under the department of "Progress of the Medical Sciences," a paper entitled "Two Months of Fever Duty in the Glasgow Royal Infirmary," in which the author, Dr. Gairdner, states that he considers typhus as a disease which has a distinct and certain course to run, and that it cannot be cut short. If by this he only intends us to understand that this fever has a period of seven days, and that within this time no medication will restore the patient to health, it is true; but if he means to say that the fever must be left to run two, three, or four weeks, then we must disagree with him. The first view is true, the latter is not.

Again, he is represented as stating that febrile excitement, rapid weak pulse, and delirium are normal facts of the disease, and cannot be avoided or cut short. To this statement we cannot give our assent.

We know, from an experience running through twenty-five years, that all these "normal facts" can be cut short in twenty-four hours, and that it has been done in hundreds of cases. It can be accomplished more readily the nearer the medication follows the attack. Dr. G. advises us "to take a firm hold of principles based upon experience;" this is very good advice, but there is every difference in the value of an experience that proves only a negative, and one that proves a positive result. The one shows that a certain effect has been produced, while the other goes no further than to show that nothing was accomplished by the means used in a given way. This positive manner of announcing a negative opinion is always objectionable. It is apt to be received, particularly by the younger members of the profession, as deciding a point in opposition to the truth.

Our "experience" commenced at Bellevue, in this city, at a time when there were congregated there almost all the public charities. At this period each assistant physician treated the patients under his charge according to his own judgment, subject always to the control of the resident physician, if he chose to exercise it. During the prevalence of typhus in the several departments of the institution, we had charge of one half the almshouse. These facts are mentioned that a more correct knowledge may be had of the class of persons treated. We cannot give the number of cases treated, but the whole number of deaths from typhus was seventeen. As some evidence of the correctness of our views, we can say that not one of the number under our care went to form a part of the seventeen; neither did the fever, in a single case treated by us, run over a period of seven days. The same experience has followed us in private practice, when we have been called within twenty-four hours of the attack. We have seen cases that have been without treatment for several days that terminated fatally. We are not to be understood as maintaining that every case of typhus can be cured, but that the symptoms which Dr. Gairdner terms "normal facts" can be arrested, the patient remaining comfortable, (or, as they have sometimes expressed it, "feel as though they had been sick,") until the seventh day, when there will be a crisis, the patient not feeling as well as before; after this the recovery commences.

We regard ordinary typhus fever as affecting primarily the nervous system, and order our remedies accordingly. It has been our practice to prescribe for an adult five or six grains of calomel, combined with about the same amount of Dover's powder. This is not to be followed by any cathartic; it will generally move the bowels within twenty-

four hours. The Dover's powder should be repeated every two or three hours, in such quantities as shall keep the patient quiet, rational when awake, but drowsy when not disturbed in any way. To allay the extreme thirst that generally accompanies this disease at its commencement, the patient can take all the cold tea he craves, the exhilerant effect of which seems to overcome the torpor of the brain, and the opium is given more for this effect that for its narcotic power. To secure the exhilerant effect, the doses should be relatively small and repeated at short intervals.

This plan of medication has with me rendered the tongue and skin moist, reduced the frequency and irritability of the pulse, bringing it to near the natural standard, except as to strength, and affecting it within twenty-four hours, that is when we were called at the commencement of the attack. The further you recede from this period the more difficulty will be experienced in arresting the symptoms. We have in several instances prescribed for persons that had been under treatment for the fever for weeks, giving them opium and some tonic combined, with the effect of stopping the fever in a few hours. The fever loses its periodicity after two or more weeks, and can be arrested at any time. Tonics combined with opium can be exhibited with the most favorable result, when, if given without the opium, they would only appear to aggravate the symptoms.

These are facts that can govern the practitioner at the bed-side; they also prove that typhus fever *can* be arrested, and that we are not obliged to "pursue a masterly inactivity" in treating it.

Henry G. Davis, M.D.

---

# PROGRESS OF THE MEDICAL SCIENCES.

## I.—ANATOMY AND PHYSIOLOGY.

1. *Sections of Different Skulls showing the Incorrectness of calling the Inner Table of the Skull the "Tabula Vitrea."*

Mr. Teevan observed that in nearly all anatomical and surgical works it was stated the inner table of the skull was more brittle than the other; and hence had been named the *lamina, vel tabula, vitrea.* The two facts which had given rise to the above supposition were: firstly, when a foreign body penetrates the skull from without, the inner table will always be found more injured than the external; and, secondly, fracture of the internal table alone, without any injury to

the external table, sometimes occurs from violence applied externally. He remarked, the above did not happen because the inner table was more brittle, but depended on other causes. The reason why the inner table of the skull is found more damaged than the other when a bullet enters, is because the aperture of exit is always larger than the aperture of entry when a foreign body passes completely through any part of the skull; it matters not what the direction may be. One of the specimens was a section of a skull in which both parietal bones had been perforated by the same bullet, showing an aperture of entry in the inner table of the right parietal bone the same size and form as an aperture of entry in the external plate of the left parietal. Three other specimens were calvaria, in which Mr. Teevan had produced fracture of the external table without any fracture of the internal table by striking from within. He then explained the causation of the above, and also why an aperture of exit is always larger than an aperture of entry.—*Medical Times and Gazette, Jan.* 7, 1865.

2. *Localization of the Faculty of Language.*

An important debate upon this subject has recently taken place in the French Academy of Medicine, upon the occasion of the reading of a memoir upon the coincidence of derangements of speech with lesions of the left hemisphere of the brain.

M. Lelut said the inferences of the author from his numerous cases would lead to phrenological conclusions, and that as his mind was long since made up as to the fallacy of these, he altogether declined to discuss the paper. Other members of the Academy have not felt disposed to accept this dictum as final, and have insisted that the paper should be submitted to discussion. M. Bouilland, who for the last forty years has advocated the localization of the faculty of articulate language in the anterior lobes, naturally makes much account of the confirmation of his views furnished by M. Dax's numerous cases, but he does not feel justified in localizing with M. Broca this faculty in the third convolution of the left lobe. While he does not contend for the truth of craniology, too, he maintains that phrenology, properly so called, possesses a really scientific foundation. M. Trousseau, in a remarkable discourse, which, though prolonged over two meetings, held his audience entranced by its power, lucidity, and admirable delivery, recalled attention to the precise objects of the paper on which the report had been made, and entered into a complete exposition of the disturbance of articulated language which he indicates by the term *aphasie*, in preference to that of *aphémie*, suggested by Broca. Aphasia may affect any or all of the four signs by means of which man represents his ideas—*i. e.*, speech, gesture, writing, or drawing; and M. Trousseau cited numerous cases from his abundant clinical resources exhibiting this general or partial privation of the means of communicating ideas. In some of these instances the aphasia proved quite transitory, undergoing rapid relief on blood-letting. Essential differences exist between this condition and the impediment of articulation, consequent on paralysis. At first sight the asserted localization of a function in one side of an organ so apparently symmetrical as the brain seems highly improbable; but, singular as it may seem, it must be accepted, if facts can be adduced in sufficient number in proof of its exactitude. This, however, M. Trousseau does not believe is the case. That one side of the body may become much more frequently than the other

subject to certain affections, is shown by the greater preponderance of neuralgia and hysterical paralysis on the left side. Such preponderance is, however, far from being so constant in aphasia; for while of thirty-two examples collected by M. Trousseau, fourteen favored Broca's doctrine of its dependence on a lesion of the third convolution of the left lobe, eighteen contradicted the theory. Taking the more general statement of MM. Bouilland and Dax, that the anterior lobes are those in which the faculty of language is seated, M. Trousseau is able to adduce eighteen cases favoring this view, while in sixteen others either disease of the frontal lobes existed without the occurrence of aphasia, or aphasia coincided with disease of other portions of the organ. As to the nature of the lesion which gives rise to aphasia, in a vast majority of cases, this is *ramollissement*, some cases of transitory aphasia being dependent upon cerebral hemorrhage. In almost all cases the *ramollissement* is due to obstruction by thrombosis or emboli of the middle cerebral artery or the artery of the fissure of Sylvius. The general clinical conclusion to be drawn from these facts is, that apoplexy with aphasia is to be attributed to a *ramollissement* of the brain, which, if there exist any affection of the heart or vessels, may be referred to arterial obliteration. We may also prognosticate that the *ramollissement* will proceed slowly, allowing the patient to live for a considerable time, differing thereon from the diffused *ramollissement* described by Rostan.—*Med. Times and Gazette, May* 6, 1865.

3. *Effects of the Injection of Sulphuretted Hydrogen into the Blood.*

M. Demarquay, pursuing his researches on the influence of the various gases upon the economy, has performed several experiments with that highly deleterious substance, sulphuretted hydrogen. M. Claude Bernard, in a memoir published in 1857, has shown that when injected in moderate quantity in the veins of dogs it produces little effect, being eliminated from the bronchi in from three to six seconds, according to the vein selected. He has also shown that when injected into the arterial system or the splanchnic centres the gas becomes partly absorbed, and symptoms of poisoning of varied intensity result. From these experiments it results that the action of the gas upon the venous blood was not sufficiently prolonged to induce grave alterations, its elimination taking place rapidly from the pulmonary surface. Injected into the arterial system, the gas, pursuing a longer course, had more time to act intimately, and operates upon the most vital element —the red globules of the blood. All who have related cases of poisoning by its agency agree in stating that the blood becomes thick, viscous, and black, the tissues also presenting characters corresponding to this condition of the blood, being of deeper color than normal, and more or less softened.

For the purpose of still further investigating the action of this gas, M. Demarquay instituted fourteen experiments on rabbits, injecting it generally into the cellular tissue of the abdomen or back, and sometimes into the peritoneum. The quantity injected varied from ten to fifty centilitres, but there was no sensible difference in the rapidity with which death was produced, whether the quantity injected was large or small. The dangerous character of the gas is proved by the promptitude with which death ensued, this taking place from two to five minutes after the injection. Within twenty-five seconds after the injection elimination by the lungs commences; but it is a very curious

fact that no traces of the presence of the gas can be discovered by means of test-papers in the kidneys, liver, spleen, heart, or even the lungs themselves; and after death free sulphuretted hydrogen cannot be found in the blood. On opening the body promptly after death, a striking degree of turgescence of the laryngeal, tracheal, and bronchial mucous membrane is observable; and if the experiment be so managed that death do not take place so suddenly, a true phlegmasia of this membrane is developed. This M. Demarquay regards as a constant alteration produced by the elimination of sulphuretted hydrogen; and he believes that some of the benefit derived from the use of sulphurous mineral waters in the treatment of chronic inflammatory affections of the air-passages may be due to the substitutive action produced by their elimination. It is well known that these patients often suffer from more or less acute inflammatory action, congestion, or hemorrhage, after the use of such mineral waters, and before a beneficial result is produced.—*Ibid.*

4. *Production of Sex.*

M. Thury's ingenious hypothesis on the production of sex has been for some time before the world, and has, we believe, from practical men engaged in breeding, received some confirmation. According to the Genevese Professor, every ovum passes through two phases or degrees of maturation, and accordingly as fecundation takes place at the commencement or towards the termination of such period females or males are produced. M. Coste described to the Academy of Sciences some experiments he has made in the matter with regard to multiparous animals—viz., fowls and rabbits—and the results are in no wise confirmatory of the doctrine laid down by M. Thury, the sexes being sometimes intermingled and at others the reverse of what might have been anticipated.—*Ibid.*, *May* 20, 1865.

5. *Process of Deglutition.*

M. Guinier, of Montpelier, has been making some auto-laryngoscopic demonstrations in Paris, with the view of proving that the generally received views of the process of deglutition require some modification. He says that it can be easily seen that the alimentary bolus passes directly, without any preliminary falling back of the epiglottis, on to the flooring formed by the contraction of the glottis. In the same way, liquids employed as gargles penetrate beneath the epiglottis, and come in direct contact with the intra-laryngean mucous folds and the cordæ vocales. It follows that the simple contraction of the cordæ vocales suffices to prevent the passage of foreign bodies into the trachea. This contraction is automatic, and brought by reflex action into relation to the sensation produced by the contact of a foreign body with the mucous membrane of the supra-glottal regions, and especially the epiglottis, which thus becomes an organ endowed with special sensation.—*Ibid.*, *May* 27, 1865.

6. *Action of Iodine and Iodide of Potassium on the Nervous System.*

Dr. M. Benedikt, having observed that the injection of tincture of iodine suddenly produced paralysis of respiration and circulation, has been led to investigate the action of iodine on the nervous system. His experiments, seventy in number, have been made on frogs. The solution of iodide of potassium used contained one part in four of

water; the tincture of iodine had a strength of one part to three or six. He has found that iodine and iodide of potassium, especially the latter, immediately affect respiration; that sensation is diminished and finally disappears; that the heart is paralyzed more quickly by iodine than by the iodide of potassium; and that muscular contractility is is lost sooner than that of the heart when small doses are employed. The application of iodine or of iodide of potassium to the central extremity of the spinal cord arrests respiration, circulation, and muscular contractility much more rapidly than when the poison is introduced into the circulation. The symptoms of poisoning are more slow in appearing when the poison is applied to the peripheric extremity of the cord. Introduced into the circulatory current, iodine and iodide of potassium attack the central extremity of the cord, and excite or paralyze the organs of respiration and circulation, and the sensory and motor nerve-fibres.—*(Medizin. Jahrbücher; and Gaz. Méd. de Paris, Oct.* 29, 1864.)

7. *The Origin of Lymph.*

M. Ludwig, of Vienna, has combined the results of a series of researches made by himself and by Noll, Krause, Schwanda, and Tomsa. The lymphatic vessels, he says, do not commence in closed tubes, but in interstitial lacunæ traversed by blood-vessels. He has described and given figures of this arrangement in the testes, the intestinal mucous membrane, and several other organs; and concludes that it is universal. He attributes the production and the flow of lymph to the pressure of the blood. According to this theory, lymph is nothing but blood-serum filtered through the walls of the vessels.—*(Medizin. Jahrbücher; and Gaz. Méd. de Paris, Oct.* 29, 1864.)

8. *Function of the Spleen.*

MM. Estor and Saintpierre, in a note presented to the Academy of Sciences, state that they have endeavored to determine the amount of oxygen in the arterial and venous blood of the spleen of dogs, during digestion and during fasting. They found that, while the amount of oxygen in the arterial blood is constant, that in the venous blood is increased, and may be even doubled, in the fasting animal. Thus, in one animal, after finding 11.69 of oxygen in the blood of the splenic vein of a dog which had fasted twenty hours, they injected milk into the stomach, and found that the blood of the same vessel contained 7.26 of oxygen. From five experiments, they arrived at the following average: blood of the splenic artery, 14.38; of the splenic vein during digestion, 5.70; in fasting animals, 11.53. They hence conclude that the spleen alternates in function with the stomach.—*Gaz. Méd. de Paris, January* 21, 1865.

## II.—PATHOLOGY AND PRACTICE OF MEDICINE.

1. *Official Report on the Epidemic of Cerebro-Spinal Meningitis in Northern Germany.*

Early in April, when the epidemic in Northern Germany was beginning to excite attention and cause some alarm in this country, Dr. Sanderson was instructed by the Medical Officer of the Privy Council to proceed to Dantzic for the purpose of investigating the nature,

causes, prevention, and treatment of the disease, as well as the rise, progress, and extent of the epidemic. Professor Hirsch, of Berlin, the author of the celebrated work on the Geography of Disease, had previously completed a similar investigation by order of the Prussian Government. We have now Dr. Sanderson's printed official report, which contains an excellent hygienic description of the localities in which the epidemic occurred, and an account of the symptoms and post-mortem appearances of the disease as it came under his observation.

According to the report, the epidemic was for the most part confined to the country comprised within the department of Dantzic, which lies between long. 18 deg. and 19 deg. 35 min., the chief hygienic peculiarity of which consists in the presence of conditions favorable to the production of malaria. Prof. Hirsch, however, (an abstract of whose report we have received,) states that the epidemic has raged in other parts of Germany besides Dantzic, and particularly in Pomerania and Silesia. It has also broken out in Bavaria, Hessia, Hanover, Brunswick, and, indeed, it may be said to have overrun all Germany.

The disease first appeared in February, 1864, in Bromberg, a town of 30,000 inhabitants, distant 100 miles from Dantzic. It prevailed as an epidemic until the middle of June, when it entirely disappeared. During this period 140 persons, chiefly children, were attacked, and about 50 died. At the end of 1864, or beginning of 1865, it reappeared in the department of Dantzic, and between the 2d of January and 21st of March, 1865, it proved fatal to nearly 900 persons, most of whom were children under fourteen years of age.

Dr. Sanderson's description of the disease is drawn from the notes of 56 cases which came under his observation. The disease commences suddenly with rigors, profuse vomiting, intolerable headache, and giddiness. After these symptoms have continued for several hours, the patient's thoughts become confused. The headache continues, while other pains fix themselves in the muscles of the nape of the neck, of the small of the back, or of the abdominal wall. After a few hours, the patient becomes violently delirious, while at the same time the head is thrown back, and the thighs are drawn up by muscular contractions. When the delirium has lasted for a few days, the patient, in the worst cases, lapses into profound insensibility, which continues until death. In a few rare instances he regains complete consciousness as the delirium ceases, and enters on convalescence. Much more frequently he is left on the third or fourth day of the disease, if he survives its first onset, in a state of extreme nervous depression, which is usually of long duration, and which is characterized by impairment of consciousness, perversion of both common and special sensibility, marasmus, and excessive muscular weakness. During this stage he frequently utters piteous cries of pain, and at night he usually sleeps little, and wanders quietly, and he is liable to a recurrence of the initial symptoms. As consciousness returns, the patient often finds that he has become paralyzed, or that his sight or hearing is destroyed; or, on the other hand, he may be so exquisitely sensitive that light and sound are intolerable, and all other external impressions painful.

Contraction of the muscles of the back of the neck is the symptom which has been regarded as the most distinctive characteristic of the disease, no less by scientific writers than by the vulgar. On this head Dr. Sanderson makes the following important observations:

"This symptom did not present itself in its acute stage, in any of the

cases, in the excessive form in which it has been described by some physicians. *No case came under my observation in which the contractions of the back of the neck were of such a character as to be correctly called tetanic.* It was almost always observed that the head was thrown backwards, and that the patient complained of agonizing pain in the nape and occiput; but on placing the hand on the trapezius it was generally found that, although any effort to straighten the neck was strongly resisted, and aggravated the sufferings of the patients, no tightness could be felt so long as the head was allowed to retain its retracted position. It was not till I attempted to straighten the neck that the muscles became hard, and even then *the hardness was not for a moment comparable with that which is felt in tetanus.* It is of the utmost importance to notice that there were some instances of patients whom I saw early in the first stage of the disease, (the day following the delirium,) in whom I could not detect a trace of retraction of the head, stiffness in the muscles, or anything else remarkable."

Dr. Sanderson, however, thinks it not improbable that in these cases the symptom was developed at a later stage.

No mention of the presence of cutaneous eruptions is made in the report; but, from the cases given in the appendix, an eruption of herpes on the face appears to have been not uncommon; and in one of the nine cases "petechial spots, not raised above the surface, each about an eighth of an inch in diameter, were seen in considerable number on the trunk, particularly on the belly." Prof. Hirsch, on the other hand, never met with well-developed petechiæ; but, in addition to herpes on the face, he witnessed, in a few cases, "some other eruptions in the shape of measles, or scarlatina, or roseola."

Dr. Sanderson had an opportunity of investigating the post-mortem results of cerebro-spinal meningitis in four cases, and Prof. Hirsch in a like number. In seven of the eight cases the pia mater of the brain and spinal cord was infiltrated with gelatinous or puriform exudation. It is a remarkable circumstance that the exudation covered the posterior surface of the cord, while the anterior surface was almost entirely free from it. It is also to be noted that the exudation was beneath the arachnoid, and not in its cavity; in this respect the lesion differed from what Dr. Kremiansky reports that he has found in the typhus fever of St. Petersburg. In one of Hirsch's cases there was no trace of exudation on the surface of the brain or cord, although the disease had lasted thirty-six hours, with the usual characteristic symptoms. Hirsch also mentions, on the authority of a trustworthy physician, another case in which no exudation was found, but he does not state the duration of the disease. The other morbid appearances were chiefly a dark fluid condition of the blood, hypostatic congestion of the lungs, and enlargement with softening of the spleen. In one of Dr. Sanderson's cases the spleen weighed no less than 1 lb. 7 oz., and was soft and hyperæmic. Enlargement with softening of the spleen, however, is not a constant phenomenon, and, according to the observations of Dr. Klebs, of Berlin, is chiefly found in cases of short duration. At the same time, it has been met with in so many cases that it is surprising how Dr. Niemeyer,* of Tubingen, can found a distinction between cerebro-spinal meningitis and such infectious diseases as typhus fever on the absence of any splenic lesion in the former malady.

---

* Die Epidemische Cerebro-Spinal Meningitis nach Beobachtungen im Grossherzogthum Baden, von Dr. F. Niemeyer. Berlin, 1865.

Dr. Sanderson's experience has led him to the decided opinion that the Dantzic epidemic is not communicable by personal intercourse, and for the following reasons:—1. No instance had been related to him where the disease had spread from the family first infected in any district. 2. The disease appeared simultaneously in the two districts of the department of Dantzic, which were eventually most severely visited, although they were distant thirty miles from each other. 3. In the populous *town* of Dantzic the total number of cases was inconsiderable; in no case were two persons attacked in one house, and there was no transmission of the disease from one patient to another in the hospitals. 4. Where more than two person were attacked in one family, the intervals between the attacks were so short that it could scarcely be supposed that there had been communication from one to another.

This opinion is shared by most of the medical men in Dantzic and its neighborhood. Dr. Marcuse, of Carthaus, however, is "strongly disposed to attribute the spread of the disease to contagion;" and Prof. Hirsch, writing of its communicability, says: "I do not venture to give a decided answer, though I must confess that I cannot deny it wholly."

The only local condition of importance which Dr. Sanderson could assign as the cause of the epidemic was malaria. He could not discover any relation between its prevalence and overcrowding, with deficient ventilation or want of house-drainage. On this head Prof. Hirsch writes: "Overcrowding, with bad ventilation, seems to me to be, although not the essential cause of the disease, a very powerful promoting cause of the epidemic."

As to treatment, the plan most commonly followed by the German physicians was the local abstraction of blood from the head, the application of cold, and the administration of calomel. After the initial symptoms had passed off, opium appeared to be of great use in allaying pain and inducing sleep.—*Lancet, July* 1, 1865.

2. *Cerebro-Spinal Meningitis.*

Dr. Niemeyer gives the following as results of fifteen autopsies of cases of the epidemic cerebro-spinal meningitis, made at Karlsruhe, Rastalt, and Freiburg.

The bodies were but little wasted. Rigidity lasted a long time. Herpetic vesicles were often seen on the face and other parts, and in a few cases petechiæ. The dura mater was congested. The large vessels of the pia mater, and often also the smaller vessels, were distended with blood. In the subarachnoid space there was serous or purulent effusion. In most cases the effusion was observed on the convexity of the hemispheres. The base of the brain and the upper surface of the cerebellum seem to have been attacked in all cases. The brain substance was congested and softened. In the ventricles was a little colored fluid, and in a few cases much purulent fluid. The vessels of the dura mater of the spinal cord were congested; the large veins were distended with blood. Under the dura mater was a large quantity of thick purulent fluid. The substance of the cord was softened, but not broken down. The lungs were congested. The lower part of the intestines was congested with a few ecchymoses of mucous membrane. In some cases the solitary and Peyer's glands were swollen.

Of the symptoms, severe headache was the most constant. Pain in

the neck and back soon followed the headache. Pressure on the spine increased the pain in many cases, but not in all. Pain in the extremities was not frequently observed. Hyperæthesia of the skin occurred in most cases. Tetanic spasms of the muscles of the neck and back were present in almost every case. Convulsions were rarely seen. Paralysis of different parts of the extremities was frequently present; hemiphlegia; in two cases, facial paralysis. There were great restlessness, jactitation, complaints of headache and delirium, often ending in coma. Deafness was frequent. Ptosis of one or both eyelids was frequently noted; so also diplopia. The pupils were generally contracted. The pulse was rapid; the respiration disturbed and interrupted, deep and sighing, then becoming rapid. The bowels were generally much constipated. In some few cases the urine was albuminous. On the skin were seen only a few patches of herpes, about the mouth chiefly. In one case, on the eighth day, was seen an exanthematous kind of urticaria; in many cases were scattered dark-colored roseola spots, which passed into petechiæ. Febrile symptoms attended the beginning of the fever. Generally, without any warning, the patient would have shivering, with great headache and sickness. The headache would rapidly increase, the patient becoming very restless; the pupils contracted; the pulse 80 to 100, and the respiration 30 to 40. The heat of the body was moderate. At the end of the first or second day, and seldom later, the head was drawn backwards, and the pain extended down the neck and the back. There was great restlessness; the abdomen was sunken; the patient had constipation, wanderings, and contracted pupils; the pulse and breathing became rapid. On the third and fourth days, tetanic spasms of the neck and back, sometimes with trismus; marked opisthotonos. Deep sopor, unconsciousness, and death, followed. In those cases which recover, the restlessness and all the symptoms diminish; and, if the case go on well, all signs of disease disappear in a few days, and then follows a long convalescence.

Dr. Niemeyer regards the symptoms of the disease as distinctly connected with purulent inflammation of the pia mater of the brain and spinal cord. As to the prognosis; of 126 cases observed at Rastalt between December and April, 38 died, or 30 per cent. At Rastalt, the treatment consisted of ice applied to the head and back; leeches behind the ears; and internally calomel; with the subcutaneous injection of morphia to relieve the restlessness and jactitation.

Dr. Zuelchaur, of Graudenz, gives, in the *Berlin Klinische Wochenschrift* of May 1st, his experience of cerebro-spinal meningitis. The disease (he says) has been epidemic at Graudenz for some weeks.

The patients (most of whom appear to have been children under fifteen years of age) are suddenly seized with great pain in the head, which sometimes remits, and then soon returns worse than before. The pain is seated chiefly in the fore part and top of the head. In children, sometimes, it is accompanied with unconsciousness. Sickness soon follows. A few hours later, pain comes in the nape of the neck, (and in one case preceded the headache,) so that the patient can no longer move the head freely; the head is drawn backwards, and at the same time the shoulders are drawn together, so that the patient, at first sight, appears to be the subject of spondyl-arthrocacia of the vertebræ of the neck. If any attempt be made to draw the head forcibly forwards, the greatest pain is felt in the neck. At the same time, the skin is hot, the cheeks of bluish-red color, and the pulse strong.

But, in very acute cases, the extremities soon become cold, the pulse weak and rapid, and then follow sopor and death. In the less acute cases, the symptoms are less rapid in progress, but still characteristic enough. In those who recover, the sickness ceases; but the headache often continues, with restlessness, etc., even when convalescence is far advanced. Convalescence is slow. In one case, complete deafness—evidently the result of effusion—remained. Another boy of fifteen remained unconscious several days during the height of the fever; and there is much doubt whether he will ever fully recover his senses. —*Brit. Med. Journal, June* 24, 1865.

3. *Pathological Changes in the Kidney in Albuminuria.*

M. Cornil, in a paper read before the Société de Biologie in Paris, gives the following conclusions:—1. Renal congestion is not sufficient for the production of albuminuria; there must also be an anatomical lesion of the epithelial cells of the uriniferous tubules. 2. This lesion of the epithelial cells—which is constantly found in albuminuria, however slight or transient—consists in a tumefaction of the cells, which are filled with granules, first of protein substance, afterwards of fat. This state of the tubes is met with both in transient and in permanent albuminous nephritis. 3. Temporary albuminous nephritis (*nephritis catarrhalis* of Virchow and Rosenstein) occurs very frequently in typhoid fever, in typhus, cholera, puerperal fever, erysipelas, etc. 4. Persistent or parenchymatous albuminous nephritis comprehends three forms. (*a*) Simple albuminous nephritis may supervene on the temporary form already mentioned, and differs from it only in the gravity and extent of the morbid changes: it begins with an enlargement of the cells, and ends in their complete transformation into fat-granules. This is the most frequent of all the lesions of the kidney which produce albuminuria. (*b*) Albuminous nephritis may be accompanied by fatty degeneration of the vessels (arteries, vessels of the glomeruli, and capillary network.) Although these lesions may coexist with simple albuminous nephritis, there are generally found, at the same time, commencing atrophy of the kidney and granulations in the cortical substance of the organ, produced by atrophy of the surrounding tubules, while the tubules and the glomeruli preserve their normal dimensions within the nodule. For the production of these granulations, nothing is necessary beyond an excessive formation of the cellular tissue of the kidney. (*c*) Albuminous nephritis, with so-called amyloid degeneration of the vessels, presents two varieties, the altered parts simply becoming brown on the addition of iodine and sulphuric acid, or passing through all the colors of the prism. This form sometimes succeeds the form (*a*,) of which it is only a complication. 5. Epithelial and hyaline cylinders are met with in large numbers in all cases of albuminuria; they may be found, but very rarely, in healthy urine. Hyaline cylinders, of waxy appearance and encrusted with fatty granules or covered with cells that are undergoing fatty degeneration, are only of value in the diagnosis of persistent or parenchymatous albuminous nephritis. 6. Fatty degeneration of the cells may be met with in the tubules, although there may be little or no albumen; this has been especially observed in cases of poisoning by phosphorus, and in severe icterus.—*Gazette Medicale de Paris, Nov.* 12, 1864.

4. *Pathology of Hydrophobia.*

In a course of lectures on hydrophobia, published by Dr. T. C. Shinkwin, from the manuscript notes of the late Dr. T. S. Holland, of Cork, the following conclusions are given:—1. No one of the morbid appearances that are stated to have occurred in autopsies made on persons who died of hydrophobia, nor all taken collectively, could produce the symptoms essential to that disease, and that it presents phenomena for which none of these pathological changes can account. 2. Hydrophobia can proceed to a fatal termination without leaving in the dead body any trace of diseased change. 3. All the pathological appearances hitherto recorded must be considered as secondary or accidental lesions, to none of which can be assigned the place of *the proximate cause*, which is still unknown. 4. From a consideration of the sudden, interrupted, intense, and rapidly fatal character of the symptoms, it appears highly probable that as the blood is the most generally diffused and rapidly circulating medium, it is the receiver of and agent through which the nervous system is acted on by the poison and excited by it to produce the symptoms characteristic of hydrophobia. 5. Presuming the correctness of the last conclusion, it follows from it that treatment should be directed to remove the altered condition of the blood, and that attention should in all future autopsies be directed to discover the physical, chemical, and microscopical changes occurring in it and in the nervous system. 6. If it be necessary to give this disease a nosological order, it should be placed among a series of affections that may be included under the general term of toxo-sanguineo-nervous diseases.—*Dublin Medical Press, May 17th*, 1865.

5. *On the Solvent Treatment of Urinary Calculi.*

This paper, by Dr. Roberts, (read before the Royal Medical and Chirurgical Society,) is divided into two parts. The first part is devoted to experiments and observations relating to the solvent treatment of uric-acid calculi by alkalizing the urine by internal medicines. The inquiry starts from two known data—namely: first, that uric acid is dissolved by solutions of the alkaline carbonates of a certain strength; and secondly, that alkaline carbonates can be introduced into the urine, so as to render it alkaline, by the administration of certain salts by the mouth. The practicability of dissolving renal and vesical calculi, composed of uric acid, by alkalizing the urine, is inquired into under ten headings or sections as follows:—Section 1. Comparison of solutions of carbonate of potash and carbonate of soda: in which it is shown that solutions of carbonate of potash are better solvents for uric acid than solutions of carbonate of soda. Section 2. Comparison of solutions of different strength: in which it is shown that the greatest solvent power (for uric acid) lies in solutions containing from forty to sixty grains of carbonate to the imperial pint. Above this strength dissolution is soon prevented by the formation of a crust of biurate which invests the stone. Below this strength the solvent power gradually declines. Section 3. Comparison of the effects of varying volumes of solutions of constant strength.—It is shown that the quantity of the solution permitted to pass over the stone, between the limits necessarily imposed by the capacity of the kidneys to separate aqueous fluids, is of slight importance. A flow of three or six pints during twenty-four hours was found nearly as effective as a flow of eight or

fifteen pints. Section 4. Absolute rate of dissolution of uric-acid calculi in solutions of the alkaline carbonates.—It is shown that solutions of carbonate of potash, of the maximum solvent power, when passed at the rate of from three to eight pints in the twenty-four hours over uric calculi, at the temperature of the body, dissolve from ten to twenty per cent. of the weight of the stone each day. Section 5. The most convenient way of alkalizing the urine, the degree of alkalescence which can be communicated to it, and the doses required to produce the desired effect.—The bicarbonate, acetate, and citrate of potash are found the most effective substances to alkalize the urine. Of the three the citrate is preferred. It is found that forty grains of citrate of potash dissolved in five ounces of water, taken every two hours, alkalizes the urine to a mean degree corresponding with the maximum solvent power of solutions of carbonate of potash. Section 6. The effect of alkalized urine on uric-acid calculi.—The urine of a person taking full doses of citrate of potash, as recommended in Section 5, is passed over a uric-acid calculus at blood-heat. The stone (weighing 180 grains) loses weight at the rate of twelve grains and a half in the twenty-four hours. In the performance of experiments on this point it came out that if the urine became ammoniacal (from decomposition of urea) it ceased to dissolve the uric acid, and the stone became invested with a crust of precipitated phosphates. Whence the important deduction is drawn, that ammoniacal decomposition of the urine in cases of vesical calculi puts an absolute bar to the effectiveness of the solvent treatment by alkaline carbonates. Section 7. Illustrations of the application of the solvent treatment in practice; first in renal calculi, secondly in vesical calculi.—Two cases of complete dissolution of uric-acid calculi in the bladder are quoted from other authors. The author relates three cases which occurred in his own practice. In none of the latter did complete dissolution occur. One of the cases proved to be an example of mulberry calculus; another, an alternating calculus of uric acid and oxalate of lime. This second specimen offers peculiarities of surface which indicate with certainty that dissolution of the uric acid had taken place; these peculiarities are explained by the aid of drawings of the stone after extraction. The third case proved abortive apparently because the treatment was not carried on sufficiently long. In neither of the cases was the treatment carried out as effectively (as the later experience of the author showed) as it might have been. The principal instruction from the cases is, the proof they offered that alkalizing the urine does not cause the stone to be encrusted with a phosphatic deposit, so long as ammoniacal decomposition of the urine does not take place. Section 8. Discrimination of the cases in which the solvent treatment is and is not applicable.—The conclusions come to are:—That the solvent treatment is inapplicable in all cases where the urine is ammoniacal. When the urine is acid (before treatment) the case is *prima facie* suitable for the alkaline solvent treatment; but exceptions must be made of cases where it is known or strongly suspected that the stone is composed of oxalate of lime, also where the stone is large. In cases where the urine is acid, and there is no indication of the nature of the stone, it may be either uric acid or oxalate of lime, or an alternating calculus composed of these two substances. Such cases deserve a trial of the solvent treatment for a limited period of a month or six weeks. The cases which are especially suitable for the solvent treatment are those in which (the urine being preliminarily acid) it is known or strongly suspected that the stone is composed of uric acid, and has not yet reached any lar o

size. Section 9. Directions for carrying out the solvent treatment effectually.—The urine must be kept continuously alkaline, and alkaline to a mean degree corresponding with the maximum solvent powers of solutions of carbonate of potash. The treatment must be given up immediately if the urine become ammoniacal. Section 10. An examination of some of the objections which have been urged against the principles of the solvent treatment.—The appendix to the first part contains some experiments showing that cystine is even more amenable to the alkaline solvent treatment than uric acid. The second part of the paper contains three sections. Section 1 contains experiments on the solvent treatment of uric acid calculi by injections into the bladder. Solutions of the following substances were tried in a manner to imitate injections into the living bladder:—Bicarbonate and carbonate of potash, common phosphate of soda, basic phosphate of soda, borax, borax with liquor sodæ, potash soap, carbonate of lithia, liquor potassæ, and liquor sodæ. The results obtained demonstrated conclusively that their operation was so slow that no practical advantage could be obtained from their use. Section 2 records some experiments on the effects of a solution of carbonate of potash and dilute nitric acid on oxalate of lime calculi; neither solvent promised any useful result. Section 3 shows the unsusceptibility of phosphatic calculi to solutions of the alkaline carbonates. Brodie's method of injecting dilute nitric acid into the bladder was imitated in one experiment, with results confirmatory of his statement respecting the use of this treatment in phosphatic concretions.—*Medical Circular, April* 12, 1865.

6. *Infantile Paralysis.*

Mr. William Adams mentioned (before the Harveian Society, London) that he had frequently had to treat cases of the above complaint, and that in some instances he had been able to restore the powers of locomotion, where it had long been supposed to have been irretrievably lost. Infantile paralysis comes on frequently during teething, and at the age of one or two years; both arms or both legs are paralyzed suddenly or in the course of a few hours, or only one limb may be affected. Sir B. Brodie used to say that, unless this paralysis is naturally recovered from in six months, it is hopeless. In three to six months there is usually the greatest amount of recovery from the paralysis, the rectus muscle of the thigh often being the last to recover. As to the pathology of this paralysis, Mr. Adams confessed he knew nothing of it. The most recent German writers on the disease attributed it entirely to the muscles: and, Rielliet and Barthez record only two post-mortems. In these, as well as in one made by Mr. Adams, no appearance could be made out to account for the disease. The children do not die of this disease, and thus the cause of this complaint is not investigated. If practitioners were aware of this fact, they would probably make the necessary examinations. It must be remarked, that natural recovery of the muscular power may go on from six months up to three or four years, during which time a series of events takes place—namely, contraction of all the joints. Mr. Wilkinson had lately brought a child to him, with great contraction of the knee-joints. The muscles surrounding the hip-joint are amongst the first to recover. A child was sent to him from Clifton, of the age of between six and seven, which had never stood. It had contraction of the joints, arms, legs, and trunk, and Mr. Adams was able to promise the parents that the child should walk in three months. Dr.

Brown-Séquard had requested Mr. Adams to see a young lady, aged seven, who had been crawling for more than three years, in consequence of paralysis of both legs, and in three months this child was able to walk with steel supports. If a child could use the psoas and iliacus muscles, it could be made to walk; and this was the practical test. It should be laid down on the floor, and if it can draw up its knees, success is certain. With regard to treatment, in the earlier stages of the disease, he had known counter-irritation down the spine to be used, but the chances were, that no treatment would do much good. When the child has paralysis with flaccid muscles, rubbing and warm clothing is of use. Galvanism of both legs under water is also useful, notwithstanding that many physicians and surgeons disparaged this remedy, and said that it had been tried and found valueless. He (Mr. Adams) used two tin boots filled with warm water, in each of which the little patient's leg is put and galvanism applied. Dr. Gull had written some valuable papers "On Galvanism," in the "Guy's Hospital Reports." The nutrition of the limb must, if possible, be kept up. Dr. Junod's boot, for exhausting the air, was once in much repute; but is now, perhaps, too much forgotten. A paralytic patient of his could always warm the paralyzed leg in ten minutes with this appliance. This apparatus has no bad effect, but is apt to get out of order. It is doubtless a most awful remedy in these and other cases. In many cases of paralysis of infants the rectus muscle remains paralyzed for life and the leg swings, but this can be compensated for by mechanical means, so as to enable the patient to walk.—*Ibid., April 19th*, 1865.

7. *Epilepsy.*

Dr. Camps read a paper (before the Harveian Society) on this subject, in which he defined epilepsy as a convulsive disease, accompanied by loss of consciousness. This disease usually appears with very short warnings, and sometimes with none at all. The fit lasts from a few minutes up to half an hour. Again, in a form named the "petit mal," there is only momentary loss of sensation and thought. This latter form of the disease had occurred in the case of a physician, a friend of the author. In the opinion of some authors, the "petit mal" is never recovered from. There is often before the invasion of an epileptic seizure a peculiar cry observed, and recently he (Dr. Camps) had, whilst passing through a country town, heard such a cry, which he had immediately attributed to its accompaniment, viz., a fit of epilepsy. Patients rarely die of the fit. Women, children, and weak persons are more frequently attacked by epilepsy than strong men; occasionally the disease is quite incurable; but we may hope that such cases may gradually be limited in number. The proximate cause of a fit resides in the nerves, and although pathological changes may be found after death, these are frequently mere coincidences. With regard to treatment of cases of epilepsy, we may sometimes prevent attacks coming on by tying ligatures on the limbs where we suppose the irritation to commence. Disturbed digestive functions may be the origin of the irritation, and epileptic fits may be produced by anything which irritates the nerve centres. Some patients are thrown into fits by the slightest thing, and in one case a needle placed on a female patient's hand caused fits. Any cause, indeed, disturbing either the body or mind, may give rise to an attack. We must then ascertain whether the disease is idiopathic or symptomatic in its char-

acter. If it be of the former class, the treatment must be chiefly hygienic. All things which cause fatigue or terror, or, in short, any unpleasantness, must as far as possible be avoided; and Celsus had indeed indicated long ago the correct principles of the treatment of such cases, and the diet and regimen they should be subjected to. The diet should be of the simplest character, and even articles like cheese and pastry might bring on an attack. Mince pies have been known to cause an attack. With respect to drugs, bromide of potassium and belladonna were the best, although sulphate and oxide of zinc used formerly to be much vaunted. Symptomatic epilepsy is more easily treated, and may often be cured. The cause of it may reside either in the intestines or in any part of the external or internal parts. There were no classes of cases of epilepsy so amenable to treatment as the syphilitic variety. In such cases iodide of potassium is the great remedy. Ganglionic epilepsy has also been spoken of. Summing up the whole of his paper, he (Dr. Camps) would say that we may reasonably expect a cure in epilepsy (1) when the primary cause is known and is removable; (2) when syphilis is the cause; (3) in the milder cases of idiopathic epilepsy.

Mr. Jakins had hoped that Dr. Camps would have given more hints as to the value of various drugs in epilepsy; but he had chiefly dwelt on hygienic means of treatment. This, he said, disappointed him. Spasm of the arteries of the brain was, he believed, the proximate cause of epilepsy. Irritation of the sexual organs was much benefited by bromide of potassium. A little female patient with fits had slept for years with her brother, and on being removed to another bed was much better.

Dr. Drysdale observed, that it was doubtful whether there was any true distinction between idiopathic and symptomatic epilepsy, both depending on a reflex construction, through the sympathetic nerve of the blood-vessels of the brain. According to Séquard, epilepsy seemed to consist essentially of an increased reflex excitability of certain parts of the cerebro-spinal axis, and a loss of the control which the will usually exercised over the reflex faculty. Even in what is called idiopathic epilepsy, some irritation may be found starting from some organ, such as the intestines, the uterus, the brain, the testicle, etc.; consequently *idiopathic* epilepsy merely means, as usual, that class about which we understand least, just as we speak of *idiopathic* tetanus. The epilepsy of children, called convulsion by some, eclampsia by others, was, as is well known, frequently recovered from; but, after the age of ten or thereabouts, it is unfortunately but too well known, that the majority of cases of epilepsy gradually lead the poor sufferers towards idiotcy or dementia and to death, although there are, fortunately, exceptions. He (Dr. Drysdale) must say that, notwithstanding the flood of light thrown on the subject of the causation and nosology of this disease by the illustrious Brown-Séquard and others, of late years, he too frequently saw cases of epilepsy which nether belladonna, nor ligatures, nor bromide of potassium, nor cautery, nor subcutaneous injections of morphia could alleviate, and which were, in fact, far better treated by expectancy and hygienic arrangements than by the tentative process which he had too often witnessed in similar cases. If a child has worms, they must be removed; if a patient complain of a persistent headache, a red-hot iron applied to the skin over the spot is indicated; if there be over-sensitiveness of any extremity of a nerve, the hypodermic injection of morphia or ligature may be tried; and if we suspect masturbation to be

the origin of fits, we may endeavor to cause the patient to leave off the habit, But, subtracting all these favorable cases, there was, he feared, a vast class of cases, either hereditary or otherwise, which no remedy could touch. Extract of belladonna had often seemed to him to protract the interval between fits. Bromide of potassium, again, had often failed in his hands; and although it was now so vaunted, it must be remembered that it was a new remedy, and although it cured so many in 1865, he feared that its fame would not be so great in 1870.

Mr. SEDGWICK thought that, in cases where the disease was hereditarily transmitted, there was little chance of doing much good by any remedies. It had been remarked that in the treatment of epilepsy all remedies did good *for a time;* and this probably took place by their action upon the imagination and *morale* of the patient. Bromide of potassium had been found to be very useful in treating certain cases, and he had found it do much good in one case in a young married woman.

Dr. HART VINEN had lately had two cases of epilepsy under his observation. One of these occurred in one of a family of nine children, all of whom had been attacked by epilepsy. The young lady was affectionate in disposition and rather of an erotic tendency, and he suspected uterine irritation. A gentleman who was considered an expert in this disease had been called in, and had promised her friends a cure by bromide of potassium; but this remedy had not performed any cure in this case. The second case he would mention was that of a young lady who was married at sixteen. After the birth of a child she had an epileptic attack, and many afterwards. The whole "Pharmacopœia" had been ransacked for remedies to no purpose. The slightest emotion would bring on one of the seizures, and the only remedy he had found to be of any service was warm baths, which certainly did the patient a great deal of good.

Dr. BROADBENT thought the plan of treatment was to find out, if possible, a functional cause of epilepsy. He had frequently seen much relief from belladonna, and one remark he thought important was, that if we used belladonna *much* of it should be given. He had seen some cases recover under belladonna. Bromide of potassium was also of great service in many cases. In syphilitic cases of epilepsy he had seen a cure effected by means of iodide of potassium, and another from bromide of potassium. In the case of a boy with fits, he was much benefited by belladonna, and bromide of potassium had cured him. He was convinced of this fact.

Dr. CAMPS attached great importance to belladonna and bromide of potassium, but thought that rigid attention to diet was of the greatest importance of all. Hereditary cases were certainly the most unpromising, but if we cannot cure, we may often alleviate such cases by means of belladonna and bromide of potassium. The treatment of epilepsy was becoming less and less empirical.

---

Dr. Guyon, of Paris, speaks in very high terms of the value of talc (silicate of alumina and magnesia) as an application to burns and suppurating wounds. It is very clean and soft, resists fermentation, and therefore opposes vegetation; is inoffensive, causes no pain, rapidly cleans the wound, and produces healthy granulations. It is also an excellent hemostatic.

# EDITORIAL.

— The disgraceful manner with which the advertising columns of nearly every newspaper, whether political or religious, is filled, has been, and still remains a reproach to the intelligence and morality of the age. It is not necessary for us to instance either the newspapers or the character of advertisements referred to. There is scarcely an exception among the former, and, as to the latter, the least said about them the better.

We are happy to record, however, that there are a few honorable exceptions to this general rule among the newspaper press. They do not all sell their souls and their consciences with their types.

We understand that recently, with the change in the proprictorship of the *Philadelphia Ledger*, the new administration commenced its management of that popular and influential daily with a refusal to admit any advertisement of the class mentioned within its columns.

We also learn from an exchange that a "new daily recently established in Chicago, under the editorial charge of Charles Dana, Esq., and styled the *Chicago Republican*, takes similar strong ground, and refuses admission to this class of advertisements."

This is the commencement of a new era in the management of newspapers, and we hope that we shall be able repeatedly to chronicle numerous additions, from among the daily press, of journals which have agreed to follow an example so well inaugurated by those already announced.

The same movement among the daily press has been for some time in progress in Great Britain, and so universal has it become, that but few influential journals now permit their pages to be sullied by the scurrilous and immoral advertisements which a few years ago monopolized a certain portion of these sheets.

We hope the new movement here will increase *pari passu* with the like movement abroad; and we trust the medical profession will not forget those honorable papers which have been the pioneers in this movement.

— The next Session of the Academy of Medicine will be full of interest, if the programme announced in the accompanying letter from the President, Dr. James Anderson, is fully carried out:

*To the Editor of the New York Medical Journal:*

Sir—The following papers will be presented and read before the

New York Academy of Medicine during the next term, which will commence September 20th, next, viz:

"Induction of Premature Labor," by George T. Elliot, M.D.

"Malpractice and Medical Evidence," by John Ordonneaux, M.D. Two papers.

"Cutaneous Respiration," by Wm. M. Thomson, M.D.

Papers and Views of the late George P. Cammann, M.D., on the following points, viz:

"1. Practical Suggestions on the Management of Phthisis Pulmonalis.

"2. Auscultatory Percussion and its Application.

"3. Measurement of the Heart in Health and Disease.

"4. Significance of Cardiac Murmurs."

Arranged and presented by James R. Leaming, M.D.

"Pathology of Pneumonia," by Alonzo Clark, M.D.

"Diagnosis and Prognosis of Insanity," by D. T. Brown, M.D.

The above papers will subsequently come up for discussion. Also, the following topics will be presented for discussion:

"Physiological and Therapeutical Action of Alcohol," by B. W. McCready, M.D.

"Chronic Metritis," by C. A. Budd, M.D.

There are other matters in preparation, of which due notice will be given.

Cases and scientific intelligence, as usual, will be presented and discussed from time to time.

I have deemed it proper to inform the Fellows of what will be presented for their reception and consideration, that they may be the better prepared to take such part in the discussions as shall be satisfactory to themselves.

If you will be so kind as to give this notice a place in your very valuable Journal for August, you will oblige,

Very respectfully your obedient servant,

JAMES ANDERSON, *President.*

—We have been requested to insert the following, which explains itself:

My attention having been called to a circular issued in this city by a man calling himself Professor E. S. Franks, Optician, in which over my name I am made to say, that the said Franks "has delivered an interesting lecture on the Anatomy of the Human Eye;" that "he is well acquainted with the subject," and "therefore, I recommend him." In order that my professional brethren may not be imposed

upon by this use of my name, I desire to say that I never heard him deliver any lecture; that I know nothing of his qualifications, and that I have, therefore, never recommended him; nor has he any authority for this use of my name.

FRANK H. HAMILTON,
64 *Madison Avenue, New York.*

*July 5th*, 1865.

WAR.—Dr. Chenu, Physician of the French Army, has just published and presented to the Imperial Academy of Medicine a large 4to volume, containing a report of the medical service of the army during the war in the Crimea, from 1854 to 1856. It appears from this work that the number of men killed in battle was 10,240; and of wounded, 34,606. Of this last number about 100 died in the hospitals in Turkey. But that was not the whole of the losses; we must take into account those who died of cold, cholera, typhus, scurvy, &c., and Dr. Chenu gives the following table of the losses experienced by the French Army in the East from the 1st of April, 1854, to the 31st of December, 1857, for many soldiers died after their return to France in consequence of wounds received or diseases contracted in the Crimea: Killed on the field of battle or missing, 10,240; lost in the Sémillante, 702; died of various diseases aud cholera before the battle of Alma, 8,084; died of cold, apoplexy, &c., before Sebastopol, 4,342; died in field and general hospitals to the 31st of December, 1857, 72,247; total, 95,615. The effective force sent by France to the East was only 309,264 men; consequently about one-third of them perished. It is to be remarked that as the number actually killed in battle or dead from wounds does not exceed 20,000 according to Dr. Chenu, disease alone carried off about 74,000 men, or one-fourth of the army. Dr. Cheuu attributes these enormous losses by disease to the feeble constitutions of a portion of the contingent. He says that many conscripts, totally unable to bear the fatigues of a campaign, are declared fit for service, but they no sooner join the army than they have to be sent to the hospitals.—*Galignani's Messenger.*

HOMŒOPATHIC MEDICINE.—Two children have been brought up at the Wisbech Police Court, charged with stealing several bottles of homœopathic medicine from the shop of Mr. Finnell. It was said in court that they had eaten the contents of more than twenty bottles without "being better or worse for it." The children were dismissed with a reprimand.—*Medical Circular, May* 10, 1865.

# NEW YORK

# MEDICAL JOURNAL,

A MONTHLY RECORD OF MEDICINE AND THE COLLATERAL SCIENCES.

SEPTEMBER, 1865.


## ORIGINAL COMMUNICATIONS.

*Removal of a Multilocular, Exogenous, Ovarian Tumor.* By GEORGE T. ELLIOT, Jr., M.D., Professor of Obstetrics and the Diseases of Women and Children in Bellevue Hospital Medical College; Obstetric Physician to Bellevue Hospital.

*Remarks.*—At the present time the duty of publishing all fatal cases of ovariotomy is imperative, for several reasons. The profession is justly apprehensive that the success of many very competent men has stimulated a reckless and ill-judged resort to a very dangerous operation, and that, while prominence is given to successful cases, those ending fatally are too often withheld from publication. Mr. Spencer Wells has lately expressed his apprehension that the operation "may still be ruined by the support of rash, inconsistent, thoughtless partisans, whose failures do not reflect so much discredit on themselves as on the operation which they have badly performed in unsuitable cases."

Many conservative and very competent men are now reconsidering their opposition to ovariotomy, and desire all the facts that they can obtain towards the adjudication of the great questions involved. Even in France, under the lead of Kœberlé, there seems a very strong probability that the operation

will never again receive the reprobation that was so lavishly bestowed in a comparatively recent debate at the Academy of Medicine in Paris.

Although there are generally one or more cases of ovarian tumors in the Obstetric Division of Bellevue, the present one was the first in which the various indications for ovariotomy were so fully combined as to make me willing to perform the operation; nor have I ever performed it in private practice, although it has occurred to me not only to have a voice in deciding upon an operation, but to have the whole responsibility of the decision.

I believe the case is proven to have been suitable for the operation; that everything was done for the patient's welfare that was possible, and that, without the supervention of diarrhœa, the result would have been successful. We were all surprised that her digestive system was as weak as it was, and, in spite of our careful cross-questioning, the first intimation that we received, was the vomiting of the large pieces of unchewed and undigested meat while under ether, and which must have lain in the stomach since the previous day. The occurrence of a heated term just after the operation was an unfavorable contingency.

In presenting the voluminous report of the case, I desire to acknowledge my obligations to Dr. Peaslee, who so kindly gave the patient the full advantage of his great experience; to my colleagues, Drs. A. B. Mott and J. W. S. Gouley, surgeons to the hospital, for the very thorough and masterly assistance that they gave me in the operation; but I particularly wish to record my testimony to the devotion and self-sacrifice displayed by my house physician, Dr. Everett, and his senior assistant, Dr. H. Lyle Smith, who relieved each other night and day at the bedside of the patient during the ten days that she lived after the operation, and who recorded personally every note of the case.

Jane Garry, aged 30, born in Ireland; domestic; single; virgin; was admitted to Bellevue Hospital May 16th, 1865.

The patient is short in stature, of spare form and lymphatic temperament, of cheerful disposition and regular habits, and, with the exception of an attack of continued fever, contracted

in Ireland ten years ago, has always enjoyed good health. No hereditary predisposition to disease reported in her family. Her father is living and well. Her mother died three years ago with ascites, after six months' illness.

*Previous History.*—The commencement of her present trouble began in May, 1864, at which time a tumor the size of a small egg was recognized in the lower part of the abdomen, occupying the left side. It could then be moved freely in all directions, and for the first few months caused comparatively little discomfort. Since that time, however, she has suffered considerably from pain of an intermitting character, shooting through the abdomen and down the thighs. About six months after its commencement, she consulted a physician, (Dr. Morrogh, of New Brunswick, N. J.,) who told her, to use her own language, that she had "a tumor, dropsy, and a rupture," and that medicine could be of no avail.

*Physical Signs.*—The abdomen is very much enlarged, and presents two distinct hernial protrusions, (epiplo-enterocele,) one at the umbilicus and the other about 1½ inches above, on the median line. These can both be readily reduced, but promptly return, and made their appearance soon after the abdomen began to enlarge. The abdominal parietes are very thin, and the veins upon its surface are not enlarged. Fluctuation can be distinctly seen and felt, indicating peritoneal effusion. The tumor, however, now fills the left side, and projects to a considerable extent into the right. There is a superficial wave of fluctuation over its surface from the ascites. The tumor is irregularly shaped, with knobby protuberances, with no fluctuation through the whole tumor. This growth is a little tender on pressure, and, by percussion, yields a dull sound, except in the track of the transverse colon and the central portion of the umbilical region.

| | |
|---|---|
| The girth of the abdomen at the umbilicus is | 41 inches. |
| From ensiform cartilage to umbilicus is | 10¾ " |
| From umbilicus to symphisis pubis is | 9¾ " |
| From right anterior superior spinous process of ilium to umbilicus | 10½ " |
| " left " " " " " " | 10½ " |

Upon vaginal examination, with the aid of the uterine sound, the uterus is found in its natural position, freely movable, and

in a healthy condition. Its cavity measures nearly three inches, and no discharge is seen issuing either from the uterus or vagina. The catamenia have been somewhat irregular, though natural in quantity, first making their appearance at the age of eighteen.

She rests poorly at night, sleep being disturbed by pains darting through the abdomen. Her mind is cheerful, and nothing abnormal is noticed in connection with her voice, pupils, or special senses. At the commencement of her illness she suffered frequently from nausea; but at present the digestive organs are reported to be healthy, except that the bowels are habitually constipated.

Examination of the chest discovers slight emphysema of the left lung, as indicated by extra resonance on percussion, diminished respiratory murmur, and prolonged expiration. There is no more difficulty of breathing than is to be accounted for by the limited action of the lungs, due to the emphysema and the diminished capacity of the thorax. She has also a slight cough, with very little expectoration. Rests best on the right side, and has always done so. The heart is healthy, and the pulse full and regular. The functions of the skin and kidneys are naturally performed. The urine is of a light amber color. Specific gravity, 1018. Presents no deposit, and, upon chemical and microscopical examination, furnishes neither albumen, sugar, nor casts.

*Diagnosis.*—A multilocular, exogenous, ovarian cyst, composed for the greater part of solid material, unconnected with the uterus, and free from inflammatory adhesions to the pelvic or abdominal walls, complicated with ascites, due to chronic peritonitis. No cause can be assigned for its development.

*Prognosis.*—It was the opinion of Dr. Elliot, and of the medical gentlemen (viz., Drs. Taylor, Barker, and Peaslee) by whom she was seen and examined, that, if left to itself, the tumor would produce death within three years at most; that its volume cannot be materially reduced by tapping, and that it presents the desirable conditions for ovariotomy.

*Operation, June 1st*, 1865.—The consultation having decided the tumor to be one suitable for removal, and the patient ask-

ing that the operation might be performed, Dr. Elliot proceeded to effect the removal of the cyst. (The whole affair, its dangers and its benefits, had been clearly and plainly laid before her by Dr. E., and she, of her own free will, chose and urged that the operation might be done.)

The patient entered the room arranged for the purpose, looking cheerful, and evidently in the most desirable condition. Placing *herself* upon the table and removing her dress, she remaining clothed alone in her chemise, a pair of blanket drawers made for the occasion, shoes and stockings, and the administration of the anæsthetic (Squibb's sulphuric ether) was begun at 1.55 P.M. precisely. It was given in the manner usually employed in Bellevue Hospital, viz., from a cone formed of heavy paper, covered and lined with a towel, and enclosing a sponge kept constantly saturated with the fluid. She yielded easily, rapidly, and without struggling, to its influence, though her breathing, after she was wholly under its effect, was somewhat irregular and labored. This duty was intrusted to Dr. H. Lyle Smith, (senior assistant in charge of the case.)

Before complete anæsthesia had been produced, her urine was drawn with a catheter, in quantity amounting to nearly 4 oz. Shortly after, she vomited the breakfast she had taken at about 10 A.M., and from which she had abstained till that hour, on account of religious motives, she not having had until then an interview with the priest. The matter ejected contained, moreover, large pieces of unmasticated meat, (beef,) which must have remained in the stomach since the day previous, as none was allowed her on the day of the operation. This was the only time vomiting occurred. The whole amount of ether used was a trifle less than 2 lbs. Dr. Elliot was assisted immediately by Drs. Mott, Goulcy, Peaslee, and Everett, (house physician in charge of the case,) and surrounded by the following gentlemen: Drs. Isaac Wood, Isaac E. Taylor, Lewis A. Sayre, John J. Crane, T. G. Thomas, Wm. H. Church, T. A. Emmet, F. H. Hamilton, Jr., Dr. Perry, J. B. Done; and of the house staff, Drs. Russ, B. Browncll, H. G. Piffard, J. W. Southack, Jr., E. G. Janeway, W. A. Lockwood, H. Eno, F. D. Edgerton, E. Farrell, A. L. Luaces, W. H. Birkhead, George Gamble, and R. Pell.

The first incision was made at 2.16 P.M., with a broad scalpel, in the median line, about midway between the umbilicus and symphisis pubis, over a hard projecting portion of the tumor. The room had been previously heated to between 90 and 100 degrees Fahrenheit, and was maintained at this temperature during the whole operation. The incision being made down to and through the peritoneum, of a size just sufficient to admit a number fourteen steel bougie, this instrument was introduced and moved freely about over the surface of the cyst, showing it to be entirely free from adhesions to the abdominal or pelvic walls, anteriorly or laterally. These particulars being fully ascertained and understood, the incision was carried downward in the same direction to the extent of three and a half inches. As the opening was enlarged, the fluid contained in the cavity of the peritoneum began to escape. As much as possible, however, was retained, by approximating the edges of the wound as the incision was enlarged.

Drs. Elliot and Peaslee then, alternately, introduced their hands into the abdomen, again verifying the diagnosis, that no adhesions existed, and at the same time recognized the situation, perfect mobility and freedom of the uterus. Dr. Elliot also discovered that a large portion of the tumor rested in the right iliac fossæ. The tumor, on the withdrawal of the hands, each time presented itself at the opening as a multilocular cyst. Still hoping to reduce its diameter, and enable the operator to remove it through the incision already made, two cysts, of moderate size, were deeply tapped, one of which contained a clear, colorless serum, running freely from the canula; while the other was found to contain a thick creamy substance, resembling the white of egg mixed with water. All this did not reduce the bulk of the growth, and it was deemed necessary to enlarge the incision, which was done upwards to the distance of one-half an inch. This not being found sufficient to admit of the removal of the tumor, it was again enlarged about one inch downward. Pressure was then applied to the tumor in such a way as to raise it upward, and by lifting, and rolling it from side to side, it passed, after distending the incision to its utmost capacity. At the time it was emerging from the abdomen, endeavors were made to close the

opening, so as not to allow the admission of air or any foreign body, which was successfully accomplished by Drs. Mott and Gouley. At 2.40 P.M. the tumor was entirely lifted out, and now the diagnosis of an "exogenous multilocular, ovarian cyst, with a short pedicle, not connected with the uterus, and entirely free from adhesion," was clearly proved. Its pedicle was found to be thin and flat, and not to exceed two inches in its long diameter. Its length was amply sufficient. A three strand white silk double ligature, well waxed, was passed through its base with an awl-shaped needle, and tied in both directions; and the peduncle was cut. No hemorrhage followed. As the tumor and fluid were removed, the respiration did not become as much embarrassed as was feared; in fact, the relief of the distension enabled the anæsthesia to be urged. The patient was then rolled upon her right side, and the remaining fluid, together with some flakes of lymph, allowed, as far as possible, to flow out. On replacing her, the air was heard to enter the abdomen, although the edges of the cut were held. At this time she seemed much weakened, though her pulse was good and regular, and respiration somewhat labored. Upon placing her again in the supine position, additional serum and flakes of lymph were pressed out and removed by the hand. No sponge was introduced into the cavity of the abdomen. The ligatures were then cut close to the stump of the pedicle, and the whole returned into the peritoneal cavity. The incision, five inches in length, (longer superficially than the opening through the peritoneum,) was brought together with nine deep and three superficial silver-wire sutures, so introduced that, when drawn tight, the *two surfaces* of the *peritoneum* were in apposition.

During the whole operation not an ounce of blood was lost. Immediately after the operation, her pulse counted 120 per minute, full and strong. Respiration, 28 per minute; condition, good; extremities warm, and no symptom of collapse followed. The whole operation, from the time of the first incision till the last ligature was cut, occupied just one hour. Immediately after the wound had been closed, she was removed from the operating table to her bed, the blanket drawers, shoes and stockings being at the same time taken off; a piece of muslin of

several thicknesses, wrung out of hot water, was then laid over the abdomen, and covered with a layer of oiled silk, and the whole retained in place by a bandage of red flannel of double thickness and nearly twenty inches wide. No stimulants were given after the operation. The tumor weighed 7 lbs.; greatest circumference was 25 inches; smallest, 21 inches.

In order that the patient might be removed as far as possible from all septic influences, it was decided to perform the operation and treat her without the hospital. For this purpose, a large vacant room in an out-building on the hospital grounds was prepared for the patient. Its length was forty-one feet; width, fifteen feet; height, nine and a half feet. It was lighted by six windows, and could be heated by steam. During the after-treatment of the case at least two windows were left open night and day.

June 1st, 1865.—5 P.M., pulse 106; resp. irregular; Sol. Morphia (Mag.) gtt. x; complains of some pain over abdomen. 6 P.M., pulse 106; resp. irregular; Sol. Morphia (Mag.) gtt. xv; condition same. 6.15 P.M., pulse 106; resp. irregular; McMunn's Elixir, gtt. xl; condition same. 6.45 P.M., pulse 106; resp. irregular; McMunn's Elixir, gtt. xl; condition same. 7 45 P.M., pulse 106; resp. irregular; McMunn's Elixir, gtt. xl; condition same; urine drawn at 7 P.M., in quantity ℥v. 8 P.M., pulse 126; resp. 40; McMunn's Elixir, gtt. xl; is quiet, lies with legs drawn up. 8.30 P.M., pulse 120; resp. 33; McMunn's Elixir, gtt. xl; still complains of pain; is drowsy. 9 P.M., pulse 120; resp. 22; McMunn's Elixir, gtt. xl; still complains of pain; is drowsy. 10 P.M., pulse 120; resp. 24; has slept for three-quarters of an hour, respiration free, legs extended. 10.30 P.M., pulse 135; resp. 20; patient roused a little, but no complaints of pain; skin warm and moist; falls asleep easily. 12 P.M., pulse 132; resp. 18; food, beef tea and milk gruel; pulse weak; says she "feels good."

June 2d.—12 30 A.M., pulse 132; resp. 25; McMunn's Elixir, gtt. xx; is a little restless, pupils natural, abdomen becoming tympanitic, tongue moist. 1.30 A.M., pulse 120; resp. 20; food, beef tea and milk gruel; sleeps most of the time, other conditions same, urine drawn, in amount ℥vi. 2.30 A.M., pulse 110; resp. 18; the nourishment taken an hour ago has been vomited; subsequently ate lightly of milk gruel, which has as yet not been thrown off; is quiet and sleeps easily. 2.45 A.M., pulse 110; resp. 22; McMunn's Elixir, gtt. xx; is becoming restless, and complains of slight pain; has also some cough. 3.45 A.M., pulse 114; resp. 20; food, milk gruel; has slept uninterruptedly for the last hour, skin moist, complains of feeling weak. 4.45 A.M., pulse 114; resp. 18; food, milk gruel; no change. 5 A.M., pulse 114; resp. 18; McMunn's Elixir, gtt. xx; food, milk gruel; awoke complaining of pain over abdomen. 6 A.M., pulse 108; resp. 18; food, milk gruel; complains of great thirst, has not slept much during last hour. 8 A.M., pulse 112; resp. 18; McMunn's Elixir, gtt. xx; is restless, dressings changed, no sign of inflammation around the wound, four ounces urine

drawn at 7 o'clock. 10.30 A.M., pulse 106; resp. 24; has slept soundly for the last two hours, complains of pain only in lumbar region. 11 A.M., pulse 106; resp. 22; McMunn's Elixir, gtt. xx; food, milk gruel and milk; no change. 1.30 P.M., pulse 106; resp. 20; McMunn's Elixir, gtt. xl; complains of some pain in the abdomen, respiration abdominal and thoracic, urine drawn 4 oz., vomited. 3 P.M., pulse 106; resp. 22; food, milk; is asleep. 5 P.M., pulse 116; resp. 20; food, milk; face slightly flushed, tongue furred, is very cheerful. 7 P.M., pulse 114; resp. 28; McMunn's Elixir, gtt. xxx, Aqua Calcis; complains of pain, urine drawn 2½ oz., vomited at 7½ P.M. all nourishment taken for the last few hours. 8 P.M., pulse 110; resp. 20; McMunn's Elixir, gtt. xl; dressings changed, wound looks well, abdomen tympanitic. 9.30 P.M., pulse 112; resp. 22; McMunn's Elixir, gtt. xl; is doing well. 11 P.M., pulse 112; resp. 22; McMunn's Elixir, gtt. xx; food, milk gruel; awoke with pain in abdomen.

June 3d.—1 A.M., pulse 112; resp. 20; has been very wakeful during the last hour and talkative, urine drawn, dark red, quantity 2½ oz., no albumen. 2½ A.M., pulse 117; resp. 22; McMunn's Elixir, gtt. xl; has vomited apparently every thing taken into the stomach for a few hours past; has some pain. 3 A.M., pulse 117; resp. 22; Sodæ Hypo-sulph, gr. xv; vomited immediately after taking the medicine; matters vomited are very acid and of a turbid, yellow color; repeated soda after vomiting, and patient has fallen asleep; lies with legs extended. 5 A.M., pulse 120; resp. 20; McMunn's Elixir, gtt. xl; is very restless, constantly calling for a drink, (bits of cracked ice are frequently given instead of water,) respiration free, is inclined to turn over on her side. 6 A.M., pulse 120; resp. 20; Tr. Aconit. (Fleming's) gtt. v; has slept for the last hour, says she feels weak, vomited at 6½ A.M. 7 A.M., pulse 120; resp. 20; McMunn's Elixir, gtt. xl; is inclined to sleep, but, upon being questioned, says she has pain; referred principally to the lumbar region; tympanites has increased, *and gurgling in the intestines can be heard by those standing by the bed;* tongue dry and coated, urine drawn 3 oz. 7.30 A.M., pulse 120; resp. 20; Sodæ Hypo-sulph, gr. xv.; no change. 8 A.M., pulse 120; resp. 22; McMunn's Elixir, gtt. xl; whisky ℥i; is awake, dressing changed, wound presents same appearance, vomited after taking the stimulus, pulse weak. 9 A.M., pulse 118; resp. 20; Codeine, gr. ss; no change. 11 A.M., pulse 114; resp. 26; whisky ℥i; feels and appears much better, talks cheerfully. 1 P.M., pulse 112; resp. 22; Codeine, gr. ss; food none; has slept for some time, complains of pain only on motion. 2 30 P.M., pulse 120; resp. 20; Codeine, gr. ss; food, four spoonsful milk gruel; whisky ℥i; seen to-day by Dr. E. R. Peaslee, who thought her condition highly satisfactory. 5 P.M., pulse 122; resp. 17; med. none; food, four spoonsful milk gruel; brandy ℥i; is sleeping. 7 P.M., pulse 120; res. 50; Tr. Aconit. (Fleming) gtt. v; food, 4 spoonsful milk gruel; brandy ℥i; has been asleep for two hours; as the patient suffers greatly from dryness of the mouth, she is allowed to wash the mouth frequently with a solution of Soda Bicarb., (℥i to ℥viii,) very much to her relief; urine drawn ℥iiss, dark in color. 9 P.M., pulse 106; resp. 16; med. none given; food, four spoonsful milk gruel; brandy ℥i; dressings changed at 8 P.M., wound looks as if united by first intention, tympanites is diminishing, *gurgling heard in intestines*, pulse stronger, no pain, has not vomited since 8½ A.M., ice frequently given, complains of pain and dryness of mouth.

June 4th.—1 A.M., pulse 116; resp. 16; Codeine, gr. ss; food, four spoonsful milk gruel; brandy ℥i; has been very restless during the last hour, complains

of pains shooting up the left side of abdomen; urine drawn, ℥ii. 3.30 A.M., pulse 120; resp. 20; Codeine, gr. ss; food, four spoonsful milk gruel; has slept a little while, but upon waking made mention of considerable pain; pulse full; says she is very warm, but skin is not unnaturally hot; very thirsty; lies with legs extended. 5.30 A.M., pulse 110; resp. 20; food. four spoousful milk gruel; braudy ℥i; has no pain, is very cheerful. 7.30 A.M., pulse 105; resp. 20; food, four spoonsful milk gruel; brandy ℥i; "*feels good*," dressings of abdomen changed, wound looks well, no discharge, tympanites subsiding, urine drawn ℥vi, very little darker than natural; no albumen. 9.30 A.M., pulse 103; resp. 20; food, six spoonsful milk gruel; braudy ℥i; feels and appears much better. 11 A.M., pulse 102; resp. 18; food, five spoonsful milk gruel; brandy ℥i; *when not watched turns over on her side*, has done so several times this morning; pulse is good in character, tongue moist. 2 P.M., pulse 102; resp. 20; food, six spoonsful milk gruel; braudy ℥i; condition same as at last report; urine drawn ℥iv. 5 P.M., pulse 102; resp. 20; food, eight spoonsful milk gruel; brandy ℥i; makes no complaint, *fans herself*. 7 P.M., pulse 102; resp. 20; food, eight spoonsful milk gruel; brandy ℥i; as at last report; urine drawn ℥iv. 9 P.M., pulse 98; resp. 20; food, eight spoonsful milk gruel; brandy ℥i; lies quiet, and sleeps most of the time. 12 M., pulse 106; resp. 20; Codeine, gr. ss; food, eight spoonsful milk gruel; brandy ℥i; has been restless during the last two hours; urine drawn. ℥ii.

June 5th.—1 A.M., pulse 108; resp. 20; Codeine, gr. ss; is very restless, complaining of pain in the wound; temperature of the room 82 degrees Fahr. 2 A.M., pulse 108; resp. 20; Sodæ Hypo-sulph. gr. xv.; food, eight spoonsful milk gruel; brandy ℥i; as at last report. 4 A.M., pulse 100; resp. 20; food, four spoonsful milk gruel; brandy ℥i; has been asleep. 7 A.M., pulse 104; resp. 24; Sodæ Hypo-sulph, gr. xv; eight spoonsful milk gruel; brandy ℥i; dressing changed, wound looks well, urine drawn ℥iv, no albumen, is very quiet and cheerful; says she passed wind through her bowels yesterday. 10.30 A.M., pulse 98; resp. 30; Codeine, gr. ss; eight spoonsful milk gruel; brandy ℥i.; complains of pain on being questioued, pulse full. but easily compressed; uses the fan herself. 12 M., pulse 103; resp. 28; Sodæ Hypo-sulph., gr. xv; eight spoonsful milk gruel; is inelined to sleep, temperature of room 88 Fahr. 2 A.M., pulse 100; resp. 24; Supposit. opii, 1 gr; eight spoonsful milk gruel; brandy ℥i; urine drawn ℥vi., becoming lighter in color. 5 P.M., pulse 106; resp. 26; four spoonsful milk gruel; brandy ℥ij; is quiet; Drs. Alonzo Clark and E. R. Peaslee visited the patient to-day, aud thought the prognosis extremely favorable. 7 A.M., pulse 100; resp. 30; Codeine, gr. ss; Sodæ Hypo-sulph. xv.; six spoonsful milk gruel; braudy ℥ss; has been complaining of pain; uriue drawn ℥iv; dressing ehanged; tympanites again inereasing. 9 P.M., pulse 110; resp. 26; six spoonsful milk gruel; brandy ℥ij; no ehange. 12 M., pulse 108; resp. 24; Codeine, gr. ss; is restless, has slept none to-night.

June 6th.—2 A.M., pulse 112; resp. 25; Supposit. opii, 1 gr; Sodæ Hypo-sulph. gr. xv; seven spoonsful milk gruel; brandy ℥ij; urine drawn ℥iv., dark red; tongue coated and dry. pulse full and strong, thermometer stands at 76 Fahr. 4 A.M., pulse 112; resp. 25; eight spoonsful milk gruel; brandy ℥ij; condition same, has not slept any. 6 30 A.M., resp. 26; Codeine, gr. ss; eight spoonsful milk gruel; braudy ℥ij.; complains of pain ou being questioned; says it hurts her to turn in the bed, and is inclined to lie with legs flexed;

tympanites has increased since yesterday; dressings changed, and pus was found at several points on the compress, where it touched the wound, coming from the superficial sutures. 8 A.M., pulse 120; resp. 30; Sodæ Hypo-sulph. gr. xv; Codeine, gr. ss; food, eight spoonsful milk gruel; is inclined to sleep; does not care to turn over on the side as before, on account of causing pain; lies with legs flexed and extended alternately; long abdominal respiration without pain, urine drawn ℥iv. 10 A.M., pulse 118; resp. 24; Codeine, gr. ss.; Tr. Aconit., gtt. iij.; food none; not so much pain, but still hurts her to move; is very thirsty. 12 M., pulse 120; res. 24; McMunn's Elixir, gtt. xl.; Sodæ Hypo-sulph. grs. xv.; 8 spoonsful milk gruel, brandy ℥ij.; pain is subsiding; lies with legs flexed. 1 P.M., pulse 120; resp. 29; McMunn's Elixir, gtt. xl.; Tr. Aconit., gtt. iij.; vomited soon after taking the medicine; the matter thrown off being very acid, gave her sodæ bi-carb.; urine drawn, ℥iv., same color, no albumen. 1.30 P.M., pulse, 120; resp. 22; Codeine, gr. ss.; Supposit. opii, gr. j.; suffered from nausea after taking medicine. 3 P.M., pulse 120; resp. 20; brandy ℥ij.; nausea continues; repeated sodæ bi-carb; later, vomited a large quantity of yellow and very acid matter; removed the upper superficial and the second deep sutures, replacing them with adhesive plaster. 4 P.M., pulse 120; resp. 20; Sodæ hypo-sulph. gr. xv.; has rested quietly for the last hour. 5 P.M., pulse 122; resp. 26; Sodæ bi-carb., ℥i.; Tr. Nucis Vomicæ, gtt. v.; brandy ℥ij.; feels somewhat better since the vomiting; allowed small bits of ice frequently. 7 P.M., pulse 120; resp. 20; Sodæ bi-carb.; brandy, ℥ij.; has vomited again; urine drawn ℥iv. 10 P.M., pulse 118; resp. 18; brandy, ℥iss.; is quiet; no signs of recurring vomiting; says she is weak. 11 P.M., pulse 118; resp. 18; food, one yolk of egg, brandy, ℥iss.; no change.

June 7.—1 A.M., pulse 116; resp. 16; food, one yolk of egg; brandy ℥iss.; is quiet, takes nourishment readily, makes no mention of pain, lies with legs extended, tongue moist, urine drawn, ℥iv., of acid reaction; no albumen. 2 A.M., pulse 118; resp. 20; supposit. opii, gr. i.; one yolk of egg; brandy ℥ij.; no change. 4.30 A.M., pulse 114; resp. 20; codeine gr. ss.; condition same. 5.30 A.M., pulse 112; resp. 18; one yolk of egg; brandy ℥ii.; there has been no further attempt at vomiting; has slept most of the time for the last three hours; makes no mention of pain, but upon being asked says she suffers a little all the time; thermometer is at 74 Fahr. 6.30 A.M., pulse 112; resp. 18; sodæ hypo-sulph. gr. xv.; brandy ℥ii.; no change. 7 A.M., pulse 106; resp. 20; codeine, gr. ss.; one yolk of egg; brandy ℥ii.; feels better this morning; lies quiet; no signs of vomiting; tympanites has subsided very much during the night; urine drawn, ℥vi. 10 A.M., pulse 108; resp. 20; one yolk of egg; brandy ℥ij.; is inclined to sleep. 11 A.M., pulse 108; resp. 20; sodæ bi-carb. ℥j.; brandy ℥ij.; has vomited again; the matters vomited were sour, and consist of the egg taken for the last eight hours; is getting exacked ice frequently; urine drawn, ℥v.; dressings changed, suppuration along the whole line of sutures. 1 P.M., pulse 118; resp. 20; supposit. opii, 1 gr., codeine, gr. ss.; brandy ℥ss.; suffers still from nausea; has some pain in abdomen; has turned over on left side. 3 P.M., pulse 120; resp. 20; sodæ hyp. sulph. gr. xv.; brandy ℥ij.; Drs. Alex. B. Mott and J. W. S. Gouley visited the patient to-day, by Dr. Elliot's request, and expressed themselves much pleased with the progress of the case, and advised not to remove the remaining sutures; Dr. Alonzo Clark had also been invited to see her, but as she was doing so well Dr. Elliot no-

tified him that the visit would be unnecessary. 5 P.M., pulse 120; resp. 20; stim. brandy ℥ij.; has been asleep. 8 P.M., pulse 124; resp. 20; codeine gr. ss.; food none; brandy ℥ij; *got out of bed to get a drink of water while the nurse's attention was averted;* urine drawn, ℥iv. 9 P.M., pulse 124; resp. 20; Sodæ hyp. sulph. gr. xv.; is very restless; complains of pain. 10 P.M., pulse 124; resp. 20; Codeine gr. ss.; brandy ℥ij.; condition same. 10.30 P.M., pulse 124; resp. 20; Codeine gr. ss.; urine drawn, ℥iv.

June 8th.—12.30 P.M., pulse 118; resp. 16; aquæ calcis ℥vi.; half yolk egg, half tumbler milk; brandy ℥ij.; has been quiet for the last hour and a half, says she is free from pain, but feels weak. 3.30 A.M., pulse 120; resp. 18; Sodæ hypo-sulph. gr. xv.; brandy ℥ij.; same; thermometer 74½ Fahr. 4 A.M., pulse 120; resp. 18; codeine gr. ss., tr. aconit. gtt. iij., supposit. opii gr. i.; vomited immediately after taking the medicine; matters vomited were very acid; gave sodæ bi-carb. 5 A.M., pulse 120; resp. 18; codeine gr. ss., tr. aconit. gtt. iij.; medicine is again thrown off; *complains a good deal of gurgling in the bowels, and has passed wind several times during the night;* has turned over on the left side; urine drawn, ℥iv., acid; no albumen. 5 30 A.M., pulse 120; resp. 18; brandy ℥ij.; no recurrence of vomiting; *while sleeping her bowels moved very freely;* matters passed were diarrhœal in character; thin, yellow and abundant. 6.30 A.M., pulse 120; resp. 20; McMunn's Elixir gtt. xl.; lies quietly on her back; no complaint; dressings changed. 7.30 A.M., pulse, 120; resp. 20; McMunn's Elixir, gtt. xl.; supposit. opii., gr. i.; brandy. ℥ij.; has had another passage from the bowels while awake; feels better since the bowels have moved; is free from pain. 9 A.M., pulse, 120; resp. 20; tr. nucis vomicæ gtt. v.; supposit. opii gr. i.; repeated suppository after the passage from bowels; food, milk, ℥i., aquæ calcis; brandy, ℥ij.; has had another passage of the same character as preceding ones, which was repeated at 9½ A.M.; applied a blister to epigastric region at 9½ A.M.; size, 2x3. 11.30 A.M., pulse 120; resp. 20; med. supposit. opii, gr. ij.; food, two spoonsful milk gruel; milk, ℥iss.; aquæ calcis; brandy. ℥ss.; no further movement of the bowels; has no pain, but feels very weak. 12.30 P.M., pulse, 118; resp. 16; med. supposit. opii. gr. i; food same; brandy. ℥ij; condition same. 2.30 P.M., pulse, 118; resp. 16; med. one teaspoonful of following—camphor. ℥iiss., tinct. capsici, ℥i., spts. menth. virid., gtt. xx., aquæ qs. ad. ℥ij.; had a very small passage from the bowels of same character as before; is suffering from nausea at present. 3.30 P.M., pulse 118; resp. 16; supposit. opii. gr. ij.; four spoonsful milk gruel, milk, ℥iss. aquæ calcis; brandy, ℥ij.; passed urine herself; blister dressed with a poultice. 4.30 P.M., pulse 118; resp. 16; bismuth. carb. (Squibb's) gr. xv.; patient expressed herself (unquestioned) as feeling very much better than in the morning, both as regards strength and pain. 5 P.M., pulse 118; resp. 16; repeated mixture of 2.40 P.M.; has just had a movement of bowels; says, "I feel a great deal better than I did this morning, twice better." 7 P.M., pulse 120; resp. 18; supposit. opii. gr. ij.; five spoonsful milk gruel, milk, ℥iss., aquæ calcis; brandy ℥ij.; has had another passage; also passed urine at the same time. 8 P.M., pulse, 120; resp. 18; supposit. opii. gr. ij.; an anæmic murmur was to-day discovered at base of the heart. 9 P.M., pulse 120; resp. 18; repeat mixture of 2.30 P.M.; supposit. opii. gr. ij.; another passage in character as before; urine voided at same time. 10 P.M., pulse 124; resp. 16; bismuth. carb. (Squibb's) gr. xv.; milk gruel, as at 7 P.M.; brandy,

℥ij.: is restless. 11 P.M., pulse 124; resp. 15; supposit. opii, gr. ij.; brandy, ℥ij.; another passage; speaks of being very weak; takes nourishment readily, and retains it well. 12 P.M., pulse 124; resp. 16; food as at 7 P.M.; brandy, ℥ss.; is growing weaker; lies on back, and sinks down in the bed; makes complaint of hunger.

June 9th.—1.30 A.M., pulse 124; resp. 16; supposit. opii. gr. ii; brandy ℥ij.; bowels again operating; less in quantity, though same in color and consistence. 2 A.M., pulse 124; resp. 16; med. the same; had a very small passage, same in character. 2.30 A.M., pulse 124; resp. 16; med. the same; has just vomited; matters very sour and coagulated, smelling of camphor. 3 A.M., pulse 124; resp. 16; med. the same; brandy ℥iij.; has had another small passage and vomiting repeated. 4 A.M., pulse 122; resp. 16; bismuth. carb., (Squibb's,) gr. xv., supposit. opii gr. ij.; food, as at 7 P.M.; brandy ℥ij.; has vomited again. 5 A.M., pulse 120; resp. 16; supposit. opii, gr. ij.; brandy ℥ij.; has been asleep. 6 A.M., pulse 120; resp. 16; the same; brandy ℥ij. 7 A.M., pulse 120; resp. 16; food, as at 4 A.M.; brandy ℥ij. 8 A.M., pulse 120; resp. 15; supposit. opii, gr. ij.; food, as at 4 A.M.; brandy ℥ij.; has just had a very abundant passage, of same character as previous ones; is inclined to sleep; dressings changed; 5 deep and 2 superficial sutures removed, and replaced with adhesive plaster. 9.30 A.M., pulse 120; resp. 15; supposit. opii, grs. ij., liq. ferri pernitratis, gtt. xv.; had a very small passage, which was repeated at 10 A.M. 10.30 A.M., pulse 120; resp. 16; liq. ferri pernitratis gtt. xv.; food, milk ℥ij., aquæ calcis. 11 A.M., pulse 130; resp. 16; liq. ferri pernitratis gtt. xx., supposit. opii gr. ij.; food the same; brandy ℥ij.; had another moderate-sized passage of the same consistence, but darker colored and fœtid. 12 M., pulse 130; resp. 16; liq. ferri pernit. gtt. xv., bismuth. gr. xv.; milk ℥ij., 6 spoonsful milk gruel, aquæ calcis; brandy ℥iij.; two passages since last record. 1 P.M., pulse 130; resp. 16; supposit. opii gr. ij., liq. ferri per nit. gtt. xx.; has just had a very abundant passage; repeated at 1.30 P.M. 2 P.M., pulse 130; resp. 16; liq. ferri per nit. gtt. xx.; food, milk ℥ij.; brandy ℥iij.; bowels have moved again, vomited since the last record. 3 P.M., pulse 120; resp. 16; food, 4 spoonsful milk gruel, milk ℥ij., aquæ calcis; brandy ℥iij.; another passage of moderate size. 3.30 P.M., pulse 132; resp. 16; pil. opii gr. i.; brandy ℥iv.; another passage of moderate size; is growing rapidly weaker. 4 P.M., pulse 132; resp. 16; two spoonsful milk gruel, milk ℥ij.; brandy ℥iv.; vomited soon after taking brandy; was then removed from the room in which the operation was performed to a ward in the hospital, (12;) temperature of the ward 82° Fahr. 5 P.M., pulse 136; resp. 16; pil. opii, gr. ii., enema, ex. opii, aq. gr. ii.; food, two spoonsful milk gruel; brandy ℥ij. 5.30 P.M., pulse 136; resp. 22; brandy ℥ss.; lies with her legs flexed; says it pains her to have them extended. 6 P.M., pulse 136; resp. 22; pil. opii, gr. ii., enema ex. opii aq. gr. ii.; food none; just had a dark fœtid passage, very large. 6.30 P.M., pulse 140; resp. 18; brandy ℥ss.; another passage; is inclined to sleep; slight subsultus tendinum. 7 P.M., pulse 140; resp. 18; pil. opii, gr. iv., enema ex. opii, gr. ii.; another passage and vomiting; subsultus as before; is restless, rolling about in bed; *no complaint of pain.* 8 P.M., pulse 140; resp. 18; brandy ℥ss.; vomited before taking the brandy. 8.30 P.M., pulse 136; resp. 20; pil. opii, gr. ii., enema ex. opii, gr. ii.; vomited after taking pills. 9.30 P.M., pulse 146; resp. 22; pil opii, gr. iv.,

enema ex. opii, gr. ii.; has had one passage since 7 P.M., and vomited since last record; pulse very small and weak; subsultus increasing; wanders in sleep; upper extremities becoming cold; takes a small quantity of brandy every few minutes. 11 P.M., pulse cannot be counted; resp. 22; pil. opii. gr. ii.; food none.

June 10th.—1 A.M., pulse cannot be counted; resp. 20; med. pil. opii, gr. ij.; is continually endeavoring to get out of bed; has had several small passages from the bowels during the last two hours; brandy continued as before. 2 A.M., pulse same; resp. 20; is failing rapidly; pulse scarcely perceptible at the wrist; lower extremities becoming cold, and complains herself of feeling cold. 2.30 A.M., pulse same; resp. 20; pil. opii, gr. ii.; is failing rapidly. 3.30 A.M., pulse same; resp. irregular; pil. opii, gr. ij.; delirium is becoming more active; bowels move every few minutes; skin covered with a cold, clammy sweat. 5 A.M., pulse same; resp. irregular; med. same. 6.08 A.M., pulse same; resp. irregular; med. none; food, none; pulse ceased at the wrist. 6.30 A.M., pulse same; resp. irregular; med. none; food none; patient is moribund; breathing labored. 7.26 A.M., pulse same; resp. irregular; breathing has ceased; heart ceased pulsating at 7.27 A.M.

NOTE.—The milk gruel was made in the following way: Take of milk and water each one pint; add four table-spoonsful of flour, and boil one hour.

*Autopsy.*—Nine hours after death; weather extremely warm and rainy; rigor mortis well marked. An incision was made completely around the abdominal wall, extending from one crest of ilium to the other, and from near the ensiform cartilage to just above the spines of the pubis. To remove this portion of the abdominal wall, it became necessary to divide the omentum which was firmly adherent thereto. This having been done, the abdominal flap was turned downwards, without separating it at its lower part from the organs in the hypogastric and iliac regions. The intestines were seen distended with gas, their peritoneal surfaces adherent together, and the adhesions best marked below the umbilicus. The peritoneal surface was of an extremely dark color, and markedly congested. The color appeared to have been partly induced by some staining, and the question was raised as to what influence such an effect might be due. These appearances obtained in the omentum and mesentery. In certain parts of the mesentery and omentum it was at first thought that some hemorrhage had taken place, but a more thorough examination, aided by transmitted light, proved that no hemorrhage had taken place. The intestines were now removed, when not more than one ounce of ascitic fluid was found in the abdominal cavity.

While removing the abdominal flap, to aid in this examination, a small abscess was recognized on the left side of the symphisis pubis, and below the pelvic brim, containing less than two drachms of pus. This accumulation was shut in by lymph from the general peritoneal cavity. The anterior wall of the abscess was formed by lymph, by omentum, and by the abdominal wall, at a point corresponding with the lowest inch of the incision made for the removal of the tumor. A portion of the pedicle dipped into this small accumulation of pus. The pedicle itself was very small; the ligature in situ; there was no gangrenous look or odor, and, with the exception of the portion that had been bathed in the pus, was covered over by exudation. On looking at the abdominal wall from within, the incision was covered over by omentum and fibrine, and in one place by very thick fibrinous effusion. The line of the incision could only be seen in the lowest inch, and there union had taken place. The openings through which the hernia had passed were similarly closed. It was also evident that the small accumulation of pus referred to could have most readily pointed and escaped through the lowest inch of the abdominal incision referred to. Under these circumstances, Drs. Elliot, Gouley, and Wm. H. Draper agreed upon the following statement, written by Dr. E., as expressive of the conclusions to which they were led by the post-mortem examination.

In general terms, the absence of ascitic or other accumulation of fluid within the peritoneal cavity: the absence of broken down, imperfectly organized lymph; the character of the adhesions, and the abdominal organs generally; while showing by the congestion of their peritoneal surface, and by the exudation of lymph, that peritonitis had continued, yet demonstrate that the continuation of the inflammatory process had been conservative in character, and had tended towards the recovery of the patient.

On opening the intestines, numerous points on the ilium and colon presented patches, punctated and arborescent, and in some instances corresponding to similar marked evidences of congestion in the corresponding peritoneal surfaces. Peyer's patches were markedly black, and the solitary glands notably enlarged. The mucous membrane of the stomach was some-

what softened, especially in the large curvature, and very much congested. Neither the mucous membrane of the ilium nor that of the colon was softened, but there was one small patch on the ilium, which seemed due to ulceration. The liver appeared healthy; weight, 3 lbs. 6 oz. The kidneys presented a fatty appearance; weight, 8 oz. Upon microscopic examination by Dr. Wm. H. Draper, the renal cells were found filled with granular and fatty matters. The interstitial substance of the kidney was decidedly fatty. Both lungs were firmly adherent to the thoracic parietes; left lung was emphysematous, and the right less so. The heart was healthy; brain not examined.

The specimens were presented to the Pathological Society on the 14th of June, when I also read the following extract from a letter received from Prof. W. H. Van Buren, since the operation had been performed: "Mr. Spencer Wells is confident, from his experience in women and rabbits, that silk ligatures left in the cavity of the peritoneum are absorbed, after undergoing dissolution, and employs them with little hesitation."

In reference to the specimens presented, Prof. Alonzo Clark stated that "he had seen the patient on several occasions before the operation, and that when he visited her after the operation, (June 5,) he had come to the conclusion that there was nothing to hinder her recovery. She had no well-marked signs of peritonitis, and at the time of his visit there were no symptoms that excited any special anxiety."

Dr. Krackowizer "inclined to the opinion that the diarrhœa which terminated the life of the patient was purely of an accidental character, and that the amount of peritonitis observed was properly designated by Dr. Elliot as 'conservative' in character."

---

*A Successful Case of Excision of the Head of the Femur for Gun-shot Fracture.* By GEORGE A. MURSICK, M.D., Brevet Captain and Asst. Surgeon U. S. Vols.

Hugh Wright, a private of Co. G, 8th New Jersey Volunteers, aged 28 years, married, and of sound constitution, was

admitted to the Stanton U. S. A. General Hospital, Washington, D. C., May 25th, 1864, he having been wounded in the battles of the Wilderness, Va., May 5th, by a Minie bullet, which entered the right thigh about one inch to the inner side of the femoral vessels, and two inches below Poupart's ligament, passed backwards and downwards, shattered the neck and trochanters of the femur, and lodged behind the bone. When admitted the bullet had not been extracted. The parts about the seat of fracture were much irritated by the rough handling he had received during transportation from the battlefield; otherwise he was in good condition.

May 27th. The local irritation is much diminished, but an abscess has formed about the seat of fracture. *Operation:* The patient being etherized, an incision six inches in length was made over the trochanter major down to the bone; the fractured splinters, including both trochanters, were then extracted; the neck of the bone was seized with a forceps, and held firmly while the capsule of the joint and the ligamentum teres were divided; the head of the bone was then removed without difficulty. The upper sharp end of the femur was sawn off with a chain saw. The bullet, a Minie, much battered, was found lying in the abscess, behind the neck of the bone. The quantity of blood lost during the operation was small; no ligatures were required. He exhibited a good deal of shock, and reaction was slow. The wound was carefully cleansed, dressed with dry lint, and left to heal by granulation. To keep the limb in position, long bags, filled with sand, were laid on each side of it, and moderate extension made by means of a weight attached to the leg and suspended over the foot of the bed. R. Morphiæ sulphat., gr. i., at night.

May 28th. Has passed a restless night, and exhibits a good deal of nervous agitation; pulse frequent and feeble; tongue dry and furred in centre; has some fever. R. Spts. vini gallici ʒi. every three hours, and Opii pulvis gr. i. every four hours, with beef tea ad libitum.

May 29th. General condition much improved; pulse fuller and less frequent; wound discharges freely; treatment continued; wound to be dressed with a weak solution of permang. potassa.

June 1st. Continues to improve; the wound looks well, and the character of the suppuration is good. Stimulants reduced to ℥iv. daily.

August 1st. He has continued to do well. The wound has filled up with granulations from the bottom, with the exception of a sinus that leads to the bone. It continues to suppurate quite freely, and some small pieces of dead bone have come away with the discharges. He has gained considerable in flesh, and his health and spirits are good.

Aug. 23d. The upper part of the thigh is swelled and painful, and the discharge from the wound has increased in quantity. Yesterday he attempted for the first time to sit up in bed, but, owing to the rigidity of the parts and the agglutination of the muscles, the pain caused by the sitting posture was so severe that he was soon compelled to lie down again. ℞. Cold evaporating lotions to the thigh.

Aug. 27th. The swelling of the thigh has increased; the discharge from the wound is very free, thin, and flaky; the surrounding skin is glazed and doughy to the touch. The wound of entrance has reopened, and discharges some thin pus. An abscess has formed on the inner side of the thigh; incised it and evacuated about ℥iv. of thin and flaky pus. He is rather restless, but says he feels well. ℞. Tinct. ferri chloridi gtts. xx. every six hours, alcoholic stimulants, and a nutritious diet.

Sept. 1st. The swelling and inflammation of the thigh continue. He complains of nausea and want of appetite. An abscess is forming on the outer side of the thigh. ℞. Flaxseed poultice to abscess.

Sept. 5th. Incised the abscess and evacuated a large quantity of thin flaky pus, which smells very offensive; has some irritability of stomach, which is controlled by Hoffman's anodyne.

Sept. 6th. The edges of the incision in the abscess are sloughing. ℞. Acid. nitric, to be applied freely.

Sept. 9th. Has diarrhœa. ℞. Bismuth. sub. nit. gr. x., Opii pulv. gr. j., every 6 hours.

Sept. 11th. The slough has cleaned off, the edges of the wound are covered with florid granulations; the discharge from the abscess continues free; diarrhœa continues. ℞. Acid. tannic. gr. v.; Opii pulvis, gr. j., three times a day.

Sept. 13. The diarrhœa has nearly ceased; his general condition has improved; the wounds look well; the discharge from them continues free, and has improved in quality.

Sept. 25th. Removed from the wound of operation a large ring-shaped exfoliation, from the upper end of the femur.

Sept. 26th. Removed another exfoliation from the wound.

Oct. 7. Since the exfoliation of the necrosed bone the swelling of the thigh has subsided; the discharge from the wounds has diminished much in quantity, is improved in quality, and presents the appearance of laudable pus; the diarrhœa has ceased; his general condition has much improved, and he is able to sit up in bed.

Oct. 30th. A sinus from the wound of operation, and one from where the abscess was, on the outer side of the thigh; leads to the bone, a portion of which is necrosed.

On the 1st of November I left the hospital. I am indebted to Dr. Garland for the following history of the case from that time until Wright was discharged from the hospital.

Nov. 24th. He continued to do well until this date, when the limb became inflamed and swollen. Cold applications were applied to it, and tonics and stimulants given internally. During the later part of December another abscess formed on the outer side of the thigh, which was incised, and a quantity of unhealthy pus evacuated. The swelling and inflammation again subsided, and he continued to do well until February 6th, 1865, when another abscess formed in the lower third of the thigh, on the outer side; this was incised and the pus evacuated. Several small pieces of dead bone have come away with the discharges from the wound of operation. About the middle of March, 1865, he began to get out of bed, and walk about the ward on crutches. On May 3d, after getting out of bed, "he let his leg fall, and hurt it;" this was followed by inflammation and swelling of the thigh, and an abscess formed in the lower third of it, on the inner side; this was incised and a small quantity of pus evacuated. He was now attacked with erysipelas, which extended from knee to the hip. This was combatted with tonics and stimulants, (iron, quinine, &c.,) and it rapidly disappeared. From this time he did well, taking

daily exercise about the hospital, on crutches. On the 17th of April he left the hospital for his home in New Jersey.

July 18th, 1865. I saw him at his home in New Jersey, and found his general condition to be as follows: General health excellent; the wounds and sinuses have been entirely healed since the beginning of May. The upper end of the femur is firmly attached to the pelvis by ligament, about one and a half inches long; the agglutination of the muscles and the atrophy of the limb have nearly disappeared; he exercises considerable control over the motions of it, and can flex and extend it slightly; the voluntary motions of rotation and abduction are lost; adduction is performed to a limited extent. Motion of the knee-joint is also limited, in consequence of the thickening and consolidation of the surrounding tissues, resulting from the inflammation. He states that, for the last two months, his improvement in the use of the limb has been very decided. When he first commenced to walk about "the limb felt like a weight attached to his body." This sense of weight has now entirely disappeared. He generally walks with crutches, but can walk with the aid of a cane alone. With a high shoe and a cane, he walked in my presence a distance of over one hundred yards. It is only about two weeks since he commenced to walk without crutches. The progress he has made in that time has been very satisfactory, and he bids fair to have a very useful limb. The shortening of the limb is four and one half inches.

New York, *July 26th*, 1865.

---

*Cases of Injuries of the Nervous Centres, from Explosion of Shells, without Wound or Contusion.* Reported by George Burr, M.D., of Binghamton, N. Y., Professor of General and Special Anatomy in Geneva Medical College, and formerly Surgeon U. S. Volunteers.

Injuries of the larger nervous centres, as well as the nerve trunks, from gun-shot wounds, have been made the subject of special reference and attention by the Medical Department of

the Army. Acting Assistant Surgeons Mitchell, Morehouse, and Keen, who seem to have been entrusted with the duty of treating this class of cases, have made public the result of their observations, based upon the history of one hundred and twenty cases under their charge in hospital.* The record is highly interesting, as embodying in a clear and definite form the various symptoms of nervous suffering depending upon the particular part involved in the injury. In all of these cases, however, the violence was received direct upon the body, and communicated either to the nervous centres, such as the brain and medulla spinalis, to the nerve cords, or to their peripheral extremities. The symptoms, as observed, were shocks, commotions, loss of sensation, paralysis, atrophy, muscular and cutaneous hyperæsthesia; darting, aching and burning pains in the parts; disordered nutrition, etc., etc. These are all common to severe lesions of the nervous system, whether met with in civil or military practice, and are variously grouped, according to the peculiar circumstances of each case.

The following cases would seem to establish the fact that the symptoms above described, indicative of serious injury to the nervous system, may be met with, without the body receiving either wound or contusion, and are reported under the impression that they will constitute an additional variety in the list of injuries to the nervous system.

Case I.—Captain R. P. W., Assistant Adjutant-General of General Bartlett's brigade, First Division, Sixth Corps, during the attack on our line at Charles City Cross Roads, Virginia, was severely stunned by the explosion of a shell in his immediate vicinity. I did not see him immediately after the occurrence, but when he came under my notice there was hemiplegia—the paralysis extending not only to the inferior and upper extremities, but also to the muscles of the neck and tongue. His articulation was difficult, his tongue thick, and his voice much changed. He was granted leave of absence to come to this State, and while en route for home his symptoms seemed

* *Gun-shot Wounds and other Injuries of the Nerves.* By S. Wier Mitchell, M.D., George R. Morehouse, M.D., and W. W. Keen, M.D., Acting Assistant Surgeons U. S. A. 12mo, pp. 164. Philadelphia: J. B. Lippincott & Co. 1864.

to be aggravated and the paralysis to increase. It was several months before he was sufficiently restored so as to be able to resume his duties.

CASE II.—Adjutant G., of the —th Regiment N. Y. S. Volunteers, experienced a similar casualty on the same day, a shell bursting near him. He rode to where I had established a temporary field hospital, and, although retaining his seat in the saddle, he was in a great measure helpless. I assisted him to dismount, and to a place where he could lie down. He appeared stunned and bewildered, unsteady in his movements, and half unconscious of his whereabouts. The fire of the enemy, after awhile, made it necessary for us to remove from the place we were occupying, when I placed Adjutant G. upon his horse, and he rode to the rear. I have never seen him since. I subsequently learned that he made his way to the James River, and, without obtaining leave of absence, went on board a transport, and left for his home in this State. In due time his absence was noticed, and he was directed to return to his regiment; but no considerations could induce him to do so. He disregarded all his obligations as an officer, forfeited a well-earned reputation, and was finally dismissed the service, for continued absence without leave.

CASE III.—The following account has been kindly furnished me, at my request, by Captain M. B. Robbins, 109th Regiment N. Y. Volunteers. The detail of the symptoms, and the abnormal sensations which he describes, will readily be recognized as coming from injury of the nerves.

"I was injured about 3 o'clock P.M., June 2d, 1864, at or near Bethsaida Church, Virginia, by the explosion of a $3\frac{1}{2}$ inch shell, five or ten feet above my head. We were supporting a battery in third line of battle. I was lying partly on my face, partly on my right side; was carried to the rear insensible, where I remained until 8 A.M., June 3d, when I awoke, as I supposed, from a good night's rest. I saw several persons near me, their lips moving. I could hear nothing. Attempted to rise; found myself helpless; when I experienced a pricking sensation in my right leg and arm, severe pain between the shoulders and through the upper part of the lungs. I saw a member of my regiment at a distance; tried to speak; did so

with great difficulty; a soldier called to him for me; he came to my assistance, and had me taken to the field hospital, where I remained until the 6th; then was sent to the White House; from thence to Annapolis, Md.; remained there until July 15th, when I rejoined my command, and was at once granted 'leave of absence.' After my arrival home my general health commenced failing. August 13th.—My leg and back (spine) were in as poor a condition as at any time since my injury. Since this time I have been gradually improving. For three months or more I had a severe pain on the left side of my head—a spot as large as a dime—like the driving of a nail into the head. I feel this at times yet, when tired or excited. At the present time, (Jan. 7, 1865,) the muscles of the leg, above the knee, (front,) are tender and sore; also those below the knee. When walking, I am unable to bend the knee naturally, and feel a cutting sensation through the calf of the leg. I have sharp, darting pains through the upper part of the chest. My appetite has been excellent most of the time, and digestion good; however, it has seemed to do me but little good. My system is very weak; the least exposure to the cold or wet confines me to my room." I will add, that in Captain R.'s case the paralysis was distinct and well marked, affecting the right leg and arm.

In neither of the preceding cases was there wound or contusion. The violence affecting the nervous centres operated through the medium of the atmosphere at a greater or less distance, and in this they differ from the injuries described by Drs. Mitchell, Morehouse and Keen. The *first* and *last* were cases of decided paralysis, resembling that which follows a breach of continuity of the nerve cords, or from compression of the nervous centres. In the last case recovery has not yet taken place; the first has passed beyond my observation.

The *second* case presents some peculiarities upon which I wish to comment; and the point is, the complete change which the explosion produced in the moral and affective faculties of the man. He had acquitted himself creditably in the battles of the first Bull Run, West Point and Gaines' Mill—had risen from the ranks to a lieutenantcy, and had been appointed adjutant of his regiment; and no stain of cowardice or other un-

officer-like conduct was upon his record down to the time of his receiving the injury. His subsequent course indicates a complete perversion of the character he had formerly borne—a change not only equal to, but strongly resembling what is seen in cases of derangement from ordinary causes; and one inducing movements as uncontrollable, and as much beyond his power to restrain, as were the muscles of the palsied limbs in the other cases beyond the power of volition to excite them.

The exigencies of the service without doubt required that the place of this officer should be supplied with another; but I am far from believing him culpable in the highest degree for his refusal to return to duty. That his mind was not in a sound condition is by no means improbable; on the contrary, the sudden transformation of the man, the subsequent total disregard of consequences, and of every consideration affecting his reputation which he exhibited, closely simulates well recognized *irresponsible* conditions of the human intellect.

---

## *Specialties in Medicine.* By Henry D. Noyes, M.D.

[Read before the American Ophthalmological Society, June 14, 1865.]

In every subject of scientific study the progress of investigation and the accumulation of knowledge must reach a point where it becomes a serious task to master all its facts, or to be acquainted with all that has been written about it. When a great number of zealous observers are bending their energies in a common pursuit, it happens after a time that not the oldest and most eminent among them can possibly attain to a perfect acquaintance with all that is known about it. For example, the ardor of geologists during fifty years has amplified the science until it can hardly be expected of any that he shall be conversant with all the details of the earth's mass and structure. Among botanists, no one can enumerate the entire flora of the world and their minute peculiarities. What chemist can exhaust all the facts of his great study in a statement perfectly comprehensive, and without omission of details?

From the extension of knowledge, as well as from the brevity of life, and the limited capacities of the mind, investi-

gators have been compelled to limit their researches to small portions of their chosen field if they would contribute anything valuable to the stock of facts. In short, not only is it impossible for one mind to gather to itself the universum of knowledge within the usual period of a lifetime, but even in particular branches of study the task has become so heavy as to be beyond human attainment. The well-known anecdote of Newton need not be quoted. It is not to be denied that some men obtain extraordinary success in grasping a multitude of facts, and in reducing them to systematic and logical order. They are the master minds of their age, and their names will be enduring as human memory. But gifted men, like Erasmus, Bacon and Humboldt, are the astonishment of mankind, and were we obliged to wait for their advent in the cause of science, the accumulation of knowledge would be at the rate of progression in geologic eras, while the mode of progress, instead of being by gradual accretion, would be an alternation of long and dreary ages of stagnation with brief times of dazzling splendor. Such, however, is not the order of things. The processes of nature and the growth of human knowledge are alike.

Increase is by slow additions, by patient and pains-taking observation. A multitude of workers, each bearing the little burden which he has gathered from the path where he has wandered, cast in their contributions, and as the decades pass the stately pile of human knowledge creeps upwards; it slowly assumes harmonious proportion, broadens its base, and lifts its soaring height. The rising of an ant-hill, the building of Cheops, in one sense are typical of the increase of science; but these limited and finite models are far from being perfect representatives, for science is the gleaning of gems from the exhaustless mines of knowledge, whose storehouses are the recesses of the infinite mind; to neither may we venture to set bounds.

If, now, this be the way in which science advances, how is it in the applications of science to useful art? By useful art I mean the adaptation of scientific facts and deductions to the uses of mankind. Can practical application go on in advance of the discovery of data? Can implements be made without

material? Can fabrics be woven without both material and implements? Useful arts can, therefore, make no more rapid development than science. In fact, art is usually behind science by long stretches of distance, and these sometimes so great that the popular voice, not discerning their mutual dependence, sometimes clamors against science as dreamy and unworthy, because it seems useless. Science is its own justification; it needs no defence any more than *truth;* the one is synonymous with the other. But the mass of mankind are most concerned to secure the comforts and benefits of useful arts. The needs of the body, the happiness of society, must be provided for. Men have a right to demand of science that she do not shut up her treasures as ore in the bowels of the earth, but freely yield them up to be fashioned into implements for useful labor and to minister to the welfare of the race. Humanity and benevolence enter with authority to compel the assent of science to their mandates. The air, the earth, the sea, must contribute to soften the hardships of social condition, to cure the sicknesses of men, to soothe the pains of dissolution.

This brings us to the subject of medicine. It is both a science and an art. As a science, far in advance of its early beginnings, yet mayhap as far yet from its ultimate perfection as from its primeval state. As an art its efficiency and success depend upon the fullness and clearness with which its facts are learned and logically systematized; upon the memory and readiness of the practitioner; upon the skill of his manipulations; upon the fertility of his inventive and adaptive power; and upon the keenness of his senses, touch, sight, hearing, &c. To successfully practice an art, demands first the careful study of science and also the education of the individual; or, as I may express it, taking the practitioner in the sense of an instrument, he must be fashioned into shape and fitness in both mental and physical qualities, before he can deal with the facts of science in their application. To make a fabric for wearing apparel, science must discover the crude cotton, silk, or wool, and prepare it for use; while art must invent the weaving machine and bring it to perfection. The physician possesses himself of facts furnished by science, which

are his raw material, and then proceeds to qualify himself to apply them to his healing art.

In the economic arts it may matter little if there be a wide discrepancy between the advanced state of science and the clumsy appliances which utilize it. Convenience and luxury may be lacking, but perhaps nothing more. In the art of medicine there must be no such discrepancy. Human woe and bodily privation, the loss of health, the loss of the senses, and the loss of life are the subject matter of this art. Here there may be no lagging behind the front line of scientific attainment; the very fore front is where the disciple of the *ars medendi* must place himself and remain. He has no business in the rear; he is recreant to himself, recreant to humanity, recreant to duty and to religion, if he voluntarily stay behind in the onward march of medical science.

There frequently occurs among noble minds a sore conflict between the demands of pressing labor and the monitions of conscience and of the sense of duty. As such an one, to the best of his skill, administers to the distresses of men, he fears that his mind may not possess all the facts which late investigation has afforded upon this or that case; or that his hand may not wield the knife with the correctness and skill which other men have acquired. What practitioner of twenty years' standing has not felt this burden? What *young* physician in his first years has not been harrassed by the fear that he is not doing justice to his patient, because he may not be fully competent in the knowledge of the case? To what purpose is our medical journalism, but to furnish to the anxious, waiting practitioner the latest facts, discoveries and appliances, to be at once seized for the good of our patients.

But is any medical man bold enough to say that he has sufficiently explored the records of the past; has stored his mind with all the wisdom of recent years, and is every year up to the level of modern science, so that he comprehends within his grasp all of science, and can apply his art with the highest human skill? That no case can be presented to him in which he cannot offer the best and soundest advice possible among the medical profession? Can settle a diagnosis with a precision which no other can excel? Can do an operation with a dex-

terity inferior to no other? Such perfection of skill and knowledge no man will venture to affirm for himself. The assumption would to his fellows be the strongest evidence of his imperfections.

As decades pass and science and art attain greater completeness, the labor of the physician in fitting himself for his profession becomes more and more heavy. As life advances and business multiplies, his disposable time for study of both his own and of other men's labors becomes less and less, until it may be reduced to the merest fraction of the day. In the laborious rounds of practice among thinly peopled districts, in the hurry and press of large practice in cities, medical men strive manfully to keep up their knowledge of how the world of medicine moves on; but too often they are the first to accuse themselves of being unable to meet the duties of their daily calling, and keep *au niveau* with modern improvement. And it will be observed that the men ready to make this confession are or have been the most studious, the best qualified, the most conscientious practitioners among the community.

In actual fact, regarding the practitioners of medicine as we find them, does not every one know that but very few of them possess the highest fitness which medical knowledge and skill can reach? This is largely due to defects of education, both of an academic kind and in the schools of medicine. Men are often compelled, by the need of getting a livelihood, to enter practice, feeling themselves yet very inadequately prepared.

Want of fitness at the outset of medical life must to a greater or less degree be affirmed of every one. Youth cannot claim the attributes of age and experience. If in this regard the young doctor is at a disadvantage, neither on the other hand ought the standard of medical attainment to be purely theoretical and transcendental. It must be such as the wisdom of experienced and practical men deems needful. It must fairly represent the present; it were folly in imposing medical qualifications to seek to discount the future.

All medical men agree in seeking the growth and improvement of their art. All admit that its science should steadily

and unfalteringly move forward. All will admit that the art cannot in any large sense move onward faster than the science, and that the true way to better the art is to enlarge the science.

Do all medical men, or many medical men, bestir themselves to add to the science? Do they keep notes of facts? Do they inquire into remote causes? Do they investigate collateral branches of knowledge? Do they publish to the world all their valuable observations and deductions? Every one knows the answer. And why? Mainly, want of time; perhaps want of inclination. Wide diffusion of their explorations frequently prevents them from following out any one line of investigation to complete and valuable results. Herein is the undoubted disadvantage of being what is called a "general practitioner." He is busy in laboring at medicine as an art, and cannot readily pursue those investigations with the microscope and the test tube, and in the laboratory, to which the phenomena he observes invite him; nor can he keep proper record of the facts which come before him. This is no disparagement to general practitioners; it is the unbending necessity of their lot, and the misfortune of science. Many a man, a willing votary of science, deplores that so swallowed up is he in the cares, the labors and the hurry of practice, that neither energy nor time remain for the quiet pursuits to which he would gladly turn. Could the human frame endure heavy encroachments on the hours of sleep, and this for long periods or a long life, what rich contributions would multitudes of general practitioners bring to their science. This unhappily is impossible, as many an overwrought brain discovers.

The hard labors of medical life, urged with an imprudent zeal, are too often stopped by death; the man fitted mentally to do most and best, feels keenly the brevity of every earthly career, and strives, by diligence too great for human endurance, to make life most fruitful; but often his harvest is blighted, because the great reaper puts his sickle into the laborer's field.

To sum up what has thus far been said—the development of medical science and the improvement of medical art are hindered by the magnitude to which the science has attained, by the inability of practical physicians to bestow on scientific research the time and labor which are indispensable to the best results.

The preparatory work in the study of medicine is so great, if adequately done, that but few can spare time for its thorough performance, and men must become practising physicians to support themselves.

Disadvantages of early professional education of course become a clog upon a man's usefulness in his art, and they almost preclude him from doing anything valuable in scientific labor. In early life, inadequate qualification; in later life, the want of time to be spared from pressing duties, and the waste of energy in their performance, result in disqualifying physicians from aiding in the rapid advance of their chosen science and the perfection of their art.

The man of ripe experience, who all his life has been a keen and exact observer, who has made himself a judicious and skillful practitioner, is sought for by the whole community to heal their infirmities—but full of labors, he can communicate his results and opinions only to the patients whom he advises, and to the physicians with whom he comes in personal contact. He dies, and the world loses forever knowledge and practical wisdom, which, stored in books, might for ages bless mankind. He has had no time to write. He served well his day and generation, but the future will owe nothing to him; after his immediate friends and beneficiaries have ceased to utter his name, and are in turn removed from time, society becomes oblivious of him. The tombstone only reminds of a lost treasure, and turning its back on what it cannot recall, the world pushes on to achieve its allotted tasks. Science observes and records as before, but has not written this man's name among the honorable roll of her laborers.

It may be remarked, that medical science differs from most sciences, in that those who investigate and promote it are, with rare exceptions, the very persons who apply it. Chemistry pursues the labors of the scales and the retort, paying little heed to the practical arts. The science of medicine deals with living organisms, and in their investigation requires the aid of many correlative sciences, but its facts and deductions must be put into immediate practice. Hence, in almost all cases, the investigator in medicine is also a practitioner of the art.

Can anything be done to render the practice of medicine more strictly in accord with the state of medical science, and to render the progress of medical science more rapid?

Two answers may be made to this question. First, medical science, it may be said, should be in the hands of those who may give themselves exclusively to its investigation, and leave the art to practising physicians. To some extent this has been done. A few names can be given of men who have dealt little with medical practice, and devoted their lives almost entirely to the scientific side of medicine. These men have been teachers in universities and professors in medical schools; they may have been supported by governmental patronage, or, possessing wealth, have had rare enthusiasm in medical study.

But very few men can hold such places, and were the advancement of science to be given over to them, most of disease outside of hospitals would be lost to scientific study. This notion is on its face chimerical. Let me not, however, fail here to note the name of one now living, who occupies very much this unique position, and whose unwearied labors have already done so much and been so generally acknowledged in the world of medicine. I allude to Prof. Rudolph Virchow, of Berlin.

But a second solution of the difficulty presents itself. It is not of recent suggestion, while it might be urged that it commends itself to the good opinion of medical men, because it is being every year more and more generally adopted. This solution is the subdivision of the field of labor. This proposition, which has universally been accepted in almost all the affairs of life, in the economic arts, in manufactures, and, moreover, in other natural sciences, finds some difficulties in its application to medicine. These difficulties depend on the fact that, while medicine as a science, and considered abstractly, *may* be subdivided, like any other natural science—as, for example, into anatomy, physiology, pathology, and the functions individualized to any extent, when it is brought into use—these distinctions must, to a great degree, be ignored. The medical scientist is at the same time art-ist (if I may apply to the word a somewhat unusual sense.) The patient is a man; his whole organism is before us; it may be only partially diseased, but that part bears

intimate relations to all other parts, and sometimes is inseparable from the whole. From this circumstance some infer that a subdivision of medicine is, in practice, impossible. The point of inquiry is, whether, *under some conditions*, a subdivision of medical science and art is not only possible, but whether it is not attended by extraordinary advantages.

What principle shall be adopted in drawing lines of demarcation and division across the field of medicine? No *a priori* consideration can be appealed to in such a matter. The only safe guide will be the teachings of experience. It might be said that the several functions of the body would be proper subdivisions—for example, digestion, respiration, circulation, excretion, generation, innervation, the special senses, &c. To be sure this has in part been adopted, but respiration and circulation are usually studied together; innervation and circulation are both inseparably connected with all other functions; while excretion belongs both to the digestive and to the respiratory apparatus, as well as to the kidneys and skin. Both anatomy and physiology fail to give perfectly unobjectionable divisions.

The only guide will be to take those subdivisions which have in actual trial been shown to be practicable and advantageous. The following are some of the subdivisions or "specialties" which have been successfully made. Diseases of the brain, mind, and nervous system; long have these been isolated in the establishment of hospitals and asylums for the insane. Diseases of some of the special senses, the eye and the ear, and it may be remarked that there is no necessary connection between them, as many seem to think; the senses of taste, smell and touch have never been isolated in practice. Diseases of the teeth, long ago consigned to a special class of practitioners; diseases of the throat; diseases of the skin, including its appendages, the hair and nails; diseases of the chest; diseases of the genito-urinary organs, both in the male and in the female—the latter have been separated from the former. Midwifery has by some been exclusively practised, while only venereal diseases have been attended to by others. Furthermore, surgeons have in Great Britain divided themselves from so-called practitioners of medicine; this distinction is becoming universally acknowledged.

Besides all this, other subdivisions have been made, and which have been vaunted in a pretentious and unworthy manner, by persons claiming almost marvellous abilities, and guilty of most unseemly conduct. Such are the corn doctors, the bone setters, the electricians, the pimple doctors, the hair restorers, the pile doctors, &c. These men having been styled specialists, have caused a portion of the odium belonging to their evil practices to fall upon those who maintain an honorable position, while they cultivate only a limited field of practice. This sentiment will no longer continue when special departments of medicine fall into the hands of right-minded men.

The object sought in specialties is the attainment of more perfect skill in practice and more rapid advance in science. That a higher perfection in art is thus made possible, is apparent form the great frequency with which cases of a similar kind are treated. The ear becomes sensitive to nice distinctions of sound; the eye instantly recognizes differences of form and color, and instinctively notes features making up the *tout ensemble* of disease, which eyes less familiar must slowly analyze and combine. The accustomed phases of disease are at once anticipated, and departures from their ordinary course arrest immediate and eager attention. Wise discrimination in the choice of medicine follows, as the necessary result of daily familiarity with its effects in particular cases. The practiced hand has learned to do its delicate and momentous work with unerring certainty, and with entire confidence in its own powers. Success vindicates the homely adage that "practice makes perfect," in results so brilliant, so noble, and so humane, that no one can gainsay its truth.

In promoting the growth of science do specialties offer decided advantages? The answer is, sound deductions may be drawn from the tabulation of a great wealth of cases. For example, the ratio of success in extraction of cataract may be taken from the results of more than a thousand cases done by one operator, Prof. Graefe, of Berlin. The annotation of cases becomes easier, because it can be greatly systematized and simplified. General features being thoroughly understood, data of time and peculiar varieties only need to be specially noted. The mind of the observer does not become dis-

tracted by being called in many and widely different directions; he cannot only inform himself of all the past of his specialty, but can in this limited field become perfectly cognizant of the present. Earnestly and constantly bending his thoughts on comparatively few problems, and gaining large opportunities for observation, the specialist has an advantage for making new discoveries and reliable conclusions far beyond one who sees fewer cases and can think less about them.

I have spoken of specialists, and have, perhaps, been supposed to mean only those physicians who announce themselves as giving their attention to particular diseases, to the exclusion of all others. This is the generally understood sense of the term. But we all know that men who for years have followed general practice, often acquire reputation for skill in certain diseases, and come to addict themselves more and more to treatment of these, to the neglect of others.

Here is the vindication of my plea for specialties; the order of nature and of events has proved that it is wise to group diseases into classes, and useful to refer the treatment of them to hands which constant familiarity has rendered facile. The community find this out, the profession admit it, and do we not know the men who, in a particular district, will be consulted in diseases of women, of the joints, of the blood-vessels, of the eye, to be those who, if they repudiate the questionable honor of the name "specialist," are to all intents and purposes occupying the same position?

I come now to a vital point in this discussion. I have been arguing in favor of those who early in professional life set themselves apart from other practice, to the pursuit of a particular branch. That any man has an abstract right to do this none will question, nor does anybody challenge so plain a proposition. But the question is vital to the welfare and dignity of a noble and learned profession, which must jealously hold high its standard of intellectual attainment for those who seek entrance into its ranks:—what amount of knowledge should a specialist possess? May he know only that department which he calls his specialty? May he ignore all the rest of medicine? May he cultivate his specialty as a stone-cutter chisels his own block, and knows nothing of the grand edifice?

May a man begin the practice of eye disease, of skin disease, of syphilis, without knowing anything, or only a mere smattering of the principles of medicine, or the theory and practice of all disease? Here will be found the dividing line between those who strive for honorable position among a noble profession, and those who seek only their selfish aggrandizement, and care for nothing so much as for money. Herein will be found the distiction sharply cut and cropping out between the members of a profession and the craftsmen of a trade.

With the latter, in the pursuit of useful and honest vocations, earning their daily bread, I have no fault to find, but render due praise and pay for work honestly done. But when I rise from the level of handicraft and mere manual labor, and pass to the ranks of the scholarly and learned, of the benefactors of the race, of those in whom men confide at their times of sorest need, I leave behind the contracted, the sordid, the selfish. The true physician seeks to enlarge his knowledge beyond the immediate confines of his profession—the specialist can lay no claim to honor and respect if he permit himself to shrivel into the scanty limits of his little shell, and know nothing outside its impenetrable crust. The specialist has no claim to be an honorable physician who has not first gained its degree by study and fair examination. He must be well educated in general medicine and surgery, and in all their departments; he should not only know them after the manner of the fresh graduate, but he ought to know them practically. He should, if practicable, seek this education in general hospitals. When thus made ready for the wide responsibilities of general practice, he is in position to choose a specialty if he list. In no other way can he become a fit specialist; no otherwise can he comprehend the dependencies and sympathies of the human organism. No part or organ can be isolated from the rest of the body in health; nor can it be isolated in the phenomena of disease.

The syphilologist must know all of human structure. The uterine physician cannot shut his eyes to the complex sympathies of the generative apparatus with all the rest of the female economy. The oculist must understand general pathology and therapeutics, because the brain, the circulation, the digestive

functions, the kidneys, the uterine system, are all to be interrogated if he would comprehend the diseases which the eye presents. Nor may he forget the poisons, both animal and vegetable, which vice and indulgence or accident may inflict upon the body—syphilis, tobacco, &c.

Let the specialist take this ground, that he has mastered all the preliminary studies which every physician pursues when he sets forth in his career, and then let him add to this preparation the further labors of his chosen department, cultivated with ardor, and to a degree which puts him in this particular qualification visibly above the attainments of his fellows, and he then need not fear a want of recognition and respect. His fellows in the profession must and will respect him. He is one of them; he never secedes from their ranks, nor will they have the least disposition to cast him out.

This leads to the inquiry, what are the relations of the specialist to the profession? and what attitude should each hold towards the other?

I have maintained that the specialist must be a well-educated physician, and I also maintain that he must not in any way hold himself aloof from the duties, the obligations, the courtesies and the proprieties which belong to the medical profession. He is jealous of professional honor—he is mindful of professional courtesy. He is none the less bound by ethical rules than are his brethren. His real position toward them is that of a *counsellor in difficult cases belonging to his sphere*. He claims a peculiar skill on one subject; when other practitioners need counsel in these cases, they ask for his assistance. They may simply call him in consultation, or they may turn the patient over to his care. In either case the specialist must govern himself by the rules which all medical men observe in holding consultations with each other.

Friction with his brethren may arise on two points: First, claiming to be a consulting physician or surgeon in his peculiar province for the benefit of his professional brethren and the community, the young specialist perhaps finds himself in an anomalous position; a counsellor who has no clients; a person claiming to be distinguished, but whose claim has never been admitted. Specialists have sometimes demanded, as their

right, that they may advertise their pretensions in the public prints or in the medical journals. The former kind of self-proclamation is universally condemned by the profession, as an unworthy attitude for the member of a liberal profession to hold towards the community; none the less should it be condemned and abnegated by the specialist. Advertising in *medical journals* may be done as offensively as in any other prints; but when it consists simply in the announcement of name, address and specialty, it is difficult to see the offensive quality of the act. It is but the tender of services to the medical profession, which they may accept or decline; they may or may not admit the specialist's claims to particular skill. I cannot conceive the impropriety of a specialist communicating to his *professional brethren* the fact of his practising in a special subject, and in that alone.

The question, how he may do this, may be one of expediency. If advertising in medical journals be permitted by local etiquette, none can find fault in it; if it be disallowed, he were an idiot to excite the disapproval of the profession. He must get at the profession by inoffensive means; he may send them his card under cover; he may seek out their individual acquaintance. If, by well-considered contributions to current medical literature, he display the reality of his claims to special regard, he will both make himself known to the profession and offer the best plea in his own favor. I must, however, disclaim advocating the insertion of crude or puerile papers, reports of cases which have in themselves no interest, and no purpose other than to serve the writer's personal emolument, under pretence of contributing to the welfare of medical science and the interests of the profession.

I hold the dignity of the profession to be as dear to the specialist as to any physician. I justify in him no loose morality, professional or otherwise, any more than in any brother of the order. It seems to me, however, that a correct understanding of mutual relationship shows that, to the general physician, it is a great help to be able to call in an emergency the services of a highly accomplished and honorable fellow, who may solve the doubt, may rescue the patient, may successfully achieve the difficult operation; and that, for the case in hand, it mat-

ters not whether this aid be rendered by one who is not ashamed to be called a *specialist*.

On the other hand, every specialist—and I speak emphatically in behalf of *young* specialists—knows full well that his best friends are brother practitioners not of his peculiar branch. If the general practitioner find advantage in using his skill, the specialist is indebted to him for the countenance he asks to commend him to the community, for the most valuable portion of his reputation, and for the direct patronage which he bestows on him. I do not mean by this word anything servile on the one hand, nor offensively patronizing on the other. All men are mutually dependent; all arts, all sciences are kindred; all professions deal with the interests of humanity. In medicine all practitioners enter into noble competition for the general weal.

Acting on these principles, mindful of each other's rights, what jarring can mar the harmony between specialists and other physicians? The specialist must be careful, not even in his territory, to assume lordly airs; not to warn off all other men from his boundaries as rude intruders. General practitioners will and should treat all cases of disease which fall into their hands, for which they feel fully competent, provided that they do not permit ignorance of the current advancement of medical knowledge to create in their minds an unwarranted assumption of competence.

Specialists naturally belong to densely populated districts, to cities and large towns. They rarely flourish in small places. But they do not find a local practice; their name and influence extend over wide sections of country, and therefore they may easily avoid all jealousy on the part of practitioners around them, by the observance of the plainest dictates of fair dealing and professional comity.

This introduces a second point, to which I must allude, which has made unpleasant feeling against specialists. They have been sometimes accused of throwing out a specialty as a bait to allure other and general practice. In other words, they impose on the confidence of their brethren, and seek to rob them of their just prerogatives. But one word need be said about such conduct; it is utterly reprehensible.

Specialties have in many instances been to their practicers means of rapid professional advancement. But the specialist has no royal road to favor and position. He may have keen competitors; he may have mistaken his vocation; he has no immunity from hard and vigorous labor. If he claims much, he must know much. If he would know much he must work zealously. Above all, he must not set out leaping in a course soon to slacken his pace, to lag among the dullards, and be consigned to the shelves of the yellow and the musty. If for any cause he cannot by honest endeavor and honorable efforts attain that success which he hoped, rather than do wrong to his fellows in practice, let him lay aside all pretences to special practice, and, if need be, enter into general practice, in another place, where none can charge him with using unworthy arts to dissemble sinister ends. A specialist who announces himself by approved means as being such, must be that and that alone. It may happen to him that an emergency, a person in sudden illness, a victim of an accident, a case of poisoning, may demand his immediate attention, because no other help is near or could be timely. Humanity forbids him to refuse doing all that he can to give relief. If he be qualified to come to the rescue of the sufferer, he has reason to glory that no narrow views of what a specialist should know and be able to do, have prevented him from acting the part of benevolence in a critical moment. This crisis past, the specialist resigns the case. It may sometimes even be proper for him to continue his attendance, because of family relationship or of other extraordinary reasons. These cases are, however, entirely exceptional, and do not weigh in the general argument.

There need be no difficulties between specialists and general practitioners, any more than among gentlemen in social relations. I doubt not the time will come when no one will dream of any necessary antagonism among any classes of medical men who hold to the principles of honor and truth, to the love of science, and to the welfare of humanity.

Already an era of good feeling has begun between specialists and general physicians. We see around us men in special practice on terms of cordiality and confidence with all their

brethren—each conceding to the other his just place—neither intruding upon the other offensive assumptions. So may it always be wherever the art of healing carries its beneficent work.

---

# PROCEEDINGS OF SOCIETIES.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, May 31st, 1865.*

Dr. James Anderson, President, in the Chair.

### DISCUSSION ON PYÆMIA.

Dr. E. R. Peaslee said: The positions taken by Dr. Krackowizer respecting the nature of pyæmia, it seems to me, are impregnable. In the first place, he has demonstrated, by facts which no one can question, that pus introduced into the blood in its pure state, even in considerable quantity, does not produce the symptoms constituting the disease which we call pyæmia. On that account, the name of pyæmia is objectionable, and should pass into disuse. He has shown, also, that the so-called purulent deposits are in many cases not deposits of pus, and that those occurring in the lungs are often merely instances of lobular pneumonia.

He has shown, moreover, that if pus does pass in the blood as pus, unexchanged, it would be impossible to detect it there, inasmuch as the pus corpuscle and white corpuscle of the blood, in their different stages of development, are so precisely similar in their appearances under the microscope that it is impossible to distinguish the one from the other.

This statement might be carried farther, for there are six different kinds of corpuscles in the body which do not present any distinctive histological or microscopical characters, viz., the white corpuscle of the blood, the lymph corpuscle, the chyle corpuscle, the pus corpuscle, the exudation corpuscle, and the mucous corpuscle.

It is impossible for the microscopist to determine, if he sees any one of these alone under his instrument, to which particular class it belongs. If it be a mucous corpuscle it may precisely resemble a pus corpuscle; if it be a pus corpuscle it may as exactly resemble a white blood globule; and if it be the latter, it may resemble any of the others. Hence

we must come to the conclusion, both that it is not pus as such which produces pyæmia, but pus (or some other fluid) in a putrescent condition; and, moreover, that it could not be detected as such, if it did. We must then give up the name of pyæmia. Still, it is very certain that the disease, so called, does generally occur in patients who have upon some part of the body, externally or internally, a suppuratory surface. Dr. Hamilton, however, stated at the last meeting, that he had seen it occur in cases where there were no wounds at all, and I am positive I have seen the same thing. I should, therefore, not be inclined to accept Dr. Krackowizer's distinction between pyæmia on the one hand and septicæmia on the other without some modification. Dr. Krackowizer has shown in the course of his paper that any substance, vegetable or animal, in a state of decomposition, may produce septicæmia; it also appears that if wounds are suppurating at the time when gangrene is prevailing, (or any other retrograde process,) it is in these cases especially that the so-called pyæmia occurs. It seems to me, that when it so occurs, it is merely septicæmia, and that it is due to a septic poison absorbed into the blood, which has the power common to all septic poisons of communicating its own condition to the blood, and through it to the various parts of the body. If that be the case, how are we to distinguish pyæmia from septicæmia? If we say, with Dr. K., that pyæmia is a disease characterized by chills, followed by fever of a typhoid character, yellowness of the skin, and purulent deposits in the lungs or other organs, we have no means of distinguishing it by its symptoms from septicæmia. I have seen cases of septicæmia which have been characterized by precisely the symptoms just mentioned. How, then, are we practically to distinguish between pyæmia on the one hand and septicæmia on the other. I think that in many cases it would be impossible, and that if we admit that pyæmia is only one form of septicæmia, a great deal of obscurity would be at once removed. I have seen as distinct, decidedly marked a case of pyæmia (as just defined) as could anywhere be met with, occurring as the result of the absorption of decomposing fluid in the abdominal cavity after the operation of ovariotomy, and all of which symptoms at once disappeared on removing the fluid from the cavity by injections.

We certainly see cases of peritonitis of a low form in which at length the patient dies with all the symptoms of pyæmia, so called. Cases of puerperal fever may terminate in the same way. To my appreciation, then, septicæmia should be used as the general term, while pyæmia, if

used at all, should indicate one of its general forms. I would, however, reject it entirely.

Shall we then adopt the term purulent infection? The objection to the use of such a term is, that it is not an infection by *pus*, as has been shown, but by a decomposing fluid; in other words, again, it is septicæmia.

On the other hand, I do not prefer the term purulent diathesis, recommended by Dr. K. We formerly applied the term "diathesis" in connection with various vesical calculous affections; but it has been rejected as objectionable. If it is applied here it means the diathesis characterized by deposits of pus (*i. e.*, by multiple abscesses) in different parts. But it has been shown (1) that these desposits, so called, are not always purulent; and (2) we also know that similar deposits occur after the exanthemata (especially scarlatina) and other diseases, without assuming the character of pyæmia; and (3) finally, that they may occur from septicæmia of any form. Besides, on the other hand, all the symptoms before mentioned of pyæmia may exist, and yet no multiple abscesses be formed.

What, then, shall we name the pathological condition under consideration? If we still name it from its true *cause*, it is no longer pyæmia but septicæmia, though often resulting from absorption of decomposed pus. But if we follow the analogy of the other zymotic diseases, (typhoid fever, typhon-malarial fever, typhus fever, &c.,) I think the best term would be *septicæmic fever*. If this be a specific disease, as Dr. K. maintains, its name should indicate its affinities, and it must be assigned to the family just mentioned. If we adopt this term we shall moreover include under it not only pyæmia so called, but all cases of septicæmia of sufficient intensity to produce febrile reaction, and thus bring together many cases now regarded as diverse, but which are practically identical.

Dr. Barker wished to call the attention of the Academy to pyæmia which was not of traumatic origin, and referred to the following cases:

In the commencement of his practice a young friend of his caught a severe cold in a thunder shower, while returning from a trouting excursion. That evening the gentleman was taken with severe chills and violent general pains, attended with very smart febrile action. Dr. B. was called to see him, and the quick small pulse which the patient had for a few days after seemed to point to the existence of some trouble in the chest, but auscultation failed to substantiate the suspicion; then the symptoms pointed towards cardiac trouble, but still there were no special developments that tended to confirm a diag-

nosis. For some weeks after the patient went on developing different symptoms, but all the time suffering from the diffused pains referred to, and emaciating. Finally death closed the catalogue.

On *post-mortem* examination, Dr. B. found what he supposed to be purulent deposits in the lungs, liver, an accumulation of pus in the pericardium, and also pus in the joints. This happened twenty years ago, before the disease known as pyæmia was described; but accurate notes of the case were kept, which gave the doctor some clue to others which presented similar symptoms. He further remarked that he had a patient who had a severe attack of dysentery, which lasted for three weeks, and after it was controlled a regular attack of phlegmasia dolens made its appearance, and, the patient being a male, the case was then frequently alluded to as one of milk leg in a man. It was many months before the patient recovered the use of the limb, which he finally did. The next year he had a similar case in a woman who had never had children; "the milk leg" came on after dysentery, and was connected with a very painful swelling of the knee. Finally fluctuation in the joint became very distinct, and an exploring needle was introduced, which confirmed the diagnosis of the existence of pus. These cases transpired some twenty years ago, before the doctor knew anything of pyæmia; but since it has been described by authors he has been enabled to recall them with great vividness. Although dysentery cannot strictly be looked upon as a disease unconnected with traumatic lesion, he is confident that pyæmia may and does follow disease which have no such cause to give it rise, and he doubts not that many such have been and are still classed under the general head of fever or rheumatism.

In conclusion, the doctor remarked that at a future meeting, if it was the pleasure of the Academy, he would take an opportunity for discussing this subject more at length, particularly in its connections with medicine and obstetrics.

Dr. Hamilton gave it as his impression that the profession would be still in doubt in regard to many questions connected with pyæmia, notwithstanding that a great deal of light had been thrown upon the subject by the paper of Dr. Kraekowizer. There were certain propositions in Dr. K's paper which he was ready to admit on theoretical grounds, while there were others which he was not prepared to admit so readily. The first proposition, that pyæmia was not the result of the admixture of blood, had been sufficiently proven, and the second proposition he was willing to accept as it stood. But with regard to the third proposition, that pyæmia and septicæmia were different dis-

eases, he was willing to take exceptions, inasmuch as he had no doubt that both occurred sometimes together. The fourth proposition has reference to the fact of pyæmia being an infectious and specific disease; while he admitted that it might be infections in the same sense as was crysipelas in a ward, he was not willing to agree that it was specific in character.

Dr. H. maintained that the only tangible pathological condition of pyæmia was the existence of multiple abscesses; and these abscesses, according to the particular positions which they occupied in the body, would necessarily give rise to such a different set of symptoms as would render it impossible to give for pyæmia, as a whole, a uniform symptomatology. The chill was in reality the only one which could be generally relied upon with any degree of certainty, and even then its difference in intensity, in different cases, deprived it of a great deal of its importance.

The yellow skin referred to has been known to belong to a great many other diseases. The "sweet breath," too, did not belong particularly to pyæmia, as Dr. H. had recently proved to his satisfaction.

On motion, the further discussion of pyæmia was postpoued until the next meeting.

*Stated Meeting, June 21st*, 1865.

Dr. Krackowizer, by invitation, proceeded to complete his paper on pyæmia by the following remarks:

Septicæmia and pyæmia are, pathologically, very well distinguished; they are not so distinct clinically, yet there are some points in the symptoms of each which I believe make them distinct and separate diseases.

Septicæmia is a condition which occurs pretty early after severe lesions; for example, after very large wounds of the soft parts, after complicated fractures inflicted with great force, after gun-shot wounds; and I do not think that it ever originates, or at least very rarely originates, without a certain degree of reaction having commenced in the injured parts. After this reaction has commenced this peculiar condition sets in, which is termed usually purulent œdema. You have high fever, the limb swells and becomes more or less painful, and there is a sanious exudation, which travels on very rapidly and finds its way into the muscular interstices. Patients are taken with high continued

fever; the tongue is rather dry from the commencement; the mind is somewhat dull. They are generally in a quiet state; they do not toss about much. A couple of days have passed, and yet there is no abatement of fever, and there is no intermission between the exacerbations. Patients generally lie in a muttering delirium, but they do not suffer much; very frequently there is uncontrollable vomiting; sometimes there is looseness of the bowels. The tongue becomes very dry like a board, and the patient emaciates very rapidly. Generally, in the course of three or four more days, collapse sets in, and in from twenty-four to thirty six hours it terminates the suffering; sometimes the stage of collapse is continued through two or three days without the symptoms altering materially.

At the autopsy one is surprised to find so few marked lesions. The brain does not offer anything remarkable; the lungs are a little congested in their posterior part and base; there is a little effusion sometimes, and a few ecchymotic spots in the pleura. The contents of the heart are badly coagulated blood, containing either no fibrine or very friable œdematous fibrinous shreds. The liver and kidneys do not offer anything very special. The spleen, as a rule, is enlarged and very soft. The mucous membrane of the intestinal tract is pretty much congested, and the solitary follicles are well marked. These are the symptoms which we find in animals, in the veins of which putrid liquids, previously filtered, have been injected, and we find the post-mortem appearances in man exactly coincide with those found in these animals after death; and hence it is fair to assume that the post-mortem appearances in each are due to identical causes, viz., the absorption of putrid substances and nothing else.

In pyæmia the clinical history, at least in the typical cases, is markedly different from that of septicæmia, and the lesions, as shown by post-mortem examination, are widely different. Pyæmia is rarely a disease which sets in very rapidly after lesions; it is generally the case that a more or less successful attempt at the reparative process in the shape of suppuration has been made. Patients do not differ in their general condition, in the character of the fever, from such in which the reparative process goes on to a normal termination. The patient after a few days will become more feverish, will loose his appetite, will not sleep well; the wound becomes tender and a little more swollen; he becomes very much discouraged, and a stout man, who before had no fear of the wound being dressed, now shrinks from the very thought of it. The granulations sometimes bleed easily, the tongue becomes furred, more or less nausea occurs, and sooner or later a well-marked

rigor sets in, which is followed by a stage of heat and profuse sweating. I may state here, that it is not necessary in every case that the victims of pyæmia should have a chill; sometimes there is none; sometimes the chill is suspended by other functional disturbances; sometimes by profuse diarrhœa, and sometimes by vomiting. In the greatest number of cases, of all the symptoms which have preceded, the most reliable is this marked chill.

These chills are at first repeated with some regularity, but after two or three times become irregular, and sometimes there are two or three in twenty-four hours. The fever, after the chills and subsequent stage of heat and perspiration have subsided, retains the same character, which is remittent. After a couple of days more, patients will complain of slight stitches in the side, and will have a short hacking cough, with a thin, clear expectoration, and on examining them may be found a slight pleuritic effusion. It may occur that patients may complain suddenly of intense pain in the shoulder-joint; and generally, these swellings are very tender and painful. But there are not wanting exceptions in which these patients are overlooked, because there is no pain whatever complained of. About the same time, when there is the first chill, or three or four days after, the skin gets discolored and is more or less of a yellowish hue, and the emaciation of the patient sets in very rapidly, and surprisingly so in the face and neck. The stools, as a rule, do not vary much from four a day. It is not frequent that pyæmic patients are troubled with diarrhœa, unless it be a complication. The odor of the breath after the cough has set in is of a peculiar, sweetish, disagreeable character. Generally, if the symptoms do not take an alarmingly rapid course, the patients become listless and slightly delirious. The tongue gets dry and the teeth become covered with sordes. Patients die in cases that hold about the medium at the end of the second week, more or less from exhaustion.

At the post-mortem we find invariably in these cases the lobular red infaretus or lobular abscess in the lungs. Sometimes this is found in other organs, and sometimes in an innumerable number of them. Pleuritic effusion hardly ever fails to show itself, and the reason for this is, that the lobular pneumonia is generally confined to the surface of the lung. Similar metastatic abscesses in other parenchymatous organs are rare, yet they do occur in the spleen, liver, and kidneys. It is curious and explainable that observers should find such a difference in the frequency with which abscesses occur in the liver; and in this connection I may state that I have been surprised to see Virchow assert, that, out of from 600 to 900 cases which have come under his

observation, he finds this condition of things in about one-half the number. The joints that have become the seats of effusion generally, contain pretty laudable pus; the synovial membrane may be moderately injected, and the cartilages may lose some of their characters, and this may be occasionally the case with the synovial membrane; but I have frequently met with cases in which the joints seem to be the merest receptacles of pus, without any corresponding symptoms of inflammation of the synovial membrane.

Now these are the conditions which the post-mortem examination reveals, which certainly show a very marked difference from those which we find, on post-mortem examination, in patients who have succumbed to septicæmia; and the symptoms during life in the greatest number of cases, in those which you might call defined, are such as cannot be mistaken for septicæmia. I am aware that there are cases which, during life, are extremely doubtful, where hardly any of the symptoms are developed, and where at the post-mortem examination every leading characteristic lesion of pyæmia is found; but in this respect pyæmia does not differ from other diseases; for instance, from typhus fever, in which many of those symptoms we are wont to recognize as characteristic are wanting; and still the autopsy proves the existence of the disease beyond a doubt.

I do not know, Mr. President, that I know anything which I might add to this superficial sketch of both these diseases, but they seem to me well marked, and better marked in their lesions after death than in their symptoms during life.

I will merely refer to one point, and it is this; that there are conditions in the system where everything points to the absorption of putrid substances, in which the symptoms of septicæmia are not developed; in which, in fact, repeated chills and rigors would make one think that pyæmia has set in, and in whom, on the removal of the sources from which the putrid substances enter the system, all the symptoms cease. I refer to such cases as are sometimes found in obstetric practice, where parts of the placenta, either by being adherent or as the result of a neglect on the part of the obstetrician, are left. In the latter class of cases, more especially, we see patients sometimes in a condition that does not seem possible that they should recover; there is a high fever, repeated chills, emaciation and paleness, and yet after the remnant of the putrid placenta is removed, and after the injection by warm water, the patients revive at once. So it is in cases where suppuration takes place in more or less deep-seated parts, and where, by the mere mechanical retention, alarming symptoms of chill, dry tongue, fever, prostration

and great anxiety ensue, and where, by the simple incision, the symptoms disappear in the shortest possible time. Now it would be as wrong to consider either of these cases as grave ones, as it would be to suppose that every pain in the bowels with a small pulse was peritonitis.

In fact, I agree with what I remarked in my paper, that I do not think that pyæmia is a specific disease produced by a specific cause, which is different in its effects from that condition which is induced by the injection of putrid matters in the blood, and that consequently pyæmia and septicæmia must, as far as our present knowledge is concerned, be two distinct affections.

I believe that I have stated that pyæmia and septicæmia are sometimes combined. I do think that sometimes the symptoms of pyæmia may be shrouded by those of septicæmia, but when death occurs we find a few lobular infiltrations; those cases I hold are combinations of septicæmia and pyæmia.

Dr. Post stated that he had been very much interested in Dr. Krackowizer's paper, but he was not exactly satisfied as to the correctness of all the positions taken. In the first place, with regard to septicæmia, Dr. Post believed that the typical cases were those in which a putrid poison has been introduced into the wound of a person previously in good health; as, for instance, in the case of dissection wounds. In the most aggravated cases of dissection wounds, when a poison is introduced into the cellular tissue, there is first a period of incubation, which is followed by very great prostration of the vital powers and by a well-marked chill, which is very apt to be followed by vomiting. These are symptoms which also characterize pyæmia, In that form of disease the morbid symptoms pursue a rapid course, and, for the most part, in a few hours end in the death of the patient. With regard to the occurrence of small abscesses in the lungs in certain classes of pyæmia, and of the liver in certain other cases, he thought they could be explained to some extent by the inflammation of the veins preceding the formation of these abscesses. He thought that Dr. Krackowizer had not attached that importance to phlebitis with regard to pyæmia which it in reality deserved.

He then called to the mind of the members the case of the late Dr. Kearny Rodgers. In his case the earlier symptoms which gave rise to the disease were due to ulceration in the intestinal canal, and the poison which was generated was taken up by the portal circulation, the abscesses consequently forming on the liver. He thought that that case, with others, offered a clue to the reason why abscesses in

the liver should be formed, while we also had an equally good reason for explaining the occurrences of abscesses in the lung, on the supposition that the veins in the general system were affected.

He further stated that we not unfrequently met with a class of cases of pyæmia which seemed very evidently to result from primary inflammation of the veins, where the patients have not been originally wounded, or where some moderate impression has been made upon them, distinct from any collection of purulent matter in the cellular tissue. He then proceeded to mention a case in point.

A number of years ago a patient was sent to him by Dr. Bachelder, having a large subcutaneous, venous erectile tumor, occupying nearly the whole of the substance of the cheek. It seemed too formidable to be attacked by local means, and the doctor, with the advice of other surgeons of the hospital, performed the operation of tying the primitive carotid artery. During the operation the jugular vein was not exposed, and the carotid was opened in its own division of the sheath. The wound was duly closed and healed for a considerable extent. About a week after the operation the patient began to be feverish and had irregular chills, after which he fell into a state of nervous excitement with a certain degree of delirium; his condition was listless, respiration hurried, etc., and in fact he had all the symptoms of pyæmia. The disease went on to a fatal termination, and at the autopsy the appearances of small abscesses were found in the lungs. It was also found that the deep jugular vein had been the seat of active inflammation. There was no effusion around the vessel, and the surrounding cellular tissue was not at all inflamed. It seemed that the inflammation of the vein was provoked by the contiguous operation. The veins of the cheek were in a diseased condition, and there were three phlebolites in them. The venous inflammation was chiefly in the trunk of the deep jugular vein. In that case there was then no collection of purulent matter in the cellular tissue connecting with the open mouths of the vessels, as has been found in many other instances.

He then proceeded to mention another case which was interesting in its result, it being the only well-marked case in which the patient recovered. The patient was a man who had been shot in the right hypochondriac region by the ramrod of a pistol fired by a person across the way. The wound was large enough to allow the end of the finger to be introduced an inch or more into the substance of the liver. There was a foul discharge of purulent matter, which was attended with the usual symptoms of pyæmia. The doctor had never met with

a case where the rigors were more distinct and severe. For these quinine was given in large doses, with very good effect. The disease, as has been before intimated, finally gave away, and the patient recovered perfectly.

In conclusion, Dr. Post referred to two or three of Dr. Krackowizer's conclusions. In the first place, Dr. P. was not prepared to say that the ground taken in the first proposition was clearly substantiated. In regard to any distinction which might exist between pyæmia and septicæmia, he suggested that it might be nothing more than could be explained by a difference in the degree of the poison. In reference to the specific character of the poison, he asked if the disease could be communicated to any person who was not the subject of suppuration.

Dr. H. S. Hewitt, Surgeon U. S. Volunteers, expressed a general concurrence with Dr. Krackowizer, but doubted whether so arbitrary a distinction could be drawn between pyæmia and septicæmia. Dr. Hewitt regarded them as conditions of the same state of disease. He attributed the very early appearance of the septemic condition in gunshot wounds on the field to previous vital exhaustion, and present influence of shock. He then mentioned a case of true pyæmia, cured apparently by the administration of Bibron's antidote, in eight drop doses three times daily, and suggested that in iodine, bromine and these compounds, the remedies for the condition, local and general, would probably be found. In this connection, he referred to the circumstance of a peculiar susceptibility to poisoning of the fingers, by the handling of wounds, which he possessed, and which was always remedied by the local application of iodine. He drew an analogy between septic poisoning from decomposed or altered elements absorbed from the surface of wounds, and the probable absorption of the molecular elements of the body altered or killed by causes independent of external lesions.

For instance, yellow fever commences as paludal fever, and terminates either in convalescence or in a type indicative of the lowest grade of animal poisoning, the inference being, that elements perish and are absorbed, producing secondary fever of the animal type.

Dr. Stiles, by invitation, made a few remarks concerning the characters of the pus globule, and detailed substantially the teachings of Robin upon the subject, which were in substance these: I. Pus was characterized by the existence of a certain cell, which, in itself, was innocuous; and, II., The poisonous property of pus existed in the fluid in which the globule floated. III. The difference between pus and lymph was only in the relative number of the globules in the suspending liquid, pus having the greatest number, and being consequently

more opaque. IV. The lymph, mucous, exudative, pneumonic, pus, and colostrum corpuscles were simply fatty degenerations of the white globule; and, V., That the white globule originated by a free cell development.

In conclusion, he ventured the opinion that the office of the pus globule was that of an isolator of poisonous material.

Dr. Clark remarked, in answer to a question from Dr. Post, that he had seen very many cases of purulent infection recover in females who had simply purulent metritis and not peritonitis. The patients under such circumstances usually have the evidences of metritis in the beginning; then after a period of about ten days, usually not before that time, they begin to experience the chills and fevers, followed by sweats, which are somewhat regular at first. A considerable number, small perhaps, get purulent infection after a few days of irregular chills. The chills then subside altogether, and the patient will lie for two or three or four days in a profuse perspiration, with scarcely any remission, and then possibly begin to be a little better. Commonly at the commencement of the convalescence an abscess will form somewhere, most frequently in the breast, and occasionally in the lungs, the whole disease running a course of from four to six weeks.

With reference to pyæmia under other circumstances, that is to say, unconnected with purulent metritis, he could not speak so favorably. He had seen a considerable number of instances of death in which the primary disease was chronic diarrhœa. They, too, run a similar course with those just described as having their origin in the uterus, terminating in from four to six weeks. Again, in most of those cases, the pleuritic complication showed itself about the third week.

He was disposed to recognize the distinction made by Dr. Krackowizer between pyæmia and septicæmia; at the same time he was forced to admit that it was often puzzling, if not impossible, under some circumstances, to draw a distinct dividing line between the two. As, for example, he recollected a case of chronic diarrhœa from which a man fell into a state which he could not distinguish from typhus fever, having not more than one chill. Again, another illustration of this fact was offered in those cases of females where a portion of the placenta is retained, and in which very alarming symptoms set in, to be only arrested by the removal of the offending substance.

In reference to the remarks of Dr. Stiles, he was not prepared to say that the pneumonic corpuscle was identical with the blood globule, but on the contrary was disposed to think that the subject was open for more serious consideration.

In regard to the remarks made by Dr. Post, having reference to an explanation for the reason of the deposition of pus in the liver in one instance and the lungs in another, he stated that there were exceptions to the rule as laid down by that member. He, in this connection, cited the case of a gentleman who had purulent infection, the result of a sore throat from scarlet fever, and in whom there were deposits in the liver, instead of, as would have been generally supposed, deposits in the lungs through the general circulation. In another case which he had met with the portal system was involved, and yet there were purulent deposits in the lungs, the liver escaping. In conclusion, Dr. Clark stated that he had tried in three cases the use of the bisulphite of soda, in doses as recently recommended by Dr. Atlee, of Philadelphia, and all had terminated fatally.

Dr. Post remarked that the prognosis of surgical patients who became affected with pyæmia is considered to be so bad that their fate is looked upon as sealed.

*Stated Meeting, July 5th,* 1865.

NEW METHOD OF INTRODUCING SUTURES AND LIGATURES.

Dr. E. R. Peaslee exhibited an instrument consisting of a curved needle with eyed-point and handle, which he had used for a number of years in applying ligatures and introducing sutures. He did not wish to claim any particular originality in the instrument, but he thought that his method of applying it to the uses designated was perhaps novel. He had heard that the needle was known as "Brown's needle," but at the time he (Dr. Peaslee) had it constructed he was not aware of any such instrument in existence.

His method of applying it consisted in this: A ligature was passed through the eye near the point of the instrument, and the two ends of the thread brought down along side the handle and snugly held. The needle was then passed through the part, carrying with it the loop. After its passage through, the loop was drawn partially out and a ligature passed through it, when the needle was withdrawn, carrying by means of the loop through the eye the second loop, which was to be the real ligature or thread of the suture. The primary loop was not necessarily displaced in any of these manœuvres. As can easily be seen, the ligature, when passed through, could be made to act as a double or single one.

The doctor then proceeded to illustrate the great utility of this method of passing ligatures and sutures in ovariotomy, cleft palate, hemorrhoids, and a variety of other kindred affections.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, March 22d*, 1865.

Dr. Gurdon Buck, President, in the Chair.

### ENLARGED GALL BLADDER—DR. AUSTIN FLINT.

Dr. A. Flint presented a distended gall bladder with the following history:

It was removed from the body of a female, a patient of Bellevue Hospital, aged 40 years. He found this patient in one of his wards in the commencement of August last, she having then been in the institution some time. She had an abdominal tumor, which was very perceptible, situated somewhat below the free margin of the ribs on the right side; it was smooth to the feel and about the size of the fist, and was somewhat movable. He did not know that any definite conclusion had been arrived at with reference to its character; at least no positive diagnosis had been made. The patient was tuberculous, and had a large deposit in the upper lobe of her right lung, and was slowly sinking from the disease. In this tumor there was some pain, which would be increased on handling the part. She was finally attacked with typhus fever and died.

On post-mortem examination, the tumor proved to be a distended gall bladder, which was due to an occlusion of the cystic duct. There were, however, no gall stones to explain the cause. The liver was found to be fatty.

### FRACTURE OF STERNAL END OF CLAVICLE—DR. F. H. HAMILTON.

Dr. Hamilton presented a specimen of fracture near the sternal end of the clavicle, the result of a counterstroke, it being the first one that he had ever seen. Out of ninety-four cases which he had collected, he had met with but one instance of fracture of the clavicle at that point, but that was not due, however, to a counterstroke.

### SEPARATION OF THE EPIPHYSIS OF THE HUMERUS—DR. HAMILTON.

Dr. Hamilton also presented a second specimen, which was an example of separation of the lower epiphysis of the humerus, and for which he was indebted to Dr. Rives, of Dayton, Ohio. A girl ten years old fell upon her elbow, causing a fracture at that point. A surgeon was called, who applied a splint. Three weeks subsequently, Dr. Rives was called to see the case, and found that the upper frag-

ment had been thrust through the flesh; bnt, in addition, he found a large excoriation on the arm above, caused by the splint. As the parents refused to have exsection performed, which was the proper operation, Dr. Rives ampntated the limb.

Dr. H. remarked that separation of the epiphyses was of very rare occurrence, very rarely reported, and the verification of its existence was very seldom made when an antopsy was obtainable. He had been able to diagnosticate a separation of the epiphyses in the npper end of the hnmerus and lower end of the femur, but with those two exceptions he had never been able to make ont an epiphyseal separation.

Dr. Buck remarked that sometimes the separation would take place in the line of junction for a certain distance, and would then take off an angle of the diaphysis. He thonght that it was very apparent, from the specimen of fracture of the clavicle, how readily there might be a doubt as to the nature of the injury, whether it was really a fracture with separation, or a dislocation. It was easy to conceive how closely it might simulate a dislocation, especially after the period when crepitus could be felt. In reference to the separation of the epiphysis, he was able to recall a case in which he diagnosticated the lesion in the lower extremity of the radius. The patient was about twelve years old. The diagnosis was chiefly made from the remarkable squareness of the surface presented by the end of the shaft, its transverse line, and its close proximity to the articular surface.

Dr. Post observed that he had met with a case of separation of the epiphysis of the upper extremity of the thigh-bone in a girl. He, however, did not verify the diagnosis made by an autopsy. The age of the girl was the most important element in the case, as excluding the possibility of there being fracture at the neck of the bone.

Dr. Noyes remarked that a case of separation of the epiphysis of the upper extremity of the fibula had been presented to the Society.

In answer to a question from Dr. Buck, Dr. Hamilton remarked that the line of separation in his case seemed to be partly through the epiphysis and partly throngh the diaphysis.

Dr. Post stated that he had met with an instance of separation of the epiphysis in the lower extremity of the femur, as the result of extensive suppnration following osteitis.

Dr. Hamilton did not imagine that such an accident was, under the circumstances, a very rare one, inasmuch as the end of a yonng bone soaked in pus outside of the body might develop the same condition of things.

EXTIRPATED EYE.—DR. H. D. NOYES.

Dr. Noyes presented the remains of an eye which Dr. Hamilton had removed from a female patient in Bellevue Hospital during the month of last July. She had been totally blind in one eye for a period of years, and during all this period she was not occasioned any special trouble until within two or three months from the time Dr. Hamilton saw her, when a rather severe inflammation took place in the eye. It ran an acute course, and then resolved itself into a condition of chronic inflammation, accompanied with intense neuralgia. The appearance of the eye was quite unusual. Its shape was natural, and, on inspection of the surface of the cornea, this was quite clear and transparent, while behind it there was a very large yellowish mass, which did not, however, present the appearance of pus as we see it in the anterior chamber, but had a peculiar, bright, pearly, satiny look, as if it were made up of crystals of spermaceti. The anterior chamber was entirely filled with this deposit. There being no improvement in her symptoms as regarded pain, &c., extirpation of the organ was finally considered necessary.

The suggestion was made before the operation, that the substance in the anterior chamber would be found to be composed of cholesterine, which had resulted from a peculiar transformation of the pus which had originally existed in that situation.

On section of the globe after removal, a fluid escaped from between the choroid and retina. The retina had become collapsed into a funnel-shaped tube, while the vitreous humor had become entirely absorbed. The crystalline lens had become converted into a cataract. On opening the anterior chamber, the mass contained therein was proven by microscopical examination to be made up altogether of cholesterine. Dr. Noyes, in conclusion, remarked that cholesterine in that particular situation was very rare, and he had never seen an instance of the kind before.

Dr. Hamilton stated that before the operation he was under the impression that the case was one of inflammation of the membrane of Descemet, but being somewhat in doubt, he availed himself of Dr. Noyes' experience, and the diagnosis of cholesterine, as already mentioned, was then made. Dr. H. had no suspicion of the existence of such a state of things, and was very much surprised that Dr. Noyes should make the diagnosis, especially not having before met with such a case.

REVACCINATION—DR. BIBBINS.

Dr. Bibbins presented some vaccine scabs which were the results of a revaccination of a family, and were remarkable for their size and compactness. The family consisted of father and mother, both upwards of fifty years of age, and two sons, the eldest seventeen and youngest fifteen. All had been vaccinated in their infancy. They had since that time resided in the South, and had continued to do so until recently. The operation was performed on the 19th of January, and the scabs from the arms of the father and son did not separate until six weeks after. Besides being very large, the scabs were very perfect in every way, and looked very much as if they might be the results of primary vaccination. In conclusion, he remarked that the scabs formed a very good illustration of the epidemic constitution for vaccination which has prevailed so extensively during the present season.

Dr. Newman remarked that a case had been communicated to him where the vaccine from a cow created small pox. He did not, however, consider that such cases were rare during the last epidemic. He also stated that he had revaccinated a gentleman seven weeks ago, and the crusts had not yet separated, the patient still complaining of violent itching of the part, attended with more or less febrile movement.

In answer to a question from Dr. Hamilton, Dr. Bibbins stated that the health of the family, with the exception of that of the youngest boy, had been remarkably good.

Dr. Hamilton believed that the ordinary bad results which followed vaccination and revaccination could be referred to a scorbutic condition of the system which existed at the time the operation was performed. He had given particular attention to this fact while connected with the army, and had always been enabled to make out the relation of cause to effect. In some regiments where very little fresh meat and very few vegetables could be obtained, he had seen revaccination sores two inches in diameter, looking like large rupial eruptions. These same sores would show themselves upon any slight scratch of the body as well. He referred also in this connection to a family in Northern Alabama, consisting of three members, who were vaccinated by a Confederate surgeon, and in every one of whom, from the fact of their having been deprived for a long time of fresh meat and vegetables, the sores were unusually large, indolent and unhealthy. He supposed that the opinions concerning the possibility of the introduction of syphilitic virus into the system, by means of vaccination,

might easily be shown to have no foundation in fact, but that the sores produced which presented a syphilitic appearance were really nothing more than the exponents of a scorbutic state of the system existing at the time.

Dr. Bibbins remarked that the family had lived for many months in the city before revaccination was performed, and he had good reason to believe that their food was of the best quality. The eldest son, in fact, came North at the commencement of the rebellion, and consequently lived a longer time on good diet, yet his was the largest crust.

Dr. Sewall remarked that the smallest crust was the most perfect one, inasmuch as it did not have connected with it so many adventitious matters.

Dr. Bibbins stated that the crust referred to was from the arm of a female. Generally, the crusts are larger upon the arms of men, on account of the irritation of the sleeves.

Dr. Sewall stated that he had noticed during the past season a tendency for vaccine sores to become more than usually inflamed. He could refer to eight or ten such instances that had occurred to him within the time mentioned. He attributed this to the peculiar epidemic influence referred to by Dr. Bibbins.

Dr. Newman referred to some experiments made by Neimeyer, which tended to prove that syphilitic disease could not be inoculated with vaccine virus. It was the blood or other matter which might be mixed with the vaccine, which was the means of communicating syphilis from one person to another.

Dr. Post stated that Dr. Bulkley had met with three instances in which children vaccinated from the same matter had syphilitic eruption following. Dr. P. also had lately, at his clinic, a child which had been vaccinated three weeks before, and which had a pretty extensive scaly eruption. Dr. Post was inclined to regard this eruption as syphilitic. The child had no such eruption before the vaccination was performed.

Dr. Hamilton remarked that he thought that the fact had been settled, that syphilitic disease could never be communicated from one person to another through vaccine virus. In the first place, syphilitic eruptions differed so much in characters that it was often very difficult to make a diagnosis. Again, the same matter used upon different persons was apt to be followed by eruptions which differed essentially from each other. He had met with an illustration of that fact. Five children were vaccinated from the same crust; two escaped without any eruption, while the remaining three had each an eruption which differ-

ed from the other. He believed that many who had seen these eruptions would, without any definite knowledge of the circumstances of the case, have pronounced them syphilitic. He believed that if any predisposition to any particular eruption existed, vaccination would be very likely to develop it.

Dr. Bibbins believed that cases of the propagation of syphilis by means of vaccination, if they did occur at all, were exceedingly rare. During his connection with the Demilt Dispensary for the past eleven years, he had had an opportunity of seeing twenty-five thousand patients vaccinated, and in not a single one had there been the slightest evidence of the propagation of the syphilitic poison. He recollected a case where a child was covered with a syphilitic eruption soon after its birth. When three months old, the eruption had entirely disappeared and vaccination was performed. In that instance, a perfect crust was formed, and the vaccination did not re-excite the syphilitic eruption.

Dr. Bibbins, in conclusion, asked if any of the members had met with an itching eruption after vaccination, and referred in that connection to the case of a young man who had suffered sometime with such an eruption on the backs of his hands.

---

## REVIEWS AND BIBLIOGRAPHICAL NOTICES.

*The Principles and Practice of Obstetrics.* By Gunning S. Bedford, M.D. Third Edition.

This book has received such flattering notice in numerous and widely circulated journals on both sides of the Atlantic, that we have contented ourselves with remarking some of its many salient features as a text-book on obstetrics.

Much of the usefulness of a book intended for those barely initiated within the portals of our dignified and grave profession still depends upon its readableness; the comparative ease and readiness with which the student can reach the facts and ideas; and even to one long accustomed to study, it is pleasant to meet such a book.

Instead of a long introduction to prove the necessity of the study of obstetrics, and settle it in due relation to other departments of medi-

cine, the author immediately commences the study, and the student soon sees both the necessity and the relation. This is a good feature of the book, a saving of time and patience, for many prefer to see the work before hearing what the author thinks about it.

The author takes an early opportunity to impress the student with a consciousness of his position as an assistant to nature, and the danger, not to say sinfulness, of "meddlesome midwifery." Throughout the volume the student is continually reminded of this double relation to his patient, and numerous cases are scattered over the chapters to keep in view the deplorable results of ignorance and mismanagement.

The chapters devoted to the anatomy of the parts are sufficiently full, the matter of planes and axes is unusually clear, and the bringing the vertex positions in close apposition with the pelvic and cranial dimensions is of great assistance to the student at the outset, while enough is said of pelvic deformities to put him on his guard when prognosticating a labor.

Menstruation, its connection with fecundation, and the function of reproduction are discussed in a manner likely to afford the student valuable starting-points from which to pursue useful, and, in the present condition of science, extensive investigations. The question of poisonous elements in the menstrual fluid will be likely to trouble him far less than the manifold ailments and disturbances rightly ascribed to derangements of the menstrual function, and he will ere long feel the quiet force of the remark of an able cotemporary, "When all else is cured, there will still be plenty of chronic female diseases."

A few of the many theories in regard to fecundation and the physiology of certain parts of the generative apparatus are mentioned, to show the differences and often absurdities of opinion which have existed. The growth of the ovum and different stages of fœtal development are not considered with a minuteness which would satisfy an embryologist or a medico-jurist, in times when questions of social importance or criminal interest depend upon measurements and microscopic appearances; but the main points and questions of obstetric interest are clearly enough stated, while the process of ovulation is well considered, and the section upon the signs and complications of pregnancy is unusually full and interesting. Plates intended to represent slight variation in form and shades of color generally fail to be of any practical use to the student; but the four plates and corresponding text which the author has introduced to illustrate the mammary areolæ during gestation must be of no slight value to the student of "physiological signs."

No labor or length of detail can be useless which tends to make more certain our still imperfect means of diagnosticating pregnancy, especially in its first stages. There are so many observations thrown in the way by design or disease, so many exceptions to what are considered rules, that the young physician with a double regard for the patient and himself is often sorely perplexed. The complications of pregnancy might alone fill a volume.

The subject of abortion from accident or disease, and those formerly puzzling things, moles, are succinctly considered. The latter subject does not usually receive the attention it deserves in works on obstetrics.

The subject of labor necessarily occupies the major portion of the book, for herein lies the great duty of the obstetrician, to stand before his patient. Here commences the reality of his position. Theory and speculation are well enough for the study; here his skill, knowledge, patience and humanity will be tried. Hours of anxious waiting, perhaps with drooping eyelids, tempt him to compel nature or complain of her waywardness, to forget that "the cardinal object of the accoucheur, when he crosses the threshhold of the lying-in-chamber, should be a conscientious exercise of his skill to mitigate, as far as may be, the sufferings of his patient, and conduct her safely through the perils of her parturition."

The physiology of labor still admits of discussion, and the author has judiciously grouped together the principal opinions on the subject, among which his own contains a theory quite plausible.

Modern researches have settled many physiological questions, but the field is still large, and in many directions the truth seems still occult. Especially is this true with regard to the nervous system; and experience has shown that the most careful patience and philosophical observation are essential to success in that difficult department of medical science.

The different positions and presentations, management of the newborn, retained placenta, hour-glass contractions of the womb, and postpartum hemorrhage are treated in a careful manner, while the early ailments to which the new comer may be subject are noticed. It may be a question if soap-suds can be considered a cause of purulent conjunctivitis, but the fact of the disease and its danger to the infant's sight are but too easily proved by every-day experience.

Anæsthesia, the puerperal accidents, and manual labor receive attention according to their relative importance. Instrumental delivery is considered, and certain rules laid down for the use of the forceps. The necessary destruction of the infant, that dark chapter of obstetric

history which the humane physician gladly hastens over, receives a practical notice, and the Cæsarean section, one of the gravest alternatives in the wide range of our art, is made the subject of a careful analysis.

One element of success in this book is the number and variety of interesting cases which the author has spread through its different sections, to illustrate the points with which they are in relation; and no less a pleasing feature is found in the number, variety, and pertinence of foot-notes and references to the long list of authors named before the first chapter.

When we regard this book as a complete work, the style of its composition, the wide range of its subjects, the comparison of standard opinions, the careful elaboration of principal points and the profusion of practical hints, we are enabled to heartily recommend it as a good book for students.

---

*Repertorio Fisico-Natural de la Isla de Cuba. Director. Felipe Poey. Entrega 3d.* Habana, Junio, 1865.

This is the title of a monthly scientific journal published in Havana, (Cuba,) the third number of which we have received. The natural history of Cuba has hitherto attracted little attention, and this new journal will be a valuable continuation of the important and interesting work previously published by its learned editor.

---

*Anales de la Real Academia de Ciencias Medicas Fisicas y Naturales de la Habana.* Tomo 2. Junio 15, 1865.

The whole number of this Cuban journal is devoted to the Proceedings of the Annual Meeting of the Academy of Havana, and contains a very interesting abstract of the different subjects brought before the Academy during the last year, with the eulogies of I. de la Luz and A. Zambrana. The learned Secretary of the Academy, Dr. Zambrana, in eloquent and impressive terms, traced the life of the celebrated Cuban philosopher la Luz; and Dr. Ruz was no less happy in marking the character of the Secretary's brother, late Rector of the University in Havana, and an earnest promoter of the advancement of science in the island.

# PROGRESS OF THE MEDICAL SCIENCES.

## I. SURGERY.

1. *Digital Compression of an Aneurism.*

M. Demarquay presented to the *Société de Chirurgie* a patient to whom he had applied with success digital compression, for an aneurism of the popliteal artery. The man, a coachman by profession, entered hospital the 8th of May, suffering a great deal of pain and inconvenience from a pulsating tumor in the popliteal space. The pulsation was well-marked, and was accompanied by the peculiar bruit so characteristic of aneurismal tumors. The affected limb was very considerably warmer than the other. The character of the tumor being recognized, M. Demarquay determined to treat it by digital compression. All the pupils of the hospital were taken into service, and one of them devised a little apparatus, a sort of cup filled with lead, by means of which the compression could be more effectually applied. It was continued from ten o'clock in the morning till twelve at night. By five o'clock that evening all pulsation had ceased. At twelve the patient was left to himself. Eight days afterwards he was attacked with bronchitis, but recovered. The aneurism was cured, but remained as a small enlargement without pulsation.—*Gazette Médicale de Lyons*, 16 *Juillet*, 1865.

2. *Case of Callous Ulcer of the Leg—Amputation—Recovery—Clinical Remarks.*

A. B., a laundress, 32 years old, was received into St. Bartholomew's Hospital, under the care of Mr. Paget, on May 15, for the treatment of a chronic ulcer of the leg, depending on varicose veins. This had first formed five years ago, and had never healed, although she had been under hospital treatment on several occasions. She had always been able to do her work, but had constantly suffered very severe pain in the limb. It was on account of this pain, and the discomfort she felt from having so large a wound always discharging, that she applied for admission. The ulcer occupied the lower part of the leg, and extended about eight inches in the long axis of the limb, and six inches transversely; the whole of the lower half of the leg was much enlarged from infiltration and brawny thickening of the soft parts, which had become firmly matted together. The floor of the ulcer was formed by the exposed muscles, whose outlines, with the depressed cellular spaces between them, gave it an undulating, uneven surface; the edges were thickened and indurated. As it was hopeless to expect to restore the limb to a useful condition, and as the patient pressed for relief, Mr. Paget performed amputation through the upper third of the leg. The wound healed rapidly, and she is now about to leave the hospital.

In a clinical notice of this case, Mr. Paget remarked that these ulcers have their seat of election in the lower third of the leg. Their bases are level and flat, or marked with elevations and depressions corresponding to the outlines of the muscles whose surface they expose; their edges are round and thickened; their margins, as it is very important to observe, are callous (hence the ulcers are termed "callous ulcers")—that is, hard, dense, brawny, firm, and not sliding, but fixed

to the parts beneath. This callous condition is not limited to the immediate margin of the ulcer, but extends for some distance into the surrounding parts. It is produced by the partial organization of lymph which is effused during the repeated congestion and inflammation which take place.

After reminding the class that the healing of an ulcer is normally the work of two processes—viz., contraction, the surrounding integuments being gradually drawn in towards the centre; and the formation of new skin or cicatrization—Mr. Paget pointed out that in the case of a bad callous ulcer little or no contraction can take place; so that healing must be carried on almost entirely by the formation of new skin. Hence either the ulcer cannot be closed at all, or if it be the scar does not remain sound, as the new skin is not enduring enough to bear the active use of the limb. Individual cases must receive a separate consideration; but as a general rule amputation, if involving only the average risk of life, is justifiable for these callous ulcers of the leg in the following cases:

1. Where a poor person, who has no way of living except by active work, is wholly disabled so that his means of gaining a livelihood are lost.

2. When his life is made so miserable and burdensome that he would rather encounter the risk of amputation than remain subject to the disease.

This is a question almost entirely for the poor; for, as these ulcers involve no risk to life, amputation need not be proposed when the patient is able to have such treatment, and so to manage himself, that he can secure a fair amount of comfort in spite of the disease. The condition of the ulcer itself justifies amputation in the working classes, and after long duration notwithstanding treatment.

1. When it is so large as to extend over the third of the surface of the leg.

2. When it broadly surrounds the whole circumference of the limb, so as to encircle it in a complete broad collar or belt.

3. When its base is fixed to the muscles, and exposes their interspaces. Here, as the subcutaneous tissue is destroyed, no contraction can take place, and sound healing cannot be secured.

It should be remembered that ulcers are very difficult to heal.

1. When they are placed over the tendo-Achillis: even if such can be healed for a time, the action of the tendon is very likely to lead to their recurrence.

2. When they have extended down to the bone, so that their base is formed by a growth of new bone, covered by granulations, as is not unfrequently the case with ulcers situated over the tibia. Either of these conditions adds to the reasons for amputation.

In concluding, Mr. Paget suggested that it might be an interesting inquiry to ascertain, in the various kinds of ulcers, how much of the healing is due to contraction, and how much to cicatrization. This is a point which has not at present been much investigated.—*Medical Times and Gazette, July* 1, 1865.

3. *Contagiousness of Erysipelas.*

M. Gosselin, in a report upon a memoir presented to the Académie de Médecine by M. Blin, maintains the doctrine of the contagiousness of erysipelas, first advocated by English authors at the commencement of the century, and since admitted by some French writers. M. Blin's

paper relates to twelve cases of erysipelas, which successively originated in a patient arriving from a Paris hospital, where he had been in contact with a student suffering from the disease. M. Gosselin also quoted some cases which had occurred in his own practice. A priest contracted erysipelas while confessing a wounded patient suffering from the disease, the erysipelas commencing around a pimple which he had on his forehead. The father of this priest coming to see his son also contracted his erysipelas, which spread around a carbuncle he had on the neck. A woman nursing her child for erysipelas of the abdomen had erysipelas of the leg following a scratch. Numerous other cases were also cited from Trousseau, Graves, Labée, etc.; but while maintaining that erysipelas is contagious, it must, he observes, be admitted that individual conditions are necessary for the exercise of this contagious property. In practice, at all events, we should always act as if the disease were contagious, incessantly renewing the air of the wards, keeping cases of erysipelas out of the operation wards, and insisting upon persons who nurse patients with erysipelas frequently leaving the room and changing the air. M. Gibert stated that he himself was an example that erysipelas may, under special conditions, become contagious; for having suffered first from angina, and then erysipelas, his wife, who had nursed him, contracted erysipelas, while his son also had first an angina, and then a slight attack of erysipelas. M. Guérin observed that this was a question of mere words. There is no contagion of erysipelas, but there may be erysipelas which is contagious—the result of a general, contagious and epidemic disease. M. Velpeau had not seen anything which made him positively believe in this contagion. He remains in doubt. —*Medical Times and Gazette, July* 1, 1865.

4. *Strangulated Hernia in an Infant.*

The interest attaching to the following case arises from the rarity of strangulation in infants calling for operative interference. On this account it deserves to be recorded.

A. R——, aged eleven months, was admitted into St. Thomas's Hospital on June 7th, 1865. The mother stated that the child had been the subject of a rupture from its birth. It was usually reducible, returning spontaneously, though occasionally remaining down until an aperient was given. The present descent had lasted for forty-eight hours, attaining the size of an egg, and resisting the action of medicine and the use of the taxis before admission.

The child looked pale and anxious on admission. The bowels had acted slightly on the previous day. The milk had been rejected, but not always. There was a swelling of considerable size on the left side of the scrotum, tense and unyielding to the taxis, and evidently very tender to the touch. Neck of the tumor large, and no transparency. The taxis produced no effect on the size or firmness of the rupture, and therefore on the morning after the child's admission Mr. Le Gros Clark operated. A limited incision was made over the neck of the swelling, and the sac opened. It contained some limpid fluid, with several inches of intestine. The stricture seemed to be at the aponeurotic opening, which appeared to correspond with the neck of the sac; it was divided to a limited extent, and after some trouble the whole of the intestine was returned. The strangulation was very firm, but the intestine was not very dark-colored. After its return, the testicle (of very diminutive size) was exposed to view. Of course

the heruia was congenital. The child has been doing very well since the operation.—*Lancet, July* 8, 1865.

5. *Separation of the Humerus at its Epiphysis; the shaft driven through the Deltoid Muscle; Successful Result.*

Separation of the humerus at its superior epiphysial line is an accident uot unfrequently met with in hospital as well as in general practice. Its signs and symptoms have been minutely described by most surgeons who have written ou injuries about the shoulder-joint; but the severe complication which existed in the following case renders it one of importance as well as of rarity, and therefore it deserves to be recorded.

A farm boy, aged uineteen, was thrown from a cart-horse, and, although he could uot say iu what direction he fell, there can be but little doubt that he fell with great force on his right elbow. On the outer aspect of his right shoulder was a transverse wound, through which protruded one iuch of the shaft of the humerus. It had been driven upwards through the deltoid muscle, much above the level of the head of the boue. Its superior surface was rough, and correspouded with the inferior surface of the epiphysial cartilage. Attempts were at once made by Mr. Nichols to restore the shaft to its normal position, but no success resulted therefrom. It was then decided to remove the prominent portion with a fine saw. After this had been accomplished, the humerus could be drawn within the wound and placed under the epiphysis, which had not been displaced from the glenoid cavity.

The case being virtually one of compound fracture, it followed the course which usually atteuds so severe a lesion; and yet it is an exception in so far that it required a period much longer than that usually needed by compound fractures to get well in.

The report of the case a year after the injury was, that the wound had not closed, some necrosed boue could be plainly felt with a probe, and he could not use his arm.

Another year passed, and the account was—"The wound is still unhealed; there is a large portion of necrosed shaft to come away."

A year later the condition was very promising; several pieces of bone had worked out. Half a year subsequent to the last report the patient came to the hospital to be discharged. The wound had quite healed, all the uecrosed pieces had come away, the shape aud rotundity of the shoulder were perfect, the shaft was firmly united to the epiphysis, and he was enabled to move his arm in any direction, and to follow his occupatiou, which indeed he had done for some months previously.

This case, which was uuder care for the space of three years and seven months, is a highly instructive one, in showing us what nature will sometimes accomplish when left to her own resources. The rarity of the accident need not be insisted on. Suffice it to say, that Malgaigne is the only author, perhaps, who makes any allusion to a similar injury. He observes: "Bichat says he has seen the lower fragment carried upward with so much violence as to pierce the integuments and pass up much above the level of the head of the bone; and M. Guérétin has reported an instance in which the wound was caused by the lower fragment piercing through the deltoid integuments: the patient was injured by the caving in of a gravel bank. The purulent discharge from this wound was enormous. Amputation was performed on the forty-ninth day, and death ensued on the sixty-

third. It is remarkable that the amputation was intended and supposed to have been done through the joint, but at the autopsy the head of the bone was found in place; its end was hollowed out to the depth of about one-third of an inch, and this concave surface had been mistaken for the glenoid cavity."—*Lancet, July* 15, 1865.

6. *Danger of Injections into Aneurisms.*

A man in the Aix Hospital had a traumatic aneurism of the brachial artery at the elbow-joint. Compression was tried for a month, but failed. M. Goyrand therefore injected into the tumor five drops of perchloride of iron. The aneurism at once become firmer, the thrill of it ceased, the pulsation in it was less, but still continued. A second similar injection was therefore tried. Immediately thereupon the whole hand became pale; the sensation in the fingers was most painful; the temperature was lowered. The hand was like that of a dead person. All pulsation of the tumor had ceased. Frictions and hot applications were applied to the hand. On the next day a blue circle was seen at the finger and gradually increased. Deep pain was felt in the hand. Eventually the hand was separated at the wrist by dry gangrene, and the man left the hospital cured in a month. The accident was accounted for by supposing that a clot of fibrine had been driven into the ulnar and radial arteries.—*British Medical Journal, July* 1, 1865.

7. *Hypodermic Injection of Calomel in Syphilis.*

Dr. Scarenzio of Pavia has published the results of his treatment of constitutional syphilis by means of the subcutaneous injection of calomel suspended in a convenient vehicle (such as glycerine, mucilage, or water.) He employed calomel in the persuasion that it could, in absorption, become changed into bichloride of mercury; and the reason for not using the last-named salt at once was, that he feared it would produce gangrenous inflammation. The injection used consisted of twenty *centigrammes* (about three grains) of sublimed calomel, mixed with a *gramme* and a half or two *grammes* (from 23 to 30 grains) of liquid. It was used like other hypodermic injections. Dr. Scarenzio at first chose the inner side of the thigh as the part for making the injection; but afterwards the inner aspect of the arm, as this does not oblige the patient to remain long in bed. In eight cases of ulcer, nodes, pains in the bones, blennorrhœa, tubercle, necrosis, etc., the treatment failed once only; the case being one which obstinately resisted all mercurial treatment. The cure was rapid and permanent, and not accompanied nor followed by any accidents. There is, however, always an abscess at the point of puncture, which, however, on being opened, heals rapidly. The pus contains no trace of mercury. Dr. Scarenzio believes that the abscesses are due to the transformation of the calomel into bichloride of mercury. The good effects of the injection do not appear for a week or two; but when improvement once sets in, recovery proceeds rapidly. In one case there was rather obstinate salivation.—*Presse Medicale;* and *British Medical Journal, July* 22, 1865.

8. *On the Electrolytic Method in its application to Surgical Operations.*

Before the *Academie Imperiale de Médicine* M. Scoutetten read a paper with the above title. The following are the conclusions arrived at by the author:

1. The effects produced by electricity are of three kinds:

*a.* Electrolyzation, that is to say, decomposition of the elements of the tissues without decomposition.

*b.* Accumulation of acids and alkalies at each of the poles; chemical cauterization produced by these bodies in the tissues; disorganization.

*c.* Physical cauterization produced by the caloric developed by the galvanic current passing through a perfectly homogenous metallic wire.

2. These last two actions are secondary effects of electricity, and are not inherent in it. They can be replaced by other agents, such as caustic alkalies, or fire.

3. The Electrolytic method is perfectly applicable to the treatment of all soft tumors containing decomposable liquids, such as cysts about the wrist-joints, hydroceles, accumulation of liquids in the articulations or near the soft ganglions of the neck, soft goitre, hæmatoceles, arterial or venous tumors, and perhaps ovarian cysts.

4. It should not be used in the treatment of cancer, or for the removal of fibrous or indurated tumors, unless they are small and destructible by a slight cauterization.

5. It is not suited to the treatment of liponias or any other encysted tumor where the fatty element predominates.—*L'Union Médicale*, 15 *Juillet*, 1865.

## II.—PATHOLOGY AND PRACTICE OF MEDICINE.

9. *Diabetes.*

Dr. Buttura relates to the Academy of Sciences (through M. Bernard) a case of diabetes cured by the application of a seton to the neck. A mason, 38 years of age, had long suffered from the disease; he was very wasted and feeble, his thirst was extreme, and his urine abundant. The different usual methods of cure were tried in vain; and at the end of eight months' trial of them, a large seton was put in his neck. When suppuration was established, the sugar in the urine gradually diminished. At the end of six months not a trace of sugar could be found. The man returned to his work; and now for a year has remained perfectly well.—*British Medical Journal*, *July* 22*d*, 1865.

10. *On a Case of Choreic Jactitations.* By Charles Owen Aspray, M.D., &c., House Surgeon to St. Peter's Hospital.

There are many causes given in different works for the peculiar motions called choreic, such as diseases of the cerebellum, heart, uterus, &c. Those cases in which the symptoms are most persistent and difficult to treat often depend on organic changes of the nervous centres. I know a patient at the present time who has had chorea for many years, which was first brought on by the injury of the trunk of a nerve. This is analogous to a case in which a blow or an amputation has produced neuralgia, except that in the latter the sensory filaments are affected.

I think the causes of the jactitations may be well divided into two classes—namely, centric and eccentric. The first includes those cases which arise from organic lesions of the nervous centres, often occur in middle age, and are generally fatal. The second class (which is by far the larger and more common) includes all cases which are caused

by the irritation of the terminations or trunks of nerves of the excito-motory system; generally occurring in youth.

The following case is peculiar, inasmuch as it occurred in a person of middle age, and was of that kind which generally only occurs about puberty—namely, eccentric.

At five o'clock in the evening of the 8th of March I was sent for to see Mrs. P——. On entering the room I found her sitting up in a chair, her face expressive of the greatest anxiety, and the right arm being thrown about in the most violent manner. She immediately began to ask if she were in great danger, and, although excited, talked in a clear, sensible manner, the movements continuing all the time. The arm was thrown upwards and downwards from the face to the knee, occasionally changing to the rotatory motion. I asked her to try and hold the arm still, and, with great effort, looking at the limb the while, she reduced the movements to perhaps half their original extent; but on her attention being withdrawn, the muscles recommenced their actions with as much violence as before. At the end of a quarter of an hour the movements began to subside, and as they did so the pulse became smaller, until at last it was hardly perceptible. The arm was now quiet, and the patient gasping for breath. Stimulants were freely administered, and she recovered. No sooner, however was she easy, than a twitching commenced in the left hand; this increased, and the forearm and arm became affected, until the left arm went through all the movements I had previously seen in the right. There was less faintness after this attack, the patient being freely stimulated. I had satisfied myself there was no heart disease. The patient had always had good health, but had suffered much from constipation. The bowels had not acted for the last fortnight. There was no obstruction about the rectum. She was ordered two minims of croton oil and a draught of ammonia and ether every hour. The bowels soon acted freely. I saw her twice during the evening: the attacks became less violent, and she had none after 12 P.M. She regained her strength in a few days, and has had no return of the complaint.

I remember seeing a case when studying under my respected teacher, Dr. Chambers, which commenced similarly to the above, but terminated fatally; a large tubercle being found in the spinal cord after death.

It would in the first instance be impossible to diagnose which class of case one had; but some exciting cause should always be looked for, the absence of such cause making the prognosis the worse.—*London Lancet, July* 15, 1865.

11. As the cholera may be expected to visit us ere long, and as its appearance is usually preceded by an epidemic of diarrhœa, we commend the following clinical remarks, delivered at the Middlesex Hospital, London, to the consideration of our readers:

Dr. Greenhow said that he regarded the existing prevalent diarrhœal disease as due to the great heat, drought, and exceptional character of the present season, which, in several respects, resembled that of former years, in which diarrhœa or cholera had been epidemic. He was not prepared to prononnce decisively how excessive heat produced an epidemic of diarrhœa, but of the fact that it did so there could be no question, diarrhœal disease being much more prevalent in hotter than in colder climates, and in hotter than in colder seasons.

He had himself, from the character of the early part of the present season, expressed his expectation of the occurrence of a considerable epidemic of diarrhœa during the autumn, and his anticipations had been so far verified by the event at an unusually early period of the year, for the mortality from this disease during the past week had been greater than during any corresponding week of the last twelve years; more than double that which took place during the corresponding weeks of any one of the years 1857, 1858, and 1859, when diarrhœa also caused a very large mortality; and more than five times as great as that during the same week of either of the years 1853 and 1854, in which the last epidemic of cholera occurred. This excess of mortality from diarrhœa several weeks earlier in the season than usual obviously corresponded to the unusual heat of the spring and early summer of the present year, and it seemed to him only too probable that, unless a considerable change should take place in what had been aptly termed the constitution of the year, the existing prevalence of diarrhœa might be only the beginning of a very serious epidemic of this disease, or possibly, even, of cholera. He remembered a similar observation made some years since by Mr. Thorn, an Indian surgeon of great experience, who had devoted special attention to the influence of season and weather in the causation of disease. Writing at Kurrachee (Scinde) in the autumn of 1846, Mr. Thorn said that, observing from the weekly report on the meteorology of London published in the *Medical Gazette*, that the season there as well as in India was an unusually hot one, he should expect to hear in consequence of an unusual prevalence of diarrhœa in London during the autumn. The correctness of this prediction was strikingly proved, for at the very time it was made diarrhœa was prevailing extensively in London, and actually caused in that year a much larger mortality than during any previous year since the commencement of the present more accurate system of registering the causes of death.

Autumnal diarrhœa had been often ascribed to errors of diet or to checked perspiration. Doubtless errors of diet were often the immediate exciting causes of such attacks, especially during an epidemic period, but they could not be the only or even the principal causes of the disease, or it would prevail more equally during the autumnal seasons of different years. Neither could checked perspiration be a general cause of epidemic diarrhœa, inasmuch as the prevalence of this disease waxed and waned with the rise and fall of the thermometer; was greatest when a high atmospheric temperature was associated with deficiency of atmospheric movement and with a high reading of the barometer, and was diminished instead of being aggravated by any fall of temperature. Whether, on the other hand, heat alone could produce an epidemic of diarrhœa might be a question; he himself believed that whenever the intensity of this disease was great a miasm arising from the decomposition of certain animal matters by heat was the chief cause. Whether this decomposition could proceed in water as well as in air, he had not yet been able to satisfy himself; but he had had positive proof that water could absorb the miasm, and thus frequently become the means of introducing it into the system.

In the cases of diarrhœa which he had lately seen, and especially in those among children, the purging had for the most part been profuse, watery, and attended by much prostration. The pallor and anæmia which ensued even after a brief attack were indeed very remarkable. He had seen no case as yet this season to which the term malignant or Asiatic cholera could properly be applied; but in a few

instances there had been vomiting and cramps, and the cases resembled what was called by Sydenham cholera morbus, and had since been termed summer cholera. Generally, the diarrhœa had been unattended by pain; but there had also come under his care a few cases of dyseuteric character—that is to say, of diarrhœa attended by tormina and tenesmus, in which the stools were mixed with mucus, and in a few instances with blood.

As regarded treatment, his usual course in the severer cases among adults was to give a mild mercurial, such as two grains of calomel, or four grains of grey powder with one of opium at bed-time, following it up with a dose of castor oil next morning. Meantime, by way of allaying the purging and the sickness, if present, he gave at intervals of three or four hours a draught consistiug of an ounce and a half of lime water with ten grains each of uitrate of bismuth and carbonate of magnesia, and twenty drops of aromatic spirits of ammonia. Under this treatment the diarrhœa usually disappeared rapidly; but the patients remaining anæmic, and sometimes dyspeptic, he was in the habit of prescribing a warm vegetable bitter, such as infusion of gentian or chyretta with compound tincture of cardamoms, in combination with either nitro-hydo-chloric acid or bicarbonate of potash, according to circumstances, to be taken two or three times a day until convalesceuce should be established. He objected to the use of chalk mixture and of powerful astringents in these cases, although it was true that they often speedily checked the diarrhœa, because he had found the complaint more apt to recur and to be followed by an iutractable form of dyspepsia after the use of these remedies than in cases which had been treated in the manner he had described. He had also found diluted sulphuric acid, which was so much recommended for epidemic diarrhœa, less efficacious thau the beforc-mentioned remedies, and moreover objectionable on the score that, even when given in combination with opium, it frequeutly caused griping pains. When the diarrhœa assumed a dysenteric character, he had adopted with success the same general plan of treatment, but had found it necessary to repeat the mercurial and castor oil doses for two or three successive days. In cases in which this form of the disease proved obstinate, he had substituted for the lime water draught the nitrate of bismuth, with small doses of morphia in the form of pills, with the most satisfactory results. In all cases he had directed a rigid adherence to a milk and farinaceous diet during the contiuuauce of the diarrhœa.—*Med. Times and Gazette, July* 22, 1865.

12. *Treatment of Graves' Disease by Galvanization of the Great Sympathetic Nerve.*

"Dr. Benedikt has treated two cases of this very singular affection by the means above mentioned. Both were very considerably alleviated, but the patients left the hospital before the treatment was concluded."—*Gazette Hebdomadaire, 19th March*, 1865.

Acting upon the idea that Graves' disease was depeudent upon an affection of the sympathetic nerve, we have employed galvauism in its treatment in three cases. In the first, which came under our charge in October last, improvement was at first manifested, but it was uot permanent. The other two were entirely cured, after three or four applications of the galvanic current. In both the latter the constant current was used.

# EDITORIAL.

— A few months ago the medical journals of Europe were filled with accounts of an epidemic prevailing in some parts of Russia, and which was apparently working its way to the cities of Western Europe. Latterly we have ceased to hear reports of this disease—cerebro-spinal meningitis—and we conclude that it has now run its course in the place of its birth, and that for want of local circumstances, or for reason that local sanitary precautions interposed, it has failed to be propagated beyond its first precincts, and has therefore terminated its epidemic career.

Another, more formidable, because more extensive epidemic, arising from an old bed of infection, has commenced its fatal march towards Continental Europe from the East, and has already startled old Europe by its rapid progress and fearful mortality.

Coming from Egypt, the cholera has already crossed the Mediterranean, and, stepping ashore in Italy, has from thence commenced its slow but sure invasion of Europe.

This is the sixth time that epidemic cholera has absolutely ravaged Egypt since 1831, and the accounts of the present epidemic represent it as none the less violent in character than any of the preceding visitations. The mortality in Alexandria, from a population estimated at 175,000, was, from June 12 to July 23, 3,975 from cholera alone; while in Cairo, from an estimated population of 400,000, the deaths from cholera between June 20 and July 17, were 5,249.

The latest accounts state that since the middle of July the epidemic has gradually diminished in these two cities, but few cases having been reported on the 1st of August. In Constantinople, however, it was raging with fearful mortality, the deaths on the 7th of August reaching the high total of 363.

Reports of its prevalence have been received from Smyrna, Cyprus, Malta, Ancona, Sicily, various ports along the coast of Italy, Gibraltar, and rumors of its appearance at Marseilles and Barcelona.

It will thus be seen that this epidemic is gradually approaching the western coast of Europe, following the great commercial routes. How soon it will span the Atlantic we do not know. In the winters of 1848–49 and 1853–54 it was prevalent in New Orleans, before it appeared in this city. The interruption in the direct ocean communication between our southern ports and the Mediterranean, occasioned by the war, may avert this disease for the coming winter from these ports;

but with the opening of the former avenues of commerce we open lines of travel for the epidemic, and, benefiting by the experience gained by former epidemics, we should learn to prepare in time for the approach of this dreaded visitor, and should early take such precautions as will prevent the disease from locating itself in our midst. It is well known to those who have made the history of epidemics a study, that cholera can, by proper and well-directed sanitary exertions, be warded off, if such precaution be used in season.

In England, the National Association for the Promotion of Social Science has held a conference, at which a series of resolutions relative to this subject were read and adopted. These resolutions briefly stated the cause of fear of the approach of the epidemic, its natural history, and the means of averting it.

We trust our own authorities will not be behindhand in their protective measures, and we look to our Citizens' Association for the spur and impulse which individual exertion may give to corporate bodies. If we should fortunately escape the visitation, the measures used will prove a blessing in diminishing the mortality from other diseases whose habitation is among the filthy and confined plague spots of our cities.

— We deeply regret to learn that Dr. Timothy Childs, of this city, died in Norwich, Conn., on Sunday, September 3, from an overdose of morphine administered by himself.

Dr. Childs was a graduate of William's College, and of Berkshire Medical College, Massachusetts, in which latter institution he was for a long time the Professor of Anatomy and Surgery, and Dean of the Faculty. He was also for several years Professor of Anatomy in the New York Medical College.

For the last few years he has held the position of Professor of Anatomy in the Bellevue Hospital Medical College. He served as assistant surgeon in the Mexican war, and frequently volunteered his services as Surgeon after the great engagements around Washington during our recent conflict.

His reputation was high in his profession, and his death is lamented by a large circle of professional friends. He is supposed to have been laboring under a temporary derangement of mind at the time of his death.

— American Medical Association.—Members who desire copies of the *Transactions* for 1865 must forward their subscriptions ($3) immediately. The edition will be limited to the number demanded at the time of printing.

Wm. B. Atkinson, *Permanent Secretary,*
*Philadelphia*

# COLUMBIA UNIVERSITY LIBRARIES

This book is due on the date indicated below, or at the expiration of a definite period after the date of borrowing, as provided by the library rules or by special arrangement with the Librarian in charge.

| DATE BORROWED | DATE DUE | DATE BORROWED | DATE DUE |
|---|---|---|---|
| | AUG 20 1934 | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| C28(842)M50 | | | |

Annex

COLUMBIA UNIVERSITY LIBRARIES
0062045130